The influence of academic culture on quality management system ISO 9001 maintenance within Malaysian universities Siti Arni Basir, John Davies, Jacqueline

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ABSTRACT This study investigates the influence of the elements of academic culture on quality management system ISO 9001 maintenance within Malaysian universities. There is a dearth of empirical studies on maintaining ISO 9001, particularly in the higher education context. From the literature review, academic culture was classified according to four elements – academic freedom, individualism, professionalism and collegiality. Two case studies were conducted within Malaysian universities that had been ISO 9001-certified for 5 years. At the time of this research, these two were the only universities that had certification for their entire organisation. (Most organisations gain certification for specific departments). The findings showed that academic freedom, individualism and collegiality had worked against ISO 9001 maintenance, while professionalism had influenced ISO 9001 maintenance both positively and negatively. The opposites of individualism (teamwork) and collegiality (managerialism) had supported ISO 9001 maintenance in one of the cases.

KEYWORDS Academic culture; influence; quality management system ISO 9001; Malaysian universities

Introduction

In order to survive and prosper, organisations are increasingly focusing on providing superior quality products and services. The most popular quality approaches are based on ISO 9000 quality management system (QMS) and total quality management (TQM). ISO 9000 is a series of quality system standards that were developed from the military standards (Bendell, 2000) – the Allied Quality Assurance Publications. ISO 9000 was first published in 1987. The standards were reviewed in 1994, 2000 and 2008 (ISO, 2014). Up to the end of December 2013, over 1.2 million ISO 9000 certificates had been issued globally (ISO, 2015). Previous studies concerning the implementation and certification of ISO 9001 have addressed a range of aspects (Abdullah, Abdul Razak, Hanafi, Jaafar, 2013; Casadesus & Karapetrovic, 2005; Kunnannatt, 2007; Lipovatz, Stenos, & Vaka, 1999; Williams, 2004; Rodriguez-Cerrillo, Fernandez-Diaz, Inurrieta-Romero, & Poza-Montoro, 2012). However, little research has been carried out on the cultural aspects of the maintenance of ISO 9001 registration once the certification has been gained, particularly in the higher education context. This paper aims to address this gap in the literature. The aim of this study is to investigate the influence of the elements of academic culture on ISO 9001 maintenance within Malaysian universities.

Malaysian higher education system and quality movement.

The history of higher education development in Malaysia began with the establishment of the King Edward VII College of Medicine and Raffles College in Singapore. In 1942, the two institutions were merged to form the University of

Malaya. After the separation of Singapore from Malaysia, in 1962, the university was divided into two different entities – the University of Malaya in Kuala Lumpur and the University of Singapore in Singapore. In 1984, there were seven public universities in Malaysia (Ghee, 1995), which increased to 20 universities by 2016 (Ministry of Higher Education, 2016a). With amulti-ethnic population of about 28.3 million, Malaysia also has 53 private universities and six foreign university branch campuses, 403 active private colleges, 30 polytechnics and 73 public community colleges. These higher education institutions offer a wide range of tertiary qualifications at affordable prices (Study Malaysia, 2016). The higher education sector is responsible for the operation of higher education institutions in Malaysia and is under the jurisdiction of the Ministry of Higher Education. The education sector has always enjoyed the highest national budget, which symbolises the commitment of the Malaysian government towards education (Study Malaysia, 2016). The total allocation for the education sector from the national budget in 2014 and 2015 was 21% and 20%, respectively (Ministry of Finance, 2016). The Malaysian higher education system was developed to ensure that it was able to build a reputation dynamic, competitive and capable of facing global challenges. Government efforts to improve the ability of public higher education institutions to develop into excellent universities have been continuous. In line with these objectives, public higher education institutions have been categorised into three groups, namely, research universities, focus universities (technical, educational, management and defence) and comprehensive universities. Up to now, there are five research universities, four comprehensive universities and 11 focus universities. Research universities focus on the field of research, while focus universities focus on specific areas related to its formation. Meanwhile, comprehensive universities offer a range of courses and fields of study (Ministry of Higher Education, 2016b). In 1996, the Higher Education Institutions Act was passed by the Parliament of Malaysia. The Act allows the liberalisation of the private higher education sector and the corporatisation of public universities (Marimuthu, 2008). After the Act was passed, the Malaysian public universities began to be corporatised with the purpose of giving more autonomy to the management of universities. The aim of this policy was to enable the public universities to generate income from other government sources (Prime Minister Department, 1999). Marimuthu (2008) argued that the corporate universities were expected to be managed like business corporations to minimise costs, increase efficiency and to be more market-oriented. The Higher Education Institutions Act 1996 was an important factor in the significant increase in the number of private institutions (Chai, 2007). With the liberalisation of the tertiary education sector, the issue of quality was becoming a major concern in Malaysia. Therefore, the government set up the National Accreditation Board in 1996, which monitors the quality of the courses delivered by private higher education institutions. The Ministry of Higher Education set up a Quality Assurance Division in 2001 to provide quality assurance to public universities. Finally, the National Accreditation Board and Quality Assurance Division were merged to form the Malaysian Qualifications Agency in 2007 (Marimuthu, 2008). This serves to monitor the accreditation process of academic programmes and to develop a code of practice for quality assurance in Malaysian higher education institutions. The Malaysian Qualifications Agency used the Malaysian Qualifications Framework as a basis for the quality assurance of higher education, and as the reference point for the criteria and standards for national qualifications (Malaysian Qualification Agency website, 2015). Nowadays, most of the higher

education institutions in Malaysia are implementing the Malaysian Qualifications Framework as one of the quality initiatives. In addition, the ISO 9000 QMS is also used as a quality initiative in higher education institutions. In the 1990s, only a few public universities had implemented the ISO 9000 QMS; however, currently, all 20 Malaysian public universities implement the quality system (Ministry of Higher Education, 2016a). According to Sirat (2010), the higher education environment in Malaysia, as well as globally, is constantly changing, so many challenges are being faced worldwide. As a result, the Ministry of Higher Education launched the National Higher Education Strategic Plan 2010–2020. The plan introduced seven pillars of which four emphasise quality by (1) broadening the access to education and enhancing the quality, (2) improving the quality of teaching and learning, (3) enhancing the research activities and innovation and (4) improving the effectiveness of service delivery by the ministry. Efforts to maintain the quality of higher education are given priority by the Malaysian government. Various strategies and plans have been made to improve the quality of teaching and learning, research and publications, staff development and other aspects that are important in the Malaysian higher education institutions (Marimuthu, 2008). In connection with these, Taib, Ahmad, and Abdullah Sani (2006) argued that the Ministry of Education is constantly striving to maintain the quality of the education system in Malaysia in an effort to produce graduates who are trained and qualified to meet the market needs. The discussion in this section indicates that the movement towards quality in Malaysian higher education institutions not only involves the establishment of quality institutions and the implementation of quality programmes but also involves strategic planning as formulated by the Ministry of Higher Education. This shows that the agenda for the improvement of quality in the higher education sector has to be taken seriously by the government of Malaysia.

The maintenance of ISO 9001

Once the initial audit of the organisation is completed to gain certification, controls must be routinely implemented to maintain the certification (Seaver, 2001). Hoyle (2005) defined maintenance as the action of retaining something in a serviceable or proper condition. Wahid and Corner (2009) stated that the maintenance phase is important as it entails the mechanisms necessary to facilitate continuous improvement 322 S. A. BASIR ET AL. of the QMS to make it sustainable. The authors further suggested that during the maintenance phase, emphasis should be placed on activities, such as the management reviews, corrective and preventive actions, collection and analysis of data, measurement of performance and continuous improvement.

QMSs in higher education institutions

Rahman, Rajadurai, and Sohail (2003) argued that it was a mistake to dismiss the difficulties of implementing a quality system in academic institutions. Srikanthan and Dalrymple (2003) argued that there was little motivation amongst staff for quality management in higher education, and Motwani, Michael, and Sower (1997) said that academia is much more difficult to penetrate and academics are harder to motivate compared to the administrators involved in the implementation of TQM in higher education institutions. Motwani and Kumar (1997) suggested that administrators in higher education institutions should ensure that the organisation’s

culture was suitable for fostering TQM; however, Sarvan and Anafarta (2005) claimed that there was difficulty in developing an appropriate culture for the implementation of quality management in higher education institutions. In conjunction with this, Low and Omar (1997) suggested that the sociocultural aspects must be emphasised when maintaining a QMS. Shutler and Crawford (1998) noted that the literature on applying ISO 9001 to education is remarkably scant, while Chin, Poon, and Pun (2000) said that there was an increasing need to understand the critical issues for ISO 9001 maintenance, and although Rahman et al. (2003) had conducted research regarding the ISO 9001 certification process in one of the Malaysian higher education institutions, they did not address ISO 9001 maintenance and cultural issues. Mokhtar, Abdullah, Kardi, and Yacob (2013) conducted a study pertaining to QMS employment in a Malaysian university but they did not investigate matters in respect of academic culture. The aforementioned discussion highlights that there is a lack of empirical research regarding ISO 9001 maintenance and its affiliation with academic culture in higher education. The discussion also highlights that cultural issues need to be addressed in the implementation or maintenance of ISO 9001 in higher education institutions. So far, no significant research has been conducted regarding how and why academic culture influences ISO 9001 maintenance. Therefore, the aim of this study is to investigate the influence of the elements of academic culture on ISO 9001 maintenance within Malaysian universities.

The importance of culture in organisations

Schein (2004) relates culture to groups as he defines culture as . . . a pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems. Culture plays an important role in the way employees react to the new structure of the work environment. Their reaction could range from commitment to resistance, withdrawal or other unproductive behaviour (Bijlsma-Frankema, 2001). Culture serves as a foundation for an organisation's management system (Pool, 2000); hence, a good idea from management might not work if it does not fit the culture (Schneider, 2000). Lee and Sadri (2001, p. 858) quoted Goffee & Jones (1996) who stated that for the culture to be effective, it should be consistent with the business environment in which the organisation operates. This is supported by Pascale (1990) in Maull, Brown, and Cliffe (2001, p. 305) who believed that firms with a culture that supports their strategy are likely to be successful. Hence, he further suggested that if the culture is not aligned with the organisational strategy, it must be changed. This is because Maull et al. (2001) and Hofstede (1997) believed that culture is a learned entity in which culture can be taught to organisational members, therefore sustaining organisational survival and growth.

Academic culture and quality management

Although Silver (2003) casts doubt as to whether a university has a culture, four elements of academic culture emerged from a review of the literature – academic freedom, individualism, professionalism and collegiality (Cardoso, Rosa, & Santos, 2013; Davies, Douglas, & Douglas, 2007; Fullwood, Rowley, & Delbridge,

2013; Michael, 2004; Owlia & Aspinwall, 1997; Sarvan & Anafarta, 2005). In the following sections, the influence of these four elements of academic culture on quality management initiatives within higher education institutions is critically discussed.

The influence of academic freedom on quality management

Arkelind (2005) found that intellectual freedom and academic autonomy appear to be core values for most academics. Michael (2004, p. 129) referred to academic freedom as The aspects of academic autonomy that provide an unrestricted or less restricted environment to the academics to conduct their affairs as they are deemed appropriate. Mårtensson, Roxå, and Olsson (2011) said that one interpretation of this is that academics have the freedom to do whatever they want without interference from anyone except their peers. Koch (2003) believed that the doctrine of academic freedom had frustrated the introduction of TQM in higher education, and Holmes and McElwee (1995) found that TQM as an imposed system for quality would not work easily in higher education institutions because academics have a reputation for liberalism and nonconformism. Supporting this, Srikanthan and Dalrymple (2003) claimed that the practice of quality control in higher education was diluted by the exercise of academic freedom. Meanwhile, Mehralizadeh and Safaeemoghaddam (2010) claimed that the market values perspective of TQM is against the traditional culture of academic freedom in higher education. Based on case studies that were conducted in four UK universities, Davies et al. (2007) argued that academic freedom was a potential barrier to the implementation of the European Foundation for Quality Management (EFQM) Excellence Model. 324 S. A. BASIR ET AL. According to Motwani and Kumar (1997) and Koch (2003), academic freedom allows academics operating as individual experts to determine the content of their courses, the nature of their research and their professional values. Rahman et al. (2003), however, claimed that a drawback after ISO 9001 certification in Malaysian colleges was the restrictions placed on academics.

The influence of individualism on quality management

The culture in universities is individualistic in nature, and, to some extent, self-serving (Fullwood et al., 2013). Academic culture emphasises individualism, particularly in research activities. The majority of academics tend to be research-oriented (Arkelind, 2005) and research activities are commonly viewed as the key to personal recognition and advancement within the promotion system (Owlia & Aspinwall, 1997; Roffe, 1998). Srivanci (2004, p. 383) asserted that As a result of the strong departmental organisation, implementation of horizontal (or process) management, which involves desirable practices such as interdepartmental team teaching and cooperation amongst departments for curriculum development, becomes difficult. Similarly, Srikanthan and Dalrymple (2004) said that hierarchical governance systems in universities reward individual effort and that group effort seems problematic. Sarvan and Anafarta (2005, p. 13) believed that teamwork seemed to be far less applied in higher education compared to other sectors of society. Furthermore, they contended that TQM practices require participants to spend a lot of time in teamwork, collaborating in improvement projects and inevitably sharing some of the autonomy. Higher education administrators do not possess the power to enforce tenured professors to collaborate with colleagues in TQM

projects. Koch (2003) concurred that although teamwork is one of the keystones of TQM, teamwork and group approaches are less common in higher education than in many other segments of society.

The influence of professionalism on quality management

Farrugia (1996) stated that the Latin root of 'professional' is 'professare', a word that means a declaration of one's values. In addition, Srivanci (2004) said that although TQM requires a focused transformation from product to customer, the loyalty of academics is to their current field and not to their students. Arkelind (2005) stated that most academics reported greater affiliation to their discipline or field than to their institutions. In a similar vein, Fullwood et al. (2013) revealed that academics have a remarkably stronger affiliation to their discipline than to their institutions. The ISO 9001 standard emphasises continuous improvement (Seaver, 2001), and Srikanthan and Dalrymple (2003) argued that quality assurance contains two aspects, improvement and accountability. They added that if improvement was addressed properly, the evidence for accountability would be developed automatically. In respect of this, Davies et al. (2007) suggested that professionalism presented a potential barrier to the implementation of the EFQM Excellence Model in UK universities, as professionals might see it as a threat to their professionalism. They also added that, in contrast, the EFQM Excellence Model with its emphasis on improvement might be well received by professionals, since one of the aspects of professionalism is continual self-improvement.

The influence of collegiality on quality management

Schulz (2013) revealed that academic staff appeared to find a collegial climate intrinsically satisfying. Harvey (1995) (see Davies et al., 2007) argued that collegiality is characterised by three core elements:
(1) A process of shared decision-making by a collegial group in relation to academic matters.
(2) Mutual support in upholding the academic integrity of the members of the group.
(3) Conservation of the realm of special knowledge and practice.

Generally, academics engage in knowledge sharing in respect of various types of knowledge; knowledge associated with research, and teaching and learning is shared most frequently (Fullwood et al., 2013). Harvey and Knight (1996) (see Sarvan & Anafarta, 2005, p. 13) found that managerialism was one of the major threats to the development of a quality culture in higher education. In addition, Akerlind (2005) said that university governance was seen to be becoming increasingly hierarchical and managerial, which conflicts with the desire of many academics for a more collegial environment. He added that many academics were experiencing a sense of reduced control over their work due to the perceived intrusion of administration and other 'noncore' activities into academic work. Kaulisch and Enders (2005) stated that since the 1980s there had been a significant trend to transform universities towards being organisations comprising policies and practices, and towards management models that aligned the activities of academics more closely to the interests of their organisation. Harvey & Knight (1996) (see Sarvan & Anafarta, 2005, p. 13) defined managerialism in higher education as

The tendency of professional managers to alter academic processes on the basis of nonacademic criteria, amongst which financial criteria have been prominent. According to Davies et al. (2007), any approach perceived by academic staff to be managerial in nature was likely to be greeted with scepticism and resistance. Sarvan and Anafarta (2005) suggested that the challenge for higher education management was to design a quality management programme that would not receive any criticism of managerialism from those involved. They suggested that in order to prevent criticism of managerialism, academic staff should actively seek a quality language compatible with the traditional values and terminology of the academic world, e.g., terms like customer, supplier and process should be eliminated. 326 S. A. BASIR ET AL. Methodology Yin (2014) suggested that case study research is appropriate for 'how' and 'why' research questions. A case study strategy is adopted in this research with respect to the 'how', 'why' and 'what' questions posed. The authors have explored 'what' are the elements of academic culture that influence ISO 9001 maintenance activities, and 'how' and 'why' these elements influence ISO 9001 maintenance activities in Malaysian universities. Tight (2010) argued that case study research could be applied to just about any social research project; the focus on academic culture in this research places it in the realm of social research. This kind of study is the first to examine academic culture and ISO 9001 maintenance; thus, as suggested by Cepada and Martin (2005), a case study is an appropriate way to explore an area in which research studies are still scarce. Semi-structured interviews were chosen as the main data collection method. The interviewees selected were members of the ISO 9001 registered universities' secretariats, the faculties' and departments' quality managers, heads or assistant registrars, deans and heads of departments. The interviewees were selected from different categories and roles to provide a range of perspectives on the subject being investigated. The members of the secretariats of the ISO 9001 universities were involved in ISO 9001 maintenance activities at the university level. Their input was necessary to supplement information acquired at the faculty level. The quality managers of the faculties were selected as interviewees because they had an insight into the ISO 9001 maintenance activities at the faculty level. Meanwhile, at each university, the dean, head of department and assistant registrar represented the management of the faculty. The management team was selected because of its essential role in ISO 9001 maintenance activities. Finally, academics were also interviewed to gain their insights into ISO 9001 maintenance. This study involved 12 interviewees in Case 'A' and 10 interviewees in Case 'B'. Yin (2014) argued that interview evidence must be triangulated with multiple data sources, such as archival records, observations and documentation. In this study, the interviews were triangulated and supported by other sources, i.e., a detailed document review of a range of relevant documents, observation of audit meetings and a review of archival records.

Case organisations

Two ISO 9001-certified Malaysian public universities were chosen, Case 'A' and Case 'B'. The cases were selected due to the following reasons:

(1) They had both been certified to ISO 9001 for 5 years. This offered advantages in obtaining rich information regarding ISO 9001 maintenance activities and cultural issues.

(2) The scope of QMS maintenance at Casein Case ‘A’ encompassed all the processes and activities of teaching and learning for first and higher degrees, and research processes and activities. The scope of QMS implementation in Case ‘B’ was the implementation of academic programmes. It can be argued that both universities had placed their core academic activities within the scope of the QMS. ISO 9001 adoption also encompassed all academic faculties and centres.

(3) Both the universities implemented ISO 9001 holistically by not just involving faculties and academic centres but also encompassing support activities, such as human resources, student affairs, libraries, finances, property and infrastructure and the student residential college. To the authors’ knowledge, these are the only two universities in the world to hold holistic certification to ISO 9001, and thus, they represent a unique opportunity for exploration.

The university for Case ‘A’ has 5,355 staffs, 30,000 students and 17 faculties. For the purpose of this study, only one faculty – Faculty ‘A’ – was selected to enable an in-depth study. The faculty was chosen as it had the highest number of non-conformance cases from internal audits amongst academic centres 2 years running. It can be suggested that the academic culture at Faculty ‘A’ worked against ISO 9001 maintenance activities. This is in line with what has been suggested by many authors, such as Roffe (1998), Koch (2003), Srikanthan and Dalrymple (2003), Srivanci (2004) and Davies et al. (2007). This faculty, which was formed in 1956, has six departments, 280 staff, 3190 students and offers technical courses. The university for Case ‘B’ has 1476 staff and 8317 students. This university has six faculties, and, for the purpose of the study, only one faculty – Faculty ‘B’ – was selected. The faculty was chosen as it had the highest number of non-conformance cases amongst academic centres in the year before the study. The number of non-conformance cases might indicate that the academic culture at Faculty ‘B’ was working against ISO 9001 maintenance activities, as argued above for case ‘A’. Faculty ‘B’ also offered technical courses. This faculty, which was formed in 2004, has four departments, 128 staff and 1217 students.

Findings and discussion

Given the qualitative nature of the findings, the findings and discussion sections are combined, as suggested by Remenyi, Williams, Money, and Swartz (1999).

The influence of academic freedom on ISO 9001 maintenance activities

Most university academic staff operate in an environment with high levels of autonomy in relation to their research efforts and teaching material choice (McMurray & Scott, 2013). The success of universities has relied on their autonomy and the concept of intellectual freedom (Massaro, 2010). The findings from Case ‘A’ indicated that academic freedom was a relevant issue amongst professors. They appeared not to be bothered about ISO 9001 requirements and this attitude had caused non-conformance cases. Meanwhile, in Case ‘B’ some academics had a negative perception of ISO 9001 maintenance and did not comply with its requirements. In a similar way to Case ‘A’, this attitude had led to non-conformance cases during audit. It was discovered that in both cases there were academics who disappeared during audits, especially senior lecturers and professors. It emerged

from Case ‘A’ that academics, especially senior lecturers and professors, were uncomfortable with continuous 328 S. A. BASIR ET AL. improvement activities, as this was not part of their job descriptions. A continuous improvement project in Case ‘A’ had not been implemented effectively as academics were not interested in the project. Based on the above findings, it is apparent that many academics in Case ‘A’ and some academics in Case ‘B’ were practising academic freedom, which influenced them to work against ISO 9001 maintenance activities. This was attributed to their feelings that academic freedom was incompatible with ISO 9001 maintenance activities. Therefore, the findings are consistent with Holmes and McElwee (1995) who argued that TQM as an imposed system for quality would not easily work in higher education since academics have a reputation for liberalism and non-conformance. One of the lecturers in Case ‘A’ said that in some cases academic freedom could be considered to be a barrier. He commented that

> The Faculty’s QMS requires lecturers to have attendance sheets as evidence of lectures, and, in this way, ISO 9001 was like a control system. In addition, auditing processes evoked frustration amongst lecturers. We have to have pro forma and notes in the course files, but this is against academic freedom. Although pro forma can be changed, it takes a long time. Finally, in regard to CI activities, there was no job specification, so that lecturers, especially senior lecturers and professors, felt uncomfortable with it.

Another lecturer claimed that the faculty’s QMS requirements were also considered to be restraining flexibility, as they had put in place limitations, and standardised teaching and learning formats. These findings support Rahman et al. (2003) who said that the drawback of a QMS was its rigidity and that it inhibited academics from delivering the course content with their instinctive flair and creativity. Based on the earlier findings, it can be seen that academics felt uncomfortable conforming to the faculty’s QMS requirements when delivering teaching and learning. This finding has a close affinity with Cardoso et al. (2013) who discovered that academics in Portugal had no sympathy towards the idea of quality assessment linked to the higher education system’s rationalisation and control. In both cases, academic freedom was apparent and had worked against ISO 9001 maintenance activities. This finding is consistent with Srikanthan and Dalrymple (2003) who believed that the implementation of quality control in higher education was diluted by the practice of academic freedom. In Case ‘A’, it was seen that while senior lecturers dared to show their resistance to ISO 9001 maintenance activities, junior lecturers did not have much choice. There was a feeling amongst junior lecturers that whether they liked it or not, they had to get involved with ISO 9001 maintenance activities if they had been asked to do so. For example, most of the members of the ISO 9001 committee in Case ‘A’ were junior lecturers. The head of the assistant registrars explained the following: Whether they like it or not, they have to accept ISO 9001. Lecturers have a job specification in which one item is that they have to deliver an administrative aspect to their work. Because of this, they have to agree if they are appointed as a committee member of a quality management committee.

The influence of individualism on ISO 9001 maintenance activities

Academic staff tend to be individualistic and employed as individual experts (McMurray & Scott, 2013). Academics also paid little attention to

organisational hierarchies because their work is based on individual preferences and schedules (Kuo, 2009). The findings evidenced that a few of the interviewees in Case ‘A’ believed that not many academics were individualistic, while another interviewee observed that not many academics were keen to take part in continuous improvement projects. He commented that Through my observation, many lecturers tend to be individualistic. Not many of them were keen to work in a team and they were not keen to take part in continuous improvement projects. This is disastrous for ISO 9001 maintenance, as teamwork is crucial to ensure continuous improvement projects are successful. This evidence links to Davies et al. (2007) who found that individualism was a barrier to the implementation of the EFQM Excellence Model in UK university academic units. Since some of the academics were individualistic in Case ‘A’, they were not keen to work in teams, which seemed to work against ISO 9001 maintenance activities. It appeared in Case ‘A’ that academics also believed that they should deliver their subject in their own way. This finding is consistent with Gizir and Simsek (2005) who found that each discipline of knowledge has its own set of concepts, methods and fundamental aims, and that academics have a distinctive culture that includes attitudes, activities and cognitive style. Therefore, as the faculty’s QMS stated the way that subjects should be taught, individualism was seen as working against ISO 9001 maintenance activities. It also emerged from Case ‘A’ that many senior lecturers had refused to join ISO 9001 maintenance activities since they were occupied with research. This supports the argument by Owlia and Aspinwall (1997) and Roffe (1998) that the majority of academics tend to be research-oriented because research activities are viewed as their key to promotion. Sarvan and Anafarta (2005) claimed that higher education administrators do not possess the power to enforce tenured professors to collaborate with colleagues in TQM projects. Therefore, it was no surprise in Case ‘A’ that junior lecturers had been forced to become members of the Quality Management Committee. As most of the members of the Quality Management Committee were junior lecturers, their input into the faculty’s QMS was not representative of all the academics. It was seen that as many academics in Case ‘B’ were junior lecturers, individualism was not noticeable. It emerged that teamwork was one of the organisational core values in Case ‘B’. The university and faculty management had succeeded in embedding teamwork, which strongly supported ISO 9001 maintenance activities, and, therefore, lends weight to the suggestion from Chin et al. (2000) that teamwork is a critical success factor in ISO 9001 maintenance. It also emerged that the university rector had successfully encouraged the staff of University ‘B’ and the academics to work together to maintain ISO 9001. There were a few senior lecturers who did not bother with ISO 9001 maintenance activities, as they had been occupied with research and consultancy activities; however, although research 330 S. A. BASIR ET AL. could develop individualism, it was not thought that many academics were individualistic. According to one of the academics A few of the senior lecturers who are almost retired feel that they are experts in their respective field and do not believe in ISO 9001. In addition, they do not have the enthusiasm for any faculty programme, including ISO 9001 maintenance activities. The conclusion for this section is that individualism was apparent in Case ‘A’, which, therefore, lends weight to the revelation (Fullwood et al., 2013) that universities had embedded knowledge, but that culture was individualistic in nature. It was apparent that individualism had worked against ISO 9001 maintenance activities in Case ‘A’. Meanwhile, in Case ‘B’, individualism was not obvious; the faculty management had successfully embedded teamwork, which was

supportive of ISO 9001 maintenance activities. The influence of professionalism on ISO 9001 maintenance activities The findings from Case 'A' showed that staff had been forced to accept the adoption of ISO 9001. This would explain why academics were not supporting ISO 9001 maintenance activities. This finding lends weight to the views of Holmes and McElwee (1995) who agreed that total quality could only be brought into higher education by recognition of the value of interactive professionalism. It emerged that the QMS had been employed by management as 'guidelines' to try to ensure that academics would comply with the work procedures in delivering their job. The QMS was like a set of rules that needed to be complied with; however, this was not compatible with the academics' preferences. It also emerged that academics had to answer to the head of department if they received a low score in student evaluation. The results of student evaluations were also submitted to the university's deputy vice chancellor; because of this, academics felt uncomfortable with the faculty's QMS as it was being used to develop accountability amongst them. Academics were not keen to get involved in ISO 9001 maintenance activities as they felt that ISO 9001 certification only brought organisational benefits, and did not benefit their self-development. For instance, the results from student evaluations had not been accounted for in the promotion and recognition of academics. It was thought that promotion and recognition were based on other factors such as research, publications and administrative positions. In addition, the results from student evaluations had not been used as an indicator to determine whether academics should be sent for teaching training. Kaulisch and Enders (2005) found that high professionalism dominated the academic tasks carried out by highly fragmented professionals committed to their disciplines; this would explain why many senior lecturers were not keen on ISO 9001 maintenance activities, as they believed it would hamper them in conducting research activities, and, consequently, hinder their self-development. From the earlier discussion, it can be inferred that the academics in Case 'A' did not support ISO 9001 maintenance activities because it did not help them in terms of selfimprovement. Academics had also considered ISO 9001 maintenance activities to be a management tool that had been employed to develop accountability amongst them, which was contradictory to their professional values. These findings are consistent with Davies et al. (2007) who found that professionalism presented a potential barrier to the implementation of the EFQM Excellence Model in UK universities if the academics saw it as an accountability-led initiative. Meanwhile, it emerged in Case 'B' that junior lecturers especially had a willingness to learn and acquire an understanding of ISO 9001 maintenance activities, and, thus, they supported these activities. The findings also showed that the university rector was a good motivator in encouraging academics to learn from others. According to the university head of division of Corporate and Quality Management, The university rector has always reminded university administrators and lecturers to learn from others in order to get a better understanding pertaining to ISO 9001. He has always reminded us that, as professionals, we should not be ashamed in our endeavour to improve our skills and knowledge. It was also suggested that academics in Case 'B' had strong professionalism, as they possessed an engineering background, which supported ISO 9001 maintenance activities. The faculty's QMS had received a warm welcome by academics as they had seen that it had brought about benefits for their self-improvement. For instance, in the case of student evaluations and outcome-based education, it was believed that these were actually tools for teaching improvement since academics had become more alert to their performance. The results from

student evaluations had been used to determine whether academics should be sent for training to improve their teaching skills. This had helped improve teaching delivery. University ‘B’ was a relatively new university with its main current focus still on teaching activities. Therefore, it was no surprise that improving the teaching skills of academics was an important issue in Case ‘B’. From the earlier discussion, it can be seen that academics in Case ‘B’ had considered ISO 9001 maintenance activities to be a tool for self-development, which had led them to support these activities. This finding corroborates the conclusion of another study (Cardoso et al., 2013) in that academics tend to evidence towards quality assessment, especially when it favours an improvement over the control of the higher education system. The influence of collegiality on ISO 9001 maintenance activities The findings from this study disclosed that most of the members of the faculty management in Case ‘A’ had been appointed on a temporary basis. Only one of them (the head of assistant registrars) had been appointed on a permanent basis, so they were only going to stay in a position of authority for a short term. Davies et al. (2007) argued that academic managers who had been appointed for a fixed term would only have authority in the short term. In addition, the majority of the academics in Case ‘A’ were senior lecturers and professors. These two factors made the faculty management feel that they had less power and they were uncomfortable in instructing academics to deliver tasks including ISO 9001 maintenance activities. This tendency could be seen when the faculty management did not instruct academics to become involved in continuous improvement projects. As a result, the academics and even the quality managers were not enthusiastic about these and they did not give their full cooperation to them. 332 S. A. BASIR ET AL. It was thought that ISO 9001 maintenance stressed management activities and required a lot of time; however, the academics in Case ‘A’ already had many responsibilities. They were involved in delivering teaching, conducting research and supervision, performing administrative tasks, and acquiring accreditation from government and engineering professional bodies. They only showed their concern for ISO 9001 maintenance at the time of audit, and, after the audit process was completed, their concern faded. Knight and Trowler (2000) found that multiple roles and multiple expectations bred unease amongst academics, and Cartwright (2007) argued that academics saw the QMS as an aspect of the control that managers had over their academic lives. It emerged in Case ‘A’ that many academics did not believe in ISO 9001 maintenance activities. Many academics, even the faculty’s top management, were sceptical of the contribution of ISO 9001 to academic excellence. One of the quality managers commented the following: Many lecturers and the faculty’s top management feel that ISO 9001 maintenance does not contribute to academic excellence. It can be achieved without ISO 9001; in addition, ISO 9001 maintenance stresses management activities. The academics argue that they could perform their jobs more effectively with the previous system. These findings are consistent with Cartwright (2007) who claimed that management and academics showed considerable cynicism about the operation of quality in universities. They are also in line with Davies et al. (2007) who argued that any approach perceived by academics to be managerial in nature was likely to be greeted with scepticism and resistance. Ramirez and Berger (2014) argued that the analyses of quality assurance in higher education had been developed from bureaucratic, political, symbolic and systemic perspectives and that the human resource-based collegial perspective is missing. Therefore, it is unsurprising that the quality practices approach in higher education institutions tends to be managerial in nature. Since collegiality in Case ‘A’ was prevalent, ISO 9000 maintenance, which

was considered to be a tool to increase managerialism in faculty management, was not well received by academics. It appears from the earlier discussion that the management style in Case ‘A’ was largely collegial and that collegiality had worked against ISO 9001 maintenance activities. In Case ‘B’, most of the members of the faculty management had been appointed on a temporary basis. Only one of them, the assistant registrar, had been appointed on a permanent basis. Not many academics in Case ‘B’ were senior lecturers or professors, which made the dean seem superior to them, and enabled him to exercise his authority. The dean also believed that, as a leader, he had power and he had to exercise his leadership to ensure that ISO 9001 was maintained effectively. It was no surprise therefore that the dean seemed to have employed authoritative leadership in maintaining ISO 9001; for instance, he had excluded a few academics who did not favour ISO 9001 maintenance activities from the Quality Management Committee. It also appeared that since University ‘B’ was a relatively new university, academics had realised that they had to acknowledge ISO 9001 maintenance activities because it was a management instruction and junior lecturers obediently delivered the ISO 9001 tasks that had been delegated to them. It was also noticeable that ISO 9001 maintenance activities had received a warm welcome from academics. This situation demonstrated that a managerial approach had supported ISO 9001 maintenance activities in Case ‘B’. The conclusion for this section is that the management style in Case ‘A’ was largely collegial and had worked against ISO 9001 maintenance activities. In contrast, the management style in Case ‘B’ was largely managerial and supported ISO 9001 maintenance activities. In brief, the differences and similarities of the influence of academic culture on ISO 9001 maintenance within Malaysian universities are shown in Table 1. Conclusion and recommendations The aim of this study was to investigate the influence of the elements of academic culture on ISO 9001 maintenance within Malaysian universities. It was concluded that in Case ‘A’ all of the elements of academic culture – academic freedom, individualism, professionalism and collegiality – had worked against ISO 9001 maintenance activities. This was attributed to the ISO 9001 prerequisites, such as customer satisfaction, teamwork and accountability to the organisation, process approach management and output orientation, which contradicted the elements of culture embraced by academics. In Case ‘B’, there were four elements of academic culture that influenced ISO 9001 maintenance activities – academic freedom, professionalism, teamwork and managerialism. Academic freedom had worked against ISO 9001 maintenance activities, but, in this case, it emerged that professionalism had supported ISO 9001 maintenance activities. Two other elements of academic culture – teamwork and managerialism – emerged from Case ‘B’, which had supported ISO 9001 maintenance activities. These two elements of academic culture are actually opposite in nature to the individualism and collegiality that existed in Case ‘A’. One should note that the ways in which professionalism influenced ISO 9001 maintenance activities in Cases ‘A’ and ‘B’ were different. Academics in Case ‘A’ did not support ISO 9001 maintenance activities because it had not helped them to achieve self-improvement. Academics had also seen ISO 9001 maintenance activities as a management tool that had been employed to develop accountability amongst them, which was contradictory to their professional values (in this case, professionalism had worked against ISO 9001). Meanwhile, academics in Case ‘B’ had seen ISO 9001 maintenance activities as a tool to help their self-development, and this had led them to support ISO 9001 maintenance activities (in this case,

professionalism had supported ISO 9001 maintenance). Since three of the elements of academic culture – academic freedom, individualism and collegiality – had worked against ISO 9001 maintenance, it can be inferred that ISO 9001 programmes within universities are unlikely to be easily executed. University management should give serious consideration to these elements of academic culture before they decide to embark on an ISO 9001 programme. ISO 9001 is generic in nature and can be applied in any sector; therefore, people should really understand the standard and find a way to fit the ISO 9001 requirements within a higher education environment. For instance, it might be possible to modify a university's QMS so that it can work together with the elements of academic culture. The findings showed that when academics saw that the ISO 9001 maintenance process had helped their self-development, they had a positive attitude towards it. Therefore, in 334 S. A. BASIR ET AL. Table 1. Differences and similarities of the influence of academic culture on ISO 9001 maintenance within Malaysian universities. Elements of academic culture Case 'A' Case 'B' Academic freedom Academic freedom has worked against ISO 9001 maintenance. Many academics, especially senior lecturers and professors, disappeared during audits. They have also not been interested in continuous improvement initiatives. Faculty's ISO 9001 requirements were seen to restrain flexibility and considered to standardise the teaching and learning format. Academic freedom has worked against ISO 9001 maintenance. Academics feel that academic freedom was incompatible with ISO 9001 maintenance activities. There were academics who did not comply with ISO 9001 requirements. Many academics, especially senior lecturers and professors, disappeared during audits. Individualism Individualism has worked against ISO 9001 maintenance. Many academics were individualistic and were not keen to take part in continuous improvement activities. They were also not keen to work in a team, as requested in ISO 9001 maintenance activities. Academics also believed that they should deliver subjects in their own way and not comply with the standardised format imposed. Many academics refused to join ISO 9001 maintenance activities since they gave priority to research work. Individualism was not obvious. The faculty management had successfully embedded teamwork, which strongly supported ISO 9001 maintenance activities. The teamwork was organisational values in Case B. The university rector had successfully encouraged academics to work together to maintain ISO 9001. Professionalism Professionalism worked against ISO 9001 maintenance. Academics did not support ISO 9001 maintenance because it did not help them in terms of self-improvement. The results from student evaluations were not used to determine whether academics should be sent for training to improve teaching skills. Academics had to answer to the head of department if they received a low score in student evaluations. Therefore, they considered that the faculty's quality management system ISO 9001 was being used to develop accountability amongst them, which was contradictory to their professional values. Academics felt that ISO 9001 certification only brought organisational benefits and did not benefit their self-development. Academics considered the faculty's quality management system to be a set of rules that needed to be complied with, which they did not consider to be compatible with the preferences of the academics. Professionalism supported ISO 9001 maintenance. Academics had strong professionalism, as they possessed an engineering background. Junior lecturers had a willingness to learn and acquire an understanding of ISO 9001. The results from student evaluations were used to determine whether academics should be sent for training to improve teaching

skills. Academics support ISO 9001 maintenance as they consider it to be a tool for selfdevelopment. Collegiality Collegiality worked against ISO 9001 maintenance. The majority of academics are senior lecturers and professors. They had many academic responsibilities, such as supervision, research, publications and academic programme accreditations. Therefore, they were less concerned with ISO 9001 maintenance activities. They were sceptical of the contribution of ISO 9001 to academic excellence. Collegiality was not obvious. The management style was largely managerial and supported ISO 9001 maintenance. Many academics were junior lecturers, which made the Dean seem superior to them. This enabled the Dean to exercise his authority in maintaining the ISO 9001 programme.
Junior lecturers obediently delivered ISO 9001 tasks that were presented to them. ISO 9001 maintenance activities received a warm welcome from academics. In order to sustain the positive attitude of these academics, university management should make an effort to use the ISO 9001 maintenance process as a tool for the self-development of academics. It cannot be denied that academic culture is the foundation of how academics work. Hence, any QMS or management programme to be implemented in the universities must be aligned with the academic culture. This is to ensure that the quality system is carried out in accordance with the generic management system that is suitable for universities. In this respect, the management of universities should take appropriate measures to ensure that ISO 9000 is implemented and maintained in accordance with the academic culture, which is very closely linked with the generic management system for universities. In other words, the quality system implemented should be designed and developed by taking into account the academic way of thinking and working as embedded in academic culture. The management of universities should take the following actions related to the four academic cultures that have been discussed so that the ISO 9000 implementation and maintenance can be customised with the generic system for universities. (1) Academic freedom: The management of universities should ensure that work procedures designed for teaching and research are flexible and not too detailed. For example, the courses pro forma should only contain the basic criteria that must be met by academics. It is also crucial to provide room for academics to use their own creative approach in delivering teaching tasks. This is to avoid the format for teaching and learning becoming standardised. (2) Individualism: The management of universities should ensure that standard operation procedures are designed to grant freedom to academics to enable them to employ their own methods in carrying out teaching tasks. In addition, performance evaluation for lecturers should emphasise cooperation in academic work and not administrative work. In addition, the management should not force any academic to become involved in ISO 9000 activities. For example, by forcing them to become members of the quality committee. (3) Professionalism: The management should not use coercive methods in maintaining ISO 9000. Rigid work procedures for teaching and research must be avoided, as these should be flexible in order to give more autonomy to academics in performing their duties. In addition, work activities related to ISO 9000 maintenance amongst academics should be reduced. This is to allow academics to spend more time on academic work that is important for their career development and professionalism. Besides that, student evaluation of lecturers should only be used as an input to improve teaching delivery. The evaluation should not be used as a key indicator to assess academic and job performance of academics. (4) Collegiality: The management universities should guarantee that ISO 9000 should be implemented and maintained with a focus on aspects of

academic development so that it is in line with the spirit of collegiality amongst lecturers. A management style that emphasises the control of academic work and budget control should be avoided as it is contrary to the spirit of collegiality of the academic affiliations. In addition, academics should not be burdened with administrative tasks so that they can focus more on academic work, such as 336 S. A. BASIR ET AL. teaching, research and publications. The management should also take into account inputs from academics in the development of standard operation procedures, especially those that are related to teaching, learning and research. This is to ensure that the standard operation procedures developed are in line with the needs of academics and do not restrict their freedom as academics. In addition, the management of universities should appoint more academics as internal auditors because they have a better understanding of the job scope and nature of academicians. This will enable the auditors to focus on the important things related to academic matters while carrying out the audit work. Finally, the decision-making process regarding the implementation of the QMS should not be dominated by the university administrators. Rather, it should involve academics so that the decisions taken reflect the needs of academics. In this case, academics should be involved in the process of establishing quality objectives, management review meetings and continuous improvement initiative meetings. Disclosure statement No potential conflict of interest was reported by the authors.

References

Abdullah, S., Abdul Razak, A., Hanafi, M.H., & Jaafar, M. (2013). Implementation barriers of ISO 9000 within the Malaysian local government. International Journal of Quality & Reliability Management, 30(8), 853–876. doi:10.1108/IJQRM-Dec-2011-0160

Arkerlind, G. S. (2005). Academic growth and development. Higher Education, 50(1),1-32

Bendell, T. (2000). The implications of the changes to ISO 9000 for organisational excellence. Measuring Business Excellence, 4(3), 11–14. doi:10.1108/13683040010377746

Bijlsma-Frankema, K. (2001). On managing cultural integration and cultural change processes in mergers and acquisitions. Journal of European Industrial Training, 25(4), 192–207. doi:10.1108/03090590110395807

Cardoso, S., Rosa, M.J., & Santos, C.S. (2013). Different academics' characteristic, different perceptions on quality assessment? Quality Assurance in Education, 21(1), 96–117. doi:10.1108/09684881311293089

Cartwright, M.J. (2007). The rhetoric and reality of "quality" in higher education. Quality Assurance in Education, 15(3), 287–301. doi:10.1108/09684880710773174

Casadesus, M., & Karapetrovic, S. (2005). Has ISO 9000 lost some of its lustre? A longitudinal impact study. International Journal of Operations and Production Management, 25(6), 580– 596. doi:10.1108/01443570510599737

Cepada, G., & Martin, D. (2005). A review of case studies publishing in management decision 2003-2004. Management Decision, 43(6), 851–876. doi:10.1108/00251740510603600

Chai, H.C. (2007). The business of higher education in Malaysia, Commonwealth Education Partnership. Retreived from http://www.cedol.org/wp-content/uploads/2012/02/114-118- 2007.pdf.

Chin, K.S., Poon, G.K.K., & Pun, K.F. (2000). The critical maintenance issues of the ISO 9000 system. Work Study, 49(3), 89–96. doi:10.1108/00438020010318064
Davies, J., Douglas, A., & Douglas, J. (2007). The effect of academic culture on the implementation of the EFQM Excellence Model in UK universities. Quality Assurance in Education, 15(4), 382–401. doi:10.1108/09684880710829965
Farrugia, C. (1996). A continuing professional development model for quality assurance in higher education. Quality Assurance in Education, 4(2), 28–34. doi:10.1108/ 09684889610116030
Fullwood, R., Rowley, J., & Delbridge, R. (2013). Knowledge sharing amongst academics in UK universities. Journal of Knowledge Management, 17(1), 123–136. doi:10.1108/ 13673271311300831
Ghee, L.T. (1995). Malaysian and Singaporean higher education. In A.H. Yee (Ed.), East Asia higher education (pp. 107–124). Paris: International Association of Universities.
Gizir, S., & Simsek, H. (2005). Communication in an academic context. Higher Education, 50, 197–221. doi:10.1007/s10734-004-6349-x
Goffee, R., & Jones, G. (1996). What holds the modern company together? Harvard Business Review, 74 (6), 133–148
Harvey, L., & Knight, P. (1996). Transforming higher education. London: Society for Research into Higher Education (SRHE).
Harvey, L. (1995, April 17-18). Quality assurance systems, TQM and the new Collegialism. Proccedings of the Quality in Higher Education (QHE) Seminar, Birmingham.
Hofstede, G. (1997). Cultures and organisation. England: McGraw-Hill Book Company.
Holmes, G., & McElwee, G. (1995). Total quality management in higher education. The TQM Magazine, 7(6), 5–10. doi:10.1108/09544789510103699
Hoyle, D. (2005). ISO 9000 quality systems handbook. Oxford: Butterworth Heinemann. International Organisation for Standardisation [ISO]. (2014). ISO 9000 – Quality management. Retrieved from http://www.iso.org/iso/home/standards/management-standards/iso_9000.htm.
International Organisation for Standardisation [ISO]. (2015). Executive summary, The ISO survey of management system standard certifications – 2013. Retrieved from http://www.iso.org/iso/ iso_survey_executive-summary.pdf?v2013.
Kaulisch, M., & Enders, J. (2005). Careers in overlapping institutional contexts. Career Development International, 10(2), 130–144. doi:10.1108/13620430510588329
Knight, P.T., & Trowler, P.R. (2000). Departmental-level cultures and the improvement of learning and teaching. Studies in Higher Education, 25(1), 69–83. doi:10.1080/ 030750700116028
Koch, J.V. (2003). TQM: Why is its impact in higher education so small? The TQM Magazine, 15 (5), 325–333. doi:10.1108/09544780310487721
Kunnannatt, J.T. (2007). Impact of ISO 9000 on organisational climate. International Journal of Manpower, 28(2), 175–192.
Kuo, H.M. (2009). Understanding relationships between academic staff and administrators: An organisational culture perspective. Journal of Higher Education Policy and Management, 31(1), 43–54. doi:10.1080/13600800802559278
Lee, B., & Sadri, G. (2001). Developing corporate culture as a competitive edge. Journal of Management Development, 20(10), 853–859. doi:10.1108/02621710110410851

Lipovatz, D., Stenos, F., & Vaka, A. (1999). Implementation of ISO 9000 quality systems in Greek enterprise. International Journal of Quality and Reliability Management, 16(6), 534–551. doi:10.1108/02656719910278575
Low, S.P., & Omar, H.F. (1997). The effective maintenance of quality management systems in the construction industry. International Journal of Quality and Reliability Management, 14(8), 768–790. doi:10.1108/02656719710181303
Malaysian Qualification Agency website. (2015). MQA at a glance. Retreived from http://www. mqa.gov.my/. Marimuthu, T. (2008). The role of the private sector in higher education in Malaysia. D. Johnson & R. Maclean Eds., Teaching: Professionalisation, development and leadership 271–282. Kuala Lumpur: Springer. Retreived from http://link.springer.com/chapter/10.1007/978-1-4020-8186- 6_18
Mårtensson, K., Roxå, T., & Olsson, T. (2011). Developing a quality culture through the scholarship of teaching and learning. Higher Education Research & Development, 30(1), 51–62. doi:10.1080/07294360.2011.536972 338
S. A. BASIR ET AL. Massaro, V. (2010). Cui bono? The relevance and the impact of quality assurance. Journal of Higher Education Policy and Management, 32(1), 17–26. doi:10.1080/13600800903440527
Maull, P., Brown, P., & Cliffe, R. (2001). Organisational culture and quality improvement. International Journal of Operations and Production Management, 21(3), 302–326. doi:10.1108/01443570110364614
McMurray, A., & Scott, D. (2013). Determinants of organisational climate for academia. Higher Education Research & Development, 32(6), 960–974. doi:10.1080/07294360.2013.806446
Mehralizadeh, Y., & Safaeemoghaddam, M. (2010). The applicability of quality management systems and models to higher education: A new perspective. The TQM Journal, 22(2), 175– 187. doi:10.1108/17542731011024282 Michael, S.O. (2004). In search of universal principles of higher education management and their applicability to the Moldavian higher education system. The International Journal of Education Management, 18(2), 118–137.
Ministry of Finance. (2016). National budget. Retreived from http://www.treasury.gov.my/. Ministry of Higher Education. (2016a). The list of Malaysia's public universities. Retrieved from http://www.mohe.gov.my/ms/institusi/universiti-awam.
Ministry of Higher Education. (2016b). Category of public universities. Retreived from http:// www.mohe.gov.my/ms/institusi/universiti-awam/kategori-ua
Mo, J.P.T., & Chan, A.M.S. (1997). Strategy for the successful implementation of ISO 9000 in small and medium manufacturers. The TQM Magazine, 9(2), 135–145. doi:10.1108/ 09544789710165581
Mokhtar, S.S.M., Abdullah, N.A.H., Kardi, N., & Yacob, M.I. (2013). Sustaining a quality management system: Process, issues and challenges. Business Strategy Series, 14(4), 123–130. doi:10.1108/BSS-12-2011-0032
Motwani, J., & Kumar, A. (1997). The need for implementing TQM in education. International Journal of Educational Management, 11(3), 131–135.
Motwani, J., Michael, R.K., & Sower, V.E. (1997). A comprehensive model for implementing total quality management in higher education. Benchmarking for Quality Management and Technology, 4(2), 104–120. doi:10.1108/14635779710174945
Owlia, M.S., & Aspinwall, E.M. (1997). TQM in higher education. International Journal of Quality and Reliability Management, 14(5), 527–543. doi:10.1108/02656719710170747

Pascale, R. T. (1990). Managing on the edge: How successful companies use conflict to stay ahead. London: Penguin Books. Pool, S.W. (2000). Organizational culture and its relationship between job tension in measuring outcomes among business executives. Journal of Management Development, 19(1), 32–49. doi:10.1108/02621710010308144
Prime Minister Department. (1999). Seventh Malaysian Plan Half Review, 1996-2000. Kuala Lumpur: Economic Planning Unit. Rahman,
N.A.A., Rajadurai, J., & Sohail, M.S. (2003). Managing quality in higher education: A Malaysian case study. The International Journal of Educational Management, 17(4), 141–146.
Ramirez, G.B., & Berger, J.B. (2014). Rankings, accreditation, and the international quest for quality: Organising an approach to value in higher education. Quality Assurance in Education, 22(1), 88–104. doi:10.1108/QAE-07-2013-0031
Remenyi, D., Williams, B., Money, A., & Swartz, E. (1999). Research in business and management. London: Sage Publications.
Rodriguez-Cerrillo, M., Fernandez-Diaz, E., Inurrieta-Romero, A., & Poza-Montoro, A. (2012). Implementation of quality management system according to 9001 standard in a hospital in the home unit. International Journal of Health Care Quality Assurance, 25(6), 498–508. doi:10.1108/09526861211246458
Roffe, I.M. (1998). Conceptual problems of continuous quality improvement and innovation in higher education. Quality Assurance in Education, 6(2), 74–82. doi:10.1108/ 09684889810205723
Sarvan, F., & Anafarta, N. (2005). Fundamentals of quality management in the university context. Proceedings of the 49th European Organisation for Quality (EOQ) Congress, Antalya, Turkey, 25th–27th April. Schein, E.H. (2004). Organisational culture and leadership. San Francisco: Jossey-Bass. Schneider, W.E. (2000). Why good management ideas fail? Strategic Leadership, 28(1), 24–29. doi:10.1108/10878570010336001
Schulz, J. (2013). The impact of role conflict, role ambiguity and organisational climate on the job satisfaction of academic staff in research-intensive universities in the UK. Higher Education Research and Development, 32(3), 464–478. doi:10.1080/07294360.2012.680209
Seaver, M. (2001). Implementing ISO 9000:2000. Surrey: Gower Publishing.
Shutler, P.M.E., & Crawford, L.E.D. (1998). The challenge of ISO 9000 certification in higher education. Quality Assurance in Education, 6(3), 152–161. doi:10.1108/09684889810220456
Silver, H. (2003). Does a university have a culture? Studies in Higher Education, 28(2), 157–169. doi:10.1080/0307507032000058118
Sirat, M.B. (2010). Strategic planning directions of Malaysia's higher education: University autonomy in the midst of political uncertainties. Higher Education, 59(4), 461–473. doi:10.1007/s10734-009-9259-0
Srikanthan, G., & Dalrymple, J.F. (2003). Developing alternative perspectives for quality in higher education. The International Journal of Educational Management, 17(3), 126–136. doi:10.1108/ 09513540310467804
Srikanthan, G., & Dalrymple, J.F. (2004). A synthesis of a quality management model for education in universities. International Journal of Educational Management, 18(4), 266–279.
Srivanci, M.B. (2004). Critical issues for TQM implementation in higher education. The TQM Magazine, 16(6), 382–386. doi:10.1108/09544780410563293 Study Malaysia. (2016).

Higher education in Malaysia, the national education system. Retreived July 1, 2016, from https://studymalaysia.com/international/the-national-education-system/themalaysian- higher-education-system-an-overview
Taib, K.M., Ahmad, N., & Abdullah Sani, M.K.J. (2006). The role of higher education institutions in providing knowledge workers. Proceedings of the Knowledge Management International Conference and Exhibition, Kedah, Malaysia, 6th–8th June.
Tight, M. (2010). The curious case of case study: A viewpoint. International Journal of Social Research Methodology, 13(4), 329–339. doi:10.1080/13645570903187181
Wahid, R.A., & Corner, J. (2009). Critical success factors and problems in ISO 9000 maintenance. International Journal of Quality & Reliability Management, 26(9), 881–893. doi:10.1108/ 02656710910995073
Williams, J. A. (2004). The impact of motivating factors on implementation of iso 9001:2000 registration process. Management Research News, 27(1 1/2), 74-84. doi:10.1108/ 01409170410784365 Yin, R. (2014). Case study research. London: Sage Publications