

Exploring Factors Influencing Academic Staff Attitude towards the Implementation of Total Quality Management (TQM) in Higher Education

Loutfi Boulahlib (Corresponding author)

Dept. of Business Administration, International Islamic University Malaysia

PO Box 10, Jalan Gombak, 50728, Selangor, Malaysia

E-mail: loutfi.boulahlib@live.iium.edu.my

Noor Hazilah Abd Manaf

Dept. of Business Administration, International Islamic University Malaysia

PO Box 10, Jalan Gombak, 50728, Selangor, Malaysia

Izhairi Bt Ismail

Dept. of Business Administration, International Islamic University Malaysia

PO Box 10, Jalan Gombak, 50728, Selangor, Malaysia

Rafikul Islam

Dept. of Business Administration, International Islamic University Malaysia

PO Box 10, Jalan Gombak, 50728, Selangor, Malaysia

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Abstract

This study aims to explore factors that influence attitudes towards implementing TQM among the academic staff in one of the Malaysian higher education institutions. A total of 270 questionnaires were distributed among academic staff at International Islamic University Malaysia (IIUM), and a total of 209 questionnaires were completed. The method that best fits

with the objective of this research is exploratory factor analysis. The results showed that three factors influenced the attitude of the IIUM academic staff on the execution of TQM principles. The findings of this research may stimulate other institutions to apply TQM principles in education and how TQM can be implemented in higher education. Senior-level management should take the opportunity to work together with the academic staff to boost the learning process by providing them with a platform to voice their points of view and suggestions. This paper contributes to the TQM literature and provides an important insight into current knowledge. The findings allow for implications to be made for both top management and policymakers. Such studies are needed to increase awareness and examine TQM's applicability in higher education.

Keywords: attitude, Total quality management (TQM), Academic staff, Higher education institutions (HEIs)

1. Introduction

In the late 1950s, Edwards Deming acquainted the world with total quality management (TQM) to enhance industry efficiency in the United States (Deming, 1986). The main tenets of TQM models originated from the thoughts of eminent quality specialists. According to Todorut (2013), TQM usually encompasses a series of principles, including customer focus, top management leadership, training, teamwork, employee involvement, and continuous improvement (Snongtaweepon et al., 2020; Abimbola, Ekpudu & Kuye, 2021). At the time of its inception, TQM was largely sidelined by industry players. It was not until its adoption in Japan that it became one of the leading principles that helped the country recover and become an industrial nation post World War II. After seeing how the Japanese industrial sector has bounced back, TQM has been adopted progressively by US companies that endeavour to enhance their product quality and excel in their services (Sila & Ebrahimpour, 2005; Prakash, 2018). Over the years, many organisations have also implemented TQM as a management paradigm. Eventually, TQM is now widely used by companies in many different industries to gain a competitive edge.

In its initial years, TQM was primarily used in the manufacturing industry and due to its success, it is utilised in other industries such as healthcare, banking, and insurance. It was also adopted by numerous non-profit organisations, government agencies, and educational institutions. This indicates that the concept of TQM has a range of practicality that exceeds the business domain to the extent that it has started to be adopted in academia (Grey, Lyle, & Mel, 1994; Venkatraman, 2007; Madsen, 2020). Development in education has put an emphasis on quality management, which has consequently driven tertiary institutions, especially universities, to find quality management principles that would contribute significantly to advancing their quality of education. As TQM is widely used and pursued in other sectors, many universities have adopted it, and this has catapulted TQM's popularity in the academic field. It could be argued that since educational institutions like universities are closely linked to the community, it is not farfetched to say that universities' adoption of quality management processes will directly affect society.

TQM principles have been applied by higher education institutions (HEIs) since the 1990s to

help enhance the administrative and academic processes and other services (Zakuan et al., 2012). One of the factors that fuel this is accreditation. This is due to the fact that administrative and academic quality are normally considered when awarding accreditation and rank. This is crucial as more financial support is often offered to HEIs with higher rankings and better accreditation.

Furthermore, as a result, many higher education institutions face constant pressure to demonstrate excellence to staff and students. It is important to note that adopting TQM does not warrant excellence but instead, it encourages the efficient use of organisational capabilities and resources, which originates from an intricate pattern of positive dynamics between human and physical resources (Grant, 1996; Besterfield et al., 2014). Asif and Searcy (2014) say that this kind of positive synergy gives a company a competitive edge.

Over the past years, quality education in Malaysia has been prioritised and highlighted at all levels. In terms of higher education (HE) quality, apart from ensuring increased access, the Ministry of Higher Education (MOHE) has contributed significantly to creating strategies and supervising public and private HE institutions and their quality (HEIs). The question of quality education in higher education institutions is sensible and imperative to the aspirations of the Malaysian government to lead the country to excellence in education within Asia and globally. The ability of institutions to provide society with tertiary education is indicated through the quality of education, which also represents the state's economic progress. In recent times, numerous research has been done to evaluate the quality of education in Malaysian HEIs. Nonetheless, undertaking the identification of challenges encountered by these institutions that strive to achieve quality education and the factors to address them critically and successfully has fundamentally been neglected by former academicians (Islam, Anis & Abdullah, 2015; Symaco & Wan, 2017; Jamil et al., 2019; Munusamy & Hashim, 2019).

Malaysia has seen rapid growth in the demand for HE, as evidenced by the growing number of HEIs. To date, there are twenty public universities, twenty-seven polytechnics and fifty-nine community colleges and more than 450 private institutions of higher education, including university colleges, private colleges, private universities, international universities, and campuses that accommodate the growing number of Malaysian post-secondary students. In the context of Malaysian HEIs, the emphasis on TQM is not directly stated, although the government has shown a dedication and commitment to developing the quality of education. This is evident from the introduction of three educational acts since 1996. As a result, there is a growing interest in ensuring quality and developing the educational sector, particularly public and private HEIs. In light of that, the government has initiated the National Accreditation Board, the National Council on Higher Education Act, and the Private Higher Educational Institutions Act which aimed to liberalise and internationalise the Malaysian higher education sector as part of the Malaysian aspiration to transform the country into one of Asia's centres of academic excellence (Islam et al., 2015). To this end, the MOHE has devised plans to put Malaysian HEIs on par with other international universities and higher education leaders in the region, to provide Malaysia with the best tertiary education, produce outstanding human capital, and create a flourishing nation (MOHE, 2021).

In 2007, the Ministry of Higher Education published a book called “The National Higher Education Strategic Plan Beyond 2020”, which highlighted seven strategic cores. The book outlined the essential elements of excellence in executing this strategic plan. To ensure the realisation of these objectives, public universities were compelled to improve the quality of their services so that students could learn and acquire knowledge effectively (Rahman, Voon & Firdaus, 2016).

As mentioned earlier, one of the Malaysian government’s primary aspirations is to achieve academic excellence and transform the country into a hub of quality education in the region by 2020. The government also launched the National Education Blueprint 2006–2010 and the National Education Blueprint 2015–2025 (higher education), which have sparked tremendous changes and transformation in Malaysian HEIs. The MOHE is in control of ensuring quality improvement initiatives are adopted by Malaysian HEIs. It has been proactive in trying to improve the learning environment in HEIs, which could help promote academic and institutional excellence (MOHE, 2021).

The International Islamic University (IIUM) has implemented a master plan encompassing numerous management tools and quality management system fulfilment according to the ISO 9001:2015 standard requirements in order to maintain the high high-quality education given continuously. Therefore, this study aims to explore factors that influence IIUM academic staff’s attitudes regarding adopting TQM in the tertiary education institution.

2. Literature Review

2.1 Definition of Quality

The American Society of Quality has defined quality as a subjective idea that can be influenced by taste, opinion, or other personal values and feelings. Therefore, each individual can have a slightly different perception of quality (Evans & Lindsay, 2011; Kiran, 2016; Seakhoa-King, Augustyn & Mason, 2020). As a result, the quality of any given product or service will be determined differently depending on customer expectations. Valarmathi and Gupta (2009) evaluated quality by focusing on its technical aspects. Their research assessed quality by the service or product’s ability to meet customer-specified expectations instead of relying on apparent drawbacks.

Consequently, quality could help organisations achieve organisational excellence, ensure the satisfaction of current customers and help provide lasting value to purchasers. This could secure a better future projection for an organisation. Thus, despite being an ever-changing state, quality is a dynamic state associated with critical elements such as products, people, processes and environments that could help organisations meet or exceed customers’ expectations and produce superior quality, cost and service (Goetsch & Davis, 2016; Petrick & Furr, 2017).

2.2 Total Quality Management Approach

Identical to the concept of quality, total quality management (TQM) can be conceptualised based on several notions. Goetsch & Davis (2016) claimed that TQM could be explained using an analogy of a three-legged chair, where each leg represents customers’ focus, which

implies that they are the main factor and total quality plays the role of a “driver’s seat”. The customers are considered the primary arbitrators for what is deemed as quality. The two other legs represent a broad element of total quality philosophy, including measures, people, and processes. The chair leg, symbolising measures, designates that quality can and should be measured, while the ‘people’ leg of the chair stipulates the point that quality is not naturally found in a product or service, and instead, it must be determined by employees who are empowered to do their jobs the right way. The “processes” leg shows that processes must be constantly improved to achieve long-lasting excellence, and it is important to consider that most of the time, “good enough” is never enough (David & Davis, 2016; Kanji, Malek & Tambi, 1999).

Another definition describes TQM as management ideas and organisation execution to tackle an organisation's human and material resources in the most constructive way to attain the organisation's vision (Tummala & Tang, 1996; Owen, 2011). In this regard, the concept does not focus merely on describing the essential elements of TQM and how they are used to achieve quality improvement. It also ensures the influence of the management processes to achieve the organisation’s objectives. Thus, TQM reflects the management philosophy and organisational practices that should be practical and effective for every organisation’s human and material resources. To accomplish the objectives of organisations, machinery, material and men should be effectively and positively exploited (Ramasamy, 2012). Thus, TQM can be used by government and non-government organisations regardless of whether they are engaged in commercial or non-commercial or service-oriented activities.

2.3 Principles of TQM

The philosophy of TQM consists of some essential principles. Although these principles are dissimilar from traditional management practices, they can be understood and applied straightforwardly. The TQM concept has received outstanding ideas from notable scholars such as Shewhart, Deming, Huran, Feigenbaum, Crosby and Ishikawa, who were the pillars of strength during the development of TQM (Ritchie & Dale, 2000; Dahlgaard-Park, Reyes & Chen, 2018; Janette, Madonna & Nunilon, 2018). According to Sunder (2016), TQM is based on the following principles:

- a. Companies must be fully aware of the contribution of all their products and services to the customers’ value by concentrating on customers and stakeholders so that customers’ expectations can be met to grow their satisfaction and loyalty.
- b. Employee engagement and teamwork, which Joseph Juran stated originated from the Japanese managers’ complete use of the understanding and individuality of everyone in the workforce. This was the main factor in the advanced quality achieved by the Japanese people. This occurs when managers allow their employees to share their ideas without obstacles. By using a company’s abilities, encourage the employees to contribute towards making good decisions for the company.
- c. Both processes focus on continuous improvement as a fundamental element in a company’s system of processes. A process is considered a series of activities to achieve results or know-how work that adds value to the customer. However, continuous

improvement indicates incremental changes, which could be small, gradual, or large and rapid.

2.4 Evolution of Total Quality Management

The development of TQM has moved over several periods of evolution related to the requirements of a particular phase. The launching of TQM emerged in the industrial fields, where some TQM gurus classified its evolution into three stages, whilst others divided its development into four stages or more. Steeples (1992) defined the evolution of TQM into three levels: quality control, quality assurance and total quality management. However, Garvin (1998) adopted four stages: inspection, statistical quality control, quality assurance and strategic quality management. According to Radford (2013), the quality function should become an independent function in organisations and can contribute to positively improving their productivity.

The Second World War had a significant positive impact on terms of TQM development. America and Japan launched research focusing on quality products and services dominating different market segments. In the early 1960s, the idea of quality became associated with a general philosophy for quality improvement. TQM had advanced through the effects of several kinds of criteria. McAdam (2000) noticed that the influencing development factors had altered the TQM philosophy (Zakuan et al., 2012). Subsequently, it can be summarised that over different developmental periods, TQM has shifted from a prominently narrow and mechanical approach to a more subjective and vastly organisational philosophy. The figure below illustrates the TQM evolution process:

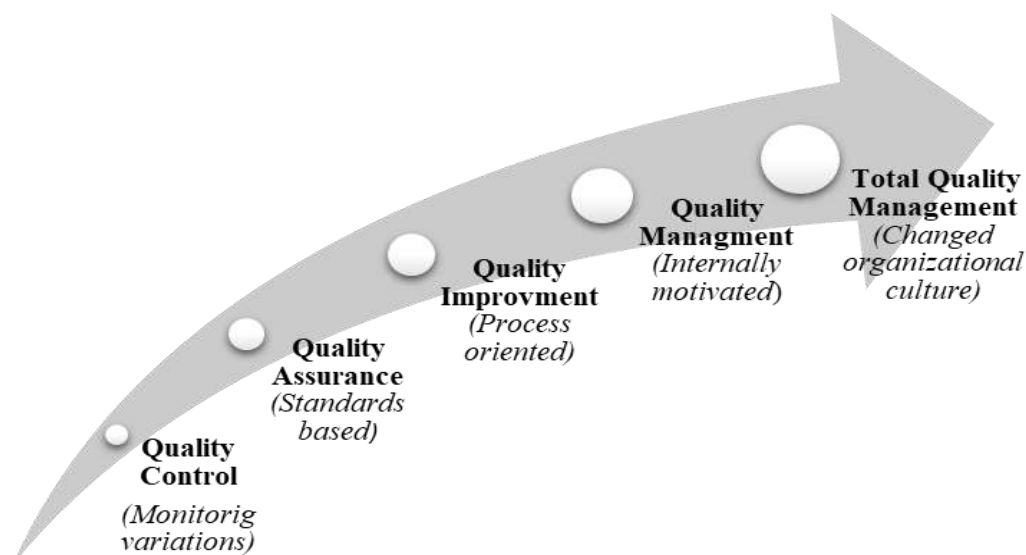


Figure 1. TQM Evolution Process

Source: Liang (2010); Zakuan et al. (2012)

2.5 Quality Management in Higher Education Institutions (HEIs)

Higher education involves educating individuals to gain adequate knowledge and acquire skills based on their prospects, passion and capability to work in fields that countries provide

and require (Sari, Firat & Karaduman, 2016; Arif, Ilyas & Hameed, 2017). Over the last few years, globalisation has redefined higher education as preparing individuals to become knowledgeable and competent workers (Erdem, 2018). There are innumerable roles of HEIs in the system of education. These are (1) Instruction, which is the crucial pursuit where societal benefits are deliberated; (2) scientific research; which is undertaking higher education to develop and publicise information and learning, and (3) public service; which is a service correlation between HEIs and society (Sari, Firat & Karaduman, 2016). Therefore, all nations should pursue a suitable “quality of education” in their educational systems. States see their quality criteria evolving in tandem with the education paradigms that apply and regulate in HEIs, as well as in light of the quality standards that have been established.

From the above discussion, higher education is an important aspect of our daily lives. Many have argued that the paradigms of quality in education have diminished due to the lack of comprehension of the construct of education and the lack of qualitative education research. Quality in higher education can be assessed based on numerous categorisations such as education and research (Sari, Firat & Karaduman, 2016). Hence, the quality issues in HEIs could differ based on the advantages and disadvantages of scientific research areas and education in institutions. Here, the pertinent problem in education quality is the large gap between the quality of education in secondary schools and institutions of higher learning, as well as the disparity between scientific research performances among HEIs.

Higher education serves various functions, chief among which is instruction. HEIs also have various social benefits. They provide an avenue for scientific research and to expand and disseminate knowledge. They also serve a public function by correlating society with HEIs (Kezar, Chambers & Burkhardt, 2015). Accordingly, every country seeks to provide a desirable “quality in education” for its education system. Hence, countries set their quality standards in line with their educational aspirations. Governments also introduce policies to control and regulate HEIs to ensure they adhere to the standard set. UNESCO has shown that compared to primary/secondary education, the personal and social returns of obtaining a higher education only offer a 25% advantage. The benefits of earning postgraduate education have decreased even further to a mere 1%. This has often justified subsidy cuts for HEIs as higher education earners are perceived to pursue their education only for personal gain.

The institutional effectiveness of HEIs had garnered substantial interest in the early 1960s. However, the focus on higher education’s institutional effectiveness is on attracting society’s interest in different fields of higher education (Schargel, 1996). As the world develops, the cost for the provision of traditional higher education increases and consequently exhausts the financial resources of both state and federal governments. This trend continued into the 1980s and early 1990s as HEIs introduced continuous improvement approaches to boost enrolment, funding and the quality of the higher education system (Chaffee & Sherr, 1992; Baldwin, 2002; Vyas, 2020). According to Dew and Nearing (2004), this period is called the “assessment decade”, where many education ministries and agencies mandated the assessment of HEIs’ processes to determine their educational accountability.

Meanwhile, in the 1990s, there was a shift to institutional effectiveness as government

entities set expectations for HEIs to apply improvement processes (Sibulkin, 2018; Tuzen & Yurtseven, 2016; Liu, Mei & Hu, 2015). During this period, HEIs were considered open systems influenced by many external pressures from parents, government, local communities, businesses and industry (Bush, 1995). Consequently, many HEIs initiated continuous improvement based on a genuine concern about improving the quality of HEI services (Zalewska, 2021; Dew & Nearing, 2004; Chambliss, 2003). Moreover, Seymour (1991) and Stensaker (2007) supported the idea of examining the quality of HEIs from different stakeholders' views, using quality as the benchmark for accountability to nurture a commitment to excellence.

On the other hand, Kettunen (2012) viewed education as a marketplace where students play the role of consumers. Factors including competition influence them. In this context, students, who are also customers, would want to spend their money to receive quality education. However, this perception is problematic in implementing TQM creates consumer-related challenges that are often not the focus of TQM. This approach uses client satisfaction and approval as key results indicators for measuring TQM effectiveness.

2.6 Process Improvement in Higher Education Services

A procedure is made of a sequence of inter-reliant and correlated operations and techniques. Thus, a process demands transforming information and inputs such as data, tools, instruments and so on into outputs which will involve the final products, services, or performance. In this regard, the outputs from the previous phase could be used as inputs for the subsequent phase and the sequence will continue until the outcome is achieved (McKenney & Reeves, 2018). In the context of education, educational processes occur when teachers or instructors provide knowledge to students by focusing on knowledge acquisition, review of knowledge, and materials, exercises, and reinforcement and finally, assessment of learning validation (Haertel, 1991). Therefore, a university employs complex yet coherent, and consistent system encompassing several factors to fulfil the needs of different stakeholders. This has become more important in the last decades, where fierce competition has driven universities to create competitive advantages to set them apart from other universities. In their quest for superiority, academics often try to find ways, both of academic and administrative quality and along the way, HEIs must face various challenges, including the lack of funding, limited access to resources and high expectations of service excellence (Musselin, 2018; De Wit & Deca, 2020; Mohamed, Tlemsani & Matthews, 2021).

It is safe to state that HEIs' quality focus is often divided into two main processes- academic/educational and administrative. Regarding educational processes, they generally involve teaching, learning, research, and knowledge-sharing (Papanthymou & Darra, 2017). An HEI is involved in academic activities to improve service quality and delivery. These activities include the development of courses, course reviews revision, and teaching evaluation based on feedback and counselling. Meanwhile, the administrative processes handle the administration of an HEI. Common activities include handling matters pertaining to students' affairs such as admission, enrolment of courses, and payment of fees as matters associated with the managerial aspect, teaching and learning such as setting up annual

allocation for each faculty and hiring a new workforce to teach students. All these features need to achieve a certain level of performance to be efficient and effective in a decentralised HEI environment.

2.7 Customer in Higher Education

In general, most universities and institutes consider students as end customers. A number of higher education institutions have fears regarding having only students as their customers as defined by Stanford University, which endorses the students as customers. However, the issue is still not resolved, as “many contemporary academics feel the term customer is too crass a commercial term, denoting a cash exchange” (Siggins & Sullivan, 1993). Harvard University defines a customer as anyone we supply with information or service that may benefit them (Papanthymou & Darra, 2017). Nonetheless, Oregon State University is more TQM-oriented at the HE level, wherein students are the reason why they exist (Siggins & Sullivan, 1993). Due to the different meanings of the customer in the context of HE and also those included in the literature review, there are no educational institutions which provide the decisive meaning of the customer in HE, although they have partially agreed that the student is the most vital part of the clientele in HE.

However, the majority of the customers’ determination in HE has a very complex issue (Siggins & Sullivan, 1993; Giannakis & Bullivant, 2016). Several higher educational institutions are not keen to resolve a particular definition of their customer. While universities partially agree that students are their vital customers, faculties and administrators are reluctant to accept students as customers (Chua, 2004; Hewitt & Clayton, 1999; Manivannan & Premila, 2009; Papanthymou & Darra, 2017). This argument reaches a new height, where they advocate that providing students with their wants is not necessary to achieve the HE quality. This correlates with the assumption that content students will only study for the bare minimum of passing their examinations and graduating, hence, they only take great care for short-term gratification. Conversely, what faculties and administrators wish for are the actual learning and growing process, which is beneficial in the long run. In their belief, students do not have to know all information in detail, especially in the early stages of their academic development (Antony & Preece, 2001).

2.8 Product in Higher Education

The effectiveness of services in higher education depends on a series of integrated services that may require some sort of differentiation and recognition. The quality of service could create a competitive advantage for an HEI’s enrolment, which is mostly influenced by marketing and promotional activities as well as improvements in the education sector. Some have argued that HEIs contribute to society by producing graduates who could contribute and add value to society and an HEI’s quality is dependent on whether its graduates are deemed qualified and able to work competently in their field after they graduate (Kanji et al., 1999; Watson, 2014; Durkin, Howcroft & Fairless, 2016).

2.9 Staff Attitude towards Implementing the Principles of TQM

In this light, according to Allport (1954), attitude is one of the most significant and central

concepts in the contemporary study of social psychology. Meanwhile, sociologists like Campbell (1950) define attitude as “the probability for a person to demonstrate specific behaviour in a specific situation”. Furthermore, it is argued that due to its significance, many scholars have regarded that it is not important to describe why it is significant to them, rather than justifying their choice based solely on the popularity of the attitude construct (DeFleur & Westie, 1963; McGuire, 1969; Fishbein & Ajzen, 1975; Schwarz & Bohner, 2001).

In this context, this study will use the definition given by Fishbein and Ajzen (1975) to illustrate the proper concept of attitudes. In this regard, Ajzen and Fishbein proposed that people form beliefs about a particular behaviour by linking it with different qualities, characteristics, and attributes. As a result, an individual's attitude towards behaviour is influenced by the set of beliefs they have on that behaviour. These beliefs could be cultivated through information acquired from external sources, direct observation or inference; some will stay while others will not. Consequently, attitudes are something individuals learn gradually as they go through various experiences or particularly significant emotional experiences. These experiences can either be pleasant or unpleasant and these will determine whether their attitude towards it will be negative or positive, in other words, one will have a positive or negative association with the object, which will determine whether a person has a favourable or unfavourable attitude towards a certain behaviour particularly, a person will positively or negatively associate with the object which in turn influence their attitude towards a specific action (Fishbein & Ajzen, 1972; Ajzen & Fishbein, 1980; Khaled et al., 2014).

According to the aforementioned above, in this study, attitude is linked to the perceptions of academic staff towards TQM practises in HE. In the context of TQM, attitude plays a huge role in encouraging the academic staff to implement the principles of TQM and engage with organisational TQM activities. This narration is in line with the philosophy of TQM, which highlights the consequences that individuals have on making decisions that shape the attitudes of staff, which relate to the particular intentions and behaviours in implementing TQM (Chuang, Chen & Tsai, 2015). The idea of “employees’ attitudes” constitutes a broad spectrum of organisational phenomena (Loscocco & Roschelle, 1991). Nevertheless, the most pertinent component of this research is the opinion that the attitudes of the academic staff determine the length to which members of universities can meet the needs of important individuals through their experience in their time spent at the institutions. Therefore, the employee attitudes of an individual can be described “by the individual’s affective reactions towards the objective and experienced factors of a work institution (Igbaria, Parasuraman & Badawy, 1994). The attitudes of academic staff for incorporation are leadership, vision, employee involvement, process control and improvement, quality system improvement, measurement and evaluation, education and training, recognition and rewards, program design and resource allocation, and customer focus.

It is a normal belief that by implementing TQM principles, productivity will be improved in terms of efficiency and performance. This may encourage and point the attitude of staff and employees towards the direction of TQM principles. In a study done by the USA Government Accounting Office that seeks to discover whether implementing TQM principles had a

notable effect on the organisation's operational efficiency of 20 companies that had contributed to the Baldrige Award Process (BAP), TQM has a positive outcome on the companies (Kamil et al., 2016; Courtney, 1995). Eventually, the annual report showed a 13% increase in the market share, an 11.6% drop in customer criticism, a 12% decrease in the processing time order, and a 10% decline in defects and faults. Consequently, the implementation of TQM led to a beneficial effect on operational efficiency (Kamil et al., 2016; Courtney, 1995).

Since 1991, roughly twenty-five higher education institutions have considered practising TQM principles in the USA to guarantee the long-term advancement of quality. A number of them developed a positive attitude in regards to quality principles. Other HEIs in the research depended on the study done in Boston by David Entin, although the findings from the study were lower than anticipated due to ignorance of the significance of implementing TQM principles (Kamil et al., 2016; Courtney, 1995). Numerous efforts have been made to answer whether academic staff, administrators, senior-level management or even the students' point of view in their attitude towards implementing TQM principles at HEI. One such effort by Harris (2013) tried to discover the attitude of the academic staff towards practising TQM principles according to their preferences in the education sector. It was found that the academic staff strongly agreed with the main objectives of the TQM philosophy. Moreover, the findings suggest that the practise of TQM in education systems should have little to no resistance among the academic staff, hence, their positive attitudes towards the implementation of TQM should be improved.

Therefore, some studies focused on the impact of the implementation of TQM on the attitudes of employees, such as job involvement, job satisfaction, career satisfaction and organisational commitment (Karia & Asaari, 2006), in which the study defends that personality traits or dispositions are given more attention as the precursor of work-related behaviours. Employees with a positive outlook have higher chances of having positive attitudes towards themselves and others, which may help them have a general sense of well-being. In addition, a study conducted by Boon, Arumugam and Hwa (2005) studied the impacts of soft total quality management (TQM) in employees' attitudes in a large semiconductor organisation in Malaysia. The research discovered that employees' views towards soft TQM highly correlate to employees' attitudes towards those that distinguish a higher level of awareness of soft TQM which promotes more positive effects on job involvement, career satisfaction and organisational commitment. The study also found that as teamwork has a major role in the implementation of soft TQM, positive and strong link with employees' attitudes is also produced. In other hand, Chadwick (1995) argues that the attitudes and behaviour of academic staff particularly, those who loathed allowing scrutiny of their teaching quality, is considered one of the major obstacles in the implementation of a TQM approach.

3. Method

This research aims to explore the factors that influence IIUM academic staff's attitude towards implementing the principles of TQM. The method that best fits this research's

objective is exploratory factor analysis. The survey method seems to be the most appropriate method to collect data for exploratory factor analysis. A questionnaire of 20 different questions has been developed for this research. Exploratory factor analysis was conducted by using IBM SPSS version 23. To gain the maximum coverage possible of the target population, the study took samples which cover 10% of the academic staff of each faculty. The target respondents are the male and female staff with varying positions, academic ranks and years of work experience. The random sampling (Stratified Random Sampling) depends on the difference of human resources at IIUM in building a sampling size as these sources have a broad spectrum of academic staff data and their specialisations. Altogether, 270 questionnaires were distributed among IIUM academic staff, and 209 responded.

This research utilised a well-developed survey instrument consisting of 20 items that used a 5-point Likert scale with ratings from strongly disagree to strongly agree. A pilot test was conducted before the actual collection of the data to examine the extent to which the instrument is appropriate for the sample of IIUM academic staff. It was found that most of the participants found the survey to be worded and appropriate for academic staff. As a result, the questionnaire was distributed only to those lecturers who were present in their offices. The IIUM main campus consists of eleven faculty as well as the Kuantan Campus Faculties. So, we distributed the questionnaire in different faculties and at different times to get heterogeneous respondents. A survey design gives a quantitative or numeric description of the academic staff's attitudes towards practising TQM principles in IIUM.

3.1 Data Analysis and Findings

3.1.1 Demographics

This section is essential to provide the profile of the respondents to reflect the sample size and attributes of respondents, the total number of respondents is 209. The table below shows how the respondents were split up by their age, gender, occupation, and other variables:

Table 1. Demographic variable Frequencies

variables	frequency	Per cent (%)
Gender		
Male	106	51.0
Female	103	49.0
Nationality		
Malaysian	130	67.1
International	79	32.9
Marital status		
Single	40	13.4
Married	146	84.6
Widowed	23	2.0
Level of education		
Bachelors	34	9.4
Master	48	18.8
PhD	127	71.8
Experience		
Less than 10	70	33.6
Between 11 – 20	75	36.9
More than 21	64	29.5
Faculties		
Kulliyyah of Laws	12	4.7
KAED	15	6.7
KENMS	21	10.7
INSTEAD	13	5.4
KENGIN	20	10.1
KICT	10	3.4
KIRKHS	24	12.8
KLM	7	1.3
CELPAD	32	18.1
ISTAC	7	1.3
IiBF	6	0.7
Kuantan Faculties	42	24.8
Position		
Lecturer	55	30.2
Academic Fellow	14	2.7
Assistant Professor	65	36.9
Associate Professor	31	14.1
Professor	21	7.4
Others	23	8.7

Table 1 shows the sample distribution according to gender, which was fairly distributed among the male and female respondents (male: 51%, female: 49%). The respondents

comprised 67.1% of staff of Malaysian nationality and 32.9% were international academic staff. From the analysis, it can be seen that a large number of the respondents had a PhD degree, 18.8% had a master's degree, and 9.4% had a bachelor's degree. For work experience, 36.9% of the respondents had worked for 11-20 years, 33.6% had 10 years of experience and 29.5% had more than 21 years of academic experience. On the level of distribution of respondents according to faculty, ISTAC and IiBF had the smallest number of faculty members. The analysis shows that a large number of the respondents were assistant professors (36.9%), followed by lecturers (30.2%), associate professors (14.1%), professors (7.4%) and academic fellows (2.7%).

As mentioned above, the attitude of IIUM academic staff towards the practices of principles of TQM was measured using 20 items or variables. Cronbach's alpha test conducted on all the 20 questions produced a value of 0.937, considered high reliability (Hair et al., 2010). Respondents were asked to indicate the importance of each variable using a 5-point Likert scale where 1 (strongly disagree), 2 (disagree), 3 (uncertain), 4 (agree), and 5 (strongly agree). This means that a higher average score indicates that the item is considered important. The results showed that the attitude of IIUM academic staff towards implementing TQM principles was moderate. Table 2 below shows the number of responses, average score, and standard deviation. The highest rank was the variable related to teamwork and group projects (3.72), that is, teamwork and group projects are encouraged and practised among faculty members. However, the lowest variable (3.22) is item 7, which describes whether the faculty regularly survey the stakeholders' needs and expectations.

Table 2. Descriptive statistics

Item	Statement	N	Mea n	SD
ITEM1	In my faculty, there is a clear definition of the service being offered.	209	3.59	0.87
ITEM2	There is a clear definition of external customers' needs.	209	3.38	0.88
ITEM3	The faculty provides funds to improve academic services.	209	3.42	1.00
ITEM4	The faculty offers a scholarly activity to faculty members.	209	3.61	0.90
ITEM5	The faculty offers an excellent environment for students' learning process.	209	3.71	0.86
ITEM6	The faculty is improving its efforts to be more customers focused.	209	3.59	0.87
ITEM7	The faculty regularly survey the stakeholders' needs and expectations.	209	3.22	0.88
ITEM8	The faculty establishes a quality steering committee.	209	3.32	0.93
ITEM9	The faculty provides training so that staff are fully aware of the changes.	209	3.39	0.91
ITEM10	Teamwork and group projects are encouraged and practised among faculty members.	209	3.72	0.88
ITEM11	The faculty creates quality management documentation.	209	3.56	0.88

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ITEM1	In this faculty, everyone participates in improving the services	209	3.29	0.96	
2	provided.				
ITEM1	Senior administrators look at the whole picture when they make	209	3.31	0.92	
3	decisions.				
ITEM1	The faculty has adopted the philosophy of continuous	209	3.64	0.82	
4	improvement.				
ITEM1	The faculty provides continuous improvement of the reward	209	3.42	0.91	
5	system.				
ITEM1	The faculty provides financial assistance for scientific research	209	3.27	0.92	
6	justly.				
ITEM1	The continuous improvement of human resources increases my	209	3.63	0.88	
7	productivity.				
ITEM1	The faculty provides Permanent retention of academic	209	3.34	0.95	
8	professionals through job security.				
ITEM1	The faculty pays attention to continuous training in all university	209	3.38	0.90	
9	functions.				
ITEM2	Top administration creates a proper environment to ensure	209	3.46	0.93	
0	continuous improvement of the educational process.				

3.1.2 Homoscedasticity

Homogeneity of variance is one of the assumptions that should be satisfied to run factor analysis, which is defined as the unchanging state of the variance of other variables as we go through the levels of one variable (Field, 2009). From table 3 below, it has been clearly stated that among 20 variables, only two variables, item 5 (0.006) and item 17 (0.021), are less than 0.05. The variables names are: ‘the faculty offers an excellent environment for students’ learning process’ and ‘The continuous improvement of human resources increases my productivity. According to Field (2009), if Levene’s test is non-significant (i.e., $p > .05$). then the variances are estimated to be equal and the assumption is tenable. Therefore, the variables have accepted significance values ($> .05$), however, items 5 and 17 have rejected values ($< .05$), thus, they have been omitted.

Table 3. Test of Homogeneity of Variances

Variables	Levene Statistic	df1	df2	Sig.
ITEM1	3.614	1	207	.059
ITEM2	.012	1	207	.914
ITEM3	.430	1	207	.513
ITEM4	.029	1	207	.866
ITEM5	7.900	1	207	.006
ITEM6	.507	1	207	.478
ITEM7	.106	1	207	.745
ITEM8	.719	1	207	.398

ITEM9	.329	1	207	.567
ITEM10	2.174	1	207	.142
ITEM11	.461	1	207	.498
ITEM12	.801	1	207	.372
ITEM13	.609	1	207	.437
ITEM14	.189	1	207	.665
ITEM15	2.402	1	207	.123
ITEM16	3.688	1	207	.057
ITEM17	5.466	1	207	.021
ITEM18	.120	1	207	.729
ITEM19	.235	1	207	.629
ITEM20	.323	1	207	.571

3.1.3 Correlation Matrix

The next step was to check the variables for inter-correlation (data screening). According to Hair et al. (2010), if the test questions measure the same fundamental dimension, they may be allowed to correlate with each other as they measure the same parameter. If the variables are not correlated with others, then it is advisable to take the said variables out before factor analysis is run. The correlation between variables can be inspected using the correlate procedure, which produces a correlation matrix of all variables. The correlation coefficient between a variable and itself is always 1. In this study, all variables are correlated with each other, and the significance values of all variables are <0.05 . However, item 16 has a very low correlation with items 1 and item 2 (<0.3), this variable should be eliminated. After the elimination of item 16, the determinant value increased to 0.00003389, greater than 0.00001 (Field, 2009). There are no variables that are highly correlated or perfectly correlated.

3.1.4 KMO and Bartlett's Test

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) reported a value of 0.928, which is interpreted as superb. Whichever value is greater than .5 is considered to be suitable for factor analysis. (Hair et al., 2010). Bartlett's Test of Sphericity reported a chi-square of 1,456.387 at $df = 136$ and a significance level of .001 is also a positive result (see table 4 below).

Table 4. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.928
Bartlett's Test of Sphericity	Approx. Chi-Square	1456.387
	df	136
	Sig.	.000

Therefore, variables are statistically significant and meet the fundamental requirements for factor analysis.

3.1.5 Extraction of Component Factors

According to Hair et al. (2010), if the latent root criterion and Scree Plot analysis (Figure 2)

of retaining factors are applied then, the researcher should retain the factors with eigenvalues equal to or greater than 1.0. In this study, three factors have been retained. The three factors retained represent 63.196% of the variance of the remaining 17 variables.

Table 5. Unrotated Component Analysis Factor Matrix

Variables	Component			Communalities
	1	2	3	
ITEM1	.568	.639	.277	.808
ITEM2	.656	.579	.161	.792
ITEM3	.619	-.163	.391	.563
ITEM4	.642	-.235	.191	.503
ITEM6	.694	.040	.039	.485
ITEM7	.673	.231	.036	.508
ITEM8	.682	.229	-.353	.642
ITEM9	.768	-.055	.020	.593
ITEM10	.702	.012	-.352	.616
ITEM11	.704	.042	-.391	.650
ITEM12	.721	-.138	-.194	.577
ITEM13	.780	-.163	.075	.640
ITEM14	.780	-.070	-.311	.710
ITEM15	.788	-.153	-.137	.663
ITEM18	.723	-.173	.191	.589
ITEM19	.717	-.190	.342	.667
ITEM20	.823	-.198	.142	.737
				Total
Sum of squared	8.598	1.116	1.029	10.743
Percentage of trace	50.576	6.568	6.052	63.196

Before the rotation process is run, the communalities must be assessed to determine whether any variable possesses communalities lower than 0.50. If so, they should be eliminated (Hair et al., 2010). In this study, the communality figure of 0.485 for item 6 indicates low communalities compared to other items and should be eliminated.

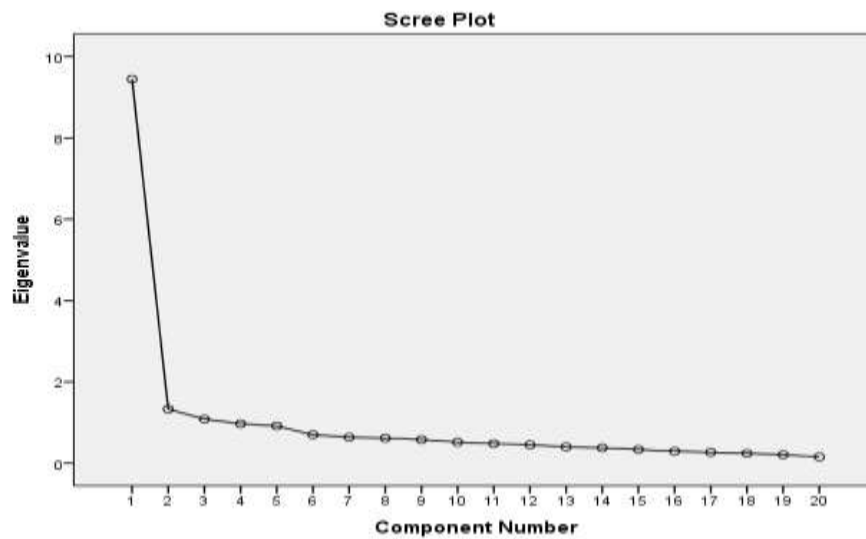


Figure 2. Screen test for Component Analysis

3.1.6 Rotated Component Matrix

To get a clearer distribution of the variables, orthogonal rotation (VARIMAX) has been used in this research. In the rotated factor solution in Table 6, each of the variables has a significant loading (>.50).

Table 6. Rotated Component Matrix (VARIMAX)

Variables	Component			Communalities
	1	2	3	
ITEM19	.761			.670
ITEM20	.723			.743
ITEM3	.713			.569
ITEM18	.668			.586
ITEM4	.644			.500
ITEM13	.634			.635
ITEM9	.549			.603
ITEM11		.751		.650
ITEM14		.742		.713
ITEM10		.721		.614
ITEM8		.705		.646
ITEM12		.616		.576
ITEM15		.616		.674
ITEM1			.865	.815
ITEM2			.809	.793
ITEM7			.514	.505
				Total
Sum of squared	4.130	3.996	2.166	10.292
Percentage of trace	25.813	24.972	13.356	64.321

After applying the VARIMAX rotated factor solution, the amount of explained variance for the three factors accounts for 64.321 for the overall sample. The first factor accounts for 25.813% of the variance. The second and third factors account for 24.972% and 13.356% of the rotated solution, respectively. From the above table (Table 6), we can identify which item is loaded under which factor. Usually, a factor loading of .50 or greater is typically considered high (Hair et al., 2010). From this Rotated Component Matrix table, three factors are identified.

Table 7. Items under each factor

Factor	Items
Factor 1	Items 3, 4, 9, 13, 18, 19, 20
Factor 2	Items 8, 10, 11, 12, 14,15
Factor 3	Items 1, 2, 7

3.1.7 Naming of the Factors

According to Hair et al. (2010), variables with higher loadings may influence a greater extent of the name or label chosen to represent a factor. The factors can be named based on the meanings of the items, which are as follows:

Table 8. Items under each factor

Factor	Items	Factor Name
1	3. The faculty provides funds to improve academic services. 4. The faculty offers a scholarly activity to faculty members. 9. The faculty provides training so that staff are fully aware of the changes. 13. Senior administrators look at the whole picture when they make decisions. 18. The faculty provides Permanent retention of academic professionals through job security. 19. The faculty pays attention to continuous training in all university functions. 20. Top administration creates a proper environment to ensure continuous improvement of the educational process	Supportive environment
2	8. The faculty establishes a quality steering committee. 10. Teamwork and group projects are encouraged and practised among faculty members. 11. The faculty creates quality management documentation. 12. In this faculty, everyone participates in improving our services provided. 14. The faculty has adopted the philosophy of continuous improvement. 15. The faculty provides continuous improvement of the reward system.	Continues improvement

-
- | | | |
|---|---|--------------------|
| 3 | 1. In my faculty, there is a clear definition of the service being offered. | Stakeholders focus |
| | 2. There is a clear definition of external customer's needs. | |
| | 7. The faculty surveys regularly the stakeholders' needs and expectations. | |
-

The three factors described in table 8 are discussed below:

Factor 1: Supportive environment is the first important factor, accounting for 25.813% of the total variance. Seven out of 16 statements load on this factor. This statement depicts that a supportive environment process may influence the degree of implementation of the TQM principles. An appropriate environment should be created to help academic staff be aware of the benefits of implementing TQM and support them through training and development to ensure a certain efficiency and effectiveness.

Factor 2: Continues improvement, this is the second important factor, which accounts for 24.972% of the variance. Six statements constitute this factor. The focus must be on quality improvement, and this can be accomplished through the successful implementation of TQM principles in the higher learning sector. This means that the management of the university should implement quality improvement to arrange the particular activities of the university. For example, this study shows that the management should improve the reward system to ensure quality management is as effective as possible.

Factor 3: Stakeholders focus, this factor accounts for 13.356% of the total variance and is constituted of three statements. According to this statement, the university has to quickly match itself with the needs and expectations of stakeholders (e.g., students and guests). It should give them its full and complete attention. This means that institutions should ask customers about their expectations and act to meet them (Coate, 1991). The processes of academia include various activities that should be focused on giving good quality service to the stakeholders.

4. Discussion

The attitude of academic staff towards the implementation of SQM can be either positive or negative, which depends on the policy implemented by the higher education institution to improve the quality and the length to which the management is prioritising the improvement of service. The viewpoint of the academic staff towards applying TQM ideas is vital in regards to ensuring quality and long-term improvement. This study illustrates that the majority of academic staff were undertaken to implement the TQM principles among different faculties within the university. This is in line with the study of Haque et al. (2013), which argued that the implementation of TQM in Malaysian educational institutions should be enhanced and improved. This is because a clear explanation of what TQM means or concerns is absent (Zabadi, 2013; In'airat and Al-Kassem, 2014; Wani, 2014).

In some cases, they do not have enough knowledge about the concepts of TQM or the impact of the implementation of TQM within the university. However, most of the IIUM academic staff intend to practise TQM in their faculties. For example, IIUM management should arrange group discussions to define quality and motivate academic staff to implement TQM

practices. Furthermore, IIUM should focus on the satisfaction of its academic staff to improve their attitudes toward TQM implementation and reduce obstacles which may hamper the university's applied quality plan.

The point of view of the academic staff positively affects the direction of policymakers in universities. It may help in assessing the level of each quality dimension in their universities while assisting them in measuring the success of their existing programs according to customer satisfaction. Furthermore, senior-level management may have an in-depth understanding of the quality dimensions and their implementations when the consultations are extended to cover all academic staff, as they are crucial in handling matters between the customers and the administration. Moreover, they may provide support in terms of conceptual relationships in several components of the implemented TQM models. These circumstances can be considered during planning, application of plans and quality advancement programs that are more than likely for the sake of the universities in the long run.

This study comprises various positive effects for higher education institutions, confirming that the TQM principles are applicable in higher education institutions. The practise of TQM principles is crucial and may help to improve the working condition, which can enhance the satisfaction level within the institution. The results of this study may inspire institutions to consider applying TQM principles that can be used to know why TQM is implemented in universities. Senior-level management may learn how to collaborate with academic staff by providing them with opportunities to voice their concerns and ideas to enhance learning.

Lastly, senior-level management are encouraged to focus on considering the viewpoint of the academic staff at the faculty level; they may even receive a reality check of TQM and, based on this, develop a successful policy in adapting TQM practices in the academic and administrative processes. The policymakers should encourage the academic staff to improve their attitudes towards committing to quality programs and the quality of the course activities, as well as providing the feedback of customers to the policymakers.

5. Conclusion

There are numerous factors influencing TQM practices in organisations. However, this paper only discussed the academic staff's attitude toward implementing TQM principles in one of the higher institutions in Malaysia. In conclusion, this research tried to explore factors that explain an individual's attitude from the IIUM academic staff on the reality of total quality management (TQM) practices within the university. The study used survey data and factor analysis to determine these factors. The results showed that there are three factors influencing the IIUM academic staff's attitude toward the implementation of TQM principles:

- 1) Supportive environment;
- 2) Continuous improvement; and
- 3) Stakeholders focus.

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