

Challenges and Prospects of Implementing ISO 9001:2015 in Lebanese Higher Education Institutions

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Abstract

Over the past three decades, the International Organization for Standardization (ISO) has been promoting and advocating the standardization of quality management systems and their requirements for almost all of the technology and business fields. Recently, ISO has been expanding its activities into other topics related to social and environmental policy. ISO 9001 is one of the most well-known and widely implemented international standards of quality. Since its first inception in 1987, ISO 9001 has been modified four times in order to cover a wider variety of sectors. Through its evolution till 2015, ISO 9001 has been considered as a standard that may be suitable to meet higher educational organizations needs and requirements. Consequently, a significant number of higher education institutions induced the confidence of their stakeholders by implementing ISO 9001 into their systems. However, the contribution of the Lebanese educational institutions is still limited and exclusive to a small number of universities. The aim of this paper is to investigate the challenges of implementing ISO 9001:2015 into the Lebanese higher education institutions, shed the light on the importance of having its compliance to the quality management system requirements, and propose a solution to address these challenges.

Keywords: ISO 9001:2015, higher education institutions, quality management systems, standards.

Introduction

Year after year, quality standards in universities are becoming inevitable as they govern the expected

performance for extensive and increasingly demanding educational requirements. The traditional academic approach that is widely spread out in the Arab countries and in Lebanon is suffering from serious issues and becoming relatively ineffective and inefficient. Many researchers in the Arab countries conducted studies regarding this matter in an attempt to improve the higher education sector through focusing on the importance of quality assurance (Arafeh, 2010), reforming the curricula (Asaid, 2010), and even integrating new processes approach such as the Bologna-type process (Zand & Karrar, 2010).

Surveying recent studies, it appeared that many universities are seeking ISO 9001 certification either for improving their work or for the prestigious image of having ISO 9001 implemented (Mola, 2007). Subsequently, most of them are trying to understand the stakeholders' perception and act accordingly. This is all done in an attempt to adapt a world of education that is rapidly changing today and will probably face even greater changes in the future. This is especially true with regards to the fast evolution of technology and the availability of powerful information technology infrastructures which are supportive of higher education.

Keeping in mind that universities are dynamic bodies, they are supposed to maintain a constant level of flexibility to adapt new approaches. Universities are also being asked to come closer to society's problems and cooperate with private companies and research institutes to find solutions (Zapata-Garcia, Llauradó, & Rauret, 2007). This would mandate that universities operate within well-established quality management practices and standards. Based on these facts, a core question arose in this investigation related to the extent that ISO 9001 responds to the academic requirements in higher education? In addition, what are the serious drawbacks for the implementation of this standard in higher educational institutions? Finally, what are the prospects of adopting ISO9001 at Lebanese higher education institutions? Before answering these questions, a brief review of the development of ISO 9001 since its inception in 1987 till present will need to be done.

Literature Review

In the beginning of 1940s, many countries started focusing on quality, safety, and effectiveness of products, services, and systems across the globe. In the late 1940s, 65 delegates from 25 countries established the world largest developer of international standards in London (ISO, 2016). Since its foundation in 1947, the International Organization for Standardization (ISO) has published more than 21,000 international standards covering nearly all aspects of business and technology. In practice, ISO 9001 was one of the most commonly used international standards, which played a significant role in raising the quality of the products and reducing the costs of the production (Mangula, 2010).

The growing enrolment rates, the changing society structure, the different types of programs delivery, and the large-scale of job descriptions contribute to making ISO 9001 very significant. Besides, many studies pointed to the importance of quality in the higher education institutions to facilitate faculty-staff functions, enhance better teamwork among departments, and ensure customer's satisfaction (Zabadi A. , 2013). Moreover, some studies highlighted the obstacles to implementing ISO 9001 which have been mainly identified as being related to internal institutional issues (Kasperaviciute, 2012). Other studies showed that the clauses stated by ISO 9001 are not recognized well by the human resources within the organization itself. Actually, dealing with a wide variety of customers is one of the most important challenges that face the higher educational institutions (Quinn, Lemay, Larsen, & Jahnsen, 2009). Even the vocational education is facing the same obstacles in implementing ISO 9001 as a part of its quality management system (Bevans-Gonzales & Nair, 2004). Arguably, this has been contributed to the lack of awareness of the part-timers, the staff, and even the faculty members (Kagumba & George, 2013). Moreover, the poor change management and the lack of the coordination among different departments are some of the challenges facing implementation of ISO 9001:2008 in universities (Kiprob, 2014).

The ISO 9001 standard provides a set of generic requirements for implementing a Quality Management System (QMS) regardless the organization's activities (Rebelo, Santos, & Silva, 2014). However, education has its own specifications in quality and hence the requirements of ISO 9001 need to be interpreted in the field of education. Existing literature restricts the scope of the quality system to fewer than the full 20 elements (Willborn & Cheng, 1994). For example, Lewis and Smith consider only twelve elements of ISO 9001 to be directly applicable to education (Lewis & Smith, 1994), while Willborn and Cheng address seventeen (Willborn & Cheng, 1994). Although research is an integral part of university processes and a distinguishing characteristic of academic staff, existing interpretations focus on the 'learning opportunity' and courses as a primary product of educational institutions (Karapetrovic, Rajamani, & Willborn, 1998) . These interpretations would most certainly become more clear and consistent if underlying production and quality system concepts were to be used. In that manner,

Reavill suggested a comprehensive model that defined the customers in the educational field by asking who pays for and benefits from education. His model categorized the customers into internal and external customers linked by one of the three processes: teaching, learning, and research (Pereira & Da Silva, 2003).

Looking at the quality-related concerns raised by the higher education institutions from all over the world, one question comes to mind: To what extent is ISO 9001:2015 applicable to the educational institutions in Lebanon? What are the main challenges and prospects facing the implementation of ISO 9001:2015 into the Lebanese educational system?

Research Design

This study was designed to investigate the challenging factors behind the non-implementation of the international standard ISO 9001 into higher educational organizations. To do so, the observations were based on two types of data: quantitative and qualitative.

The quantitative output of data analysis is the findings of a question-based survey distributed to a number of private universities in Lebanon (Appendix). A survey has been diffused to the universities participating in the mirror committees of the international Project committee – ISO PC 288 established by the international organization for standardization, that is taking charge of studying new international standards for the quality in educational organization. The survey was distributed over 45 Lebanese universities, in which 10 of them filled up the surveys. Before going over the findings of the study, it should be taken into account that the response of the universities was limited to 22%, which is considered basically a low rate to rely on.

The qualitative assessment was done on two levels; the first level is based on significant consultancy experience in ISO 9001 implementation through the meetings of specialized technical committees, where the elaboration of a new standard that specifies requirements for the implementation of quality in educational organization took place. The second level is the prioritization of the obtained challenges through the General Directorate of the Higher Education in Lebanon, as a governmental and presumably an objective impartial stakeholder (validation of the first level).

Furthermore, the anchor point used was totally based on the guidelines published by the International Organization for Standardization and some references related to the international standards ISO 9001 current version (2015) and the previous one (2008) which are in the forms of books, articles, conference papers and handbooks.

Questionnaire Design and Section

In Lebanon, the Council of Higher Education (CHE) consists of technical committees responsible for the fulfillment of license standards and for the monitoring of the status of the Higher Education Institutions (HEI) (Arafeh, 2010). The questionnaire was designed to measure the response of the Lebanese private universities according to seven factors. The criteria considered in this study were raised during the meetings and the discussions of the ISO PC 288 – the international project committee for educational organizations management systems and the NL ISO PC 288 – the Lebanese mirror committee. The factors were identified as the most important dimensions that could affect the implementation of ISO 9001 in higher education institutions. This approach is closely aligned with the focus group protocol where a moderator guides the discussion and what the participants in the group say during the discussion are considered as the essential data (Morgan, 1997).

As mentioned previously, the aim of this work is to investigate the challenges that may prevent higher education institutions in Lebanon from implementing ISO 9001. After several discussions and debates around the educational mechanism in Lebanon and through close observations of the weaknesses and strengths on the higher education institutions, seven main challenging factors prevailed; highlighting the main concerns as to what are the obstacles of adopting ISO 9001. The seven identified factors are: lack of awareness, resistance to change, existence of accreditation, commitment of top management, time management, and resource availability. Before testing the potential of each of the seven challenges, the following definitions are presented and elaborated to avoid any mis-understanding or confusion:

4.1 Lack of awareness

It is related to the requirements of the standard and the process of its implementation. As defined by many parties, quality isn't a science or a theory that can be taught; it's a culture that should be lived and it has been shown that the quality of awareness increases the confidence in organizations' QMS (Kothar & Lal Pradhan, 2011). This factor is considered as the most important one since it is the starting point for the implementation of quality standards. Consequently, this factor may result in several complications on the level of involvement and cooperation among the staff and the faculty members (Mehfooz & Saeed Lodhi, 2015).

4.2 Resistance to change

Resistance to change refers to the level of impedance or opposition to any new implementation. At this level, it is noteworthy to realize that the need for change is taken for granted and for a certain extent in universities and faculty members are aware of the importance of stepping forward every now and then. However, when it comes to orient or pick hole in somebody who used to orient and teach others it is pretty hard, especially when you deal with PhD holders (Ahmed, Zbib, Arokiasamy, Ramayah, & Chiun, 2006). In a university environment, the development of a quality system and concepts of quality assurance will certainly encounter mixed reviews by academics who are often weary of structured approaches requiring additional documentation. Thus, the focus has to be on the establishment of a meaningful quality system with numerous benefits to each individual professor and staff member, rather than documenting each requirement and having impeccable and seldom-used records made just for a registrar's visit (Karapetrovic, Rajamani, & Willborn, 1998).

As a matter of fact, resistance to change in higher education institutions is stronger than other organizations because it includes intensively educated people who may not easily accept to be criticized in their style of work and they consider themselves as references to others. This may be traced to ineffective management of organizational resistance to change or the failure to create the new organizational culture and structure needed to support the adaptation and implementation of quality management (Hussein, Hammoud, Bazzi, & Haj-Ali, 2014).

4.3 Terminology used in ISO 9001:

The terminology used in ISO 9001 is another challenging factor, which brought in a sort of conflict among many key terms that are perceived as not being applicable to the field of education. Although the ISO 9001 standard is generic, i.e. it is applicable to manufacturing and service organizations, as well as health care, small business and education, a number of terms and concepts in the standard have manufacturing background (Karapetrovic, Rajamani, & Willborn, 1998).

Well, here it is obvious to declare that ISO 9001:2008 standard sets up the minimum requirements to manage the system of organizations covering five main sectors: quality management system, management responsibility, resource management, product realization, and measurement, analysis and improvement (M. J. Rosa, C. S. Sarrico, and A. Amaral, 2012). Consequently, ISO 9001:2015 was built to deal with tangible items and products; however, education mostly deals with service, which focuses on communication and interaction rather than a tangible product. In this manner, the "production realization" isn't totally valid anymore.

In the educational sector, the product is replaced by a service, and so the terminology should be updated to suit the service being offered. Universities' main objective is to create, preserve and disseminate knowledge (Karapetrovic, Creating zero defect students, 1997). Alternatively, Universities create may be viewed as providing three main products: student knowledge, abilities and competencies, courses and programs, and research (Karapetrovic, Rajamani, & Willborn, 1998).

Identifying the customer in the higher educational field is another crucial key term that arises the terminology problem; in that manner, many researchers tried to underline a common definition for the customer in the educational sector and they listed them as follows students, community, companies, government, and universities (Zabadi A. M., 2013).

4.4 Existence of accreditation

It is a little bit confusing for some universities which thought that the implementation of an accreditation system will replace the implementation of quality management system requirements as outlined and detailed by the ISO 9001 standard. Having accreditation, such as ABET for engineering programs, will certainly help in fast

tracking ISO 9001 universities or departments that are considering its implementation do not have to start from scratch and spend hundreds of thousands of dollars in the endeavor (Thandapani, Gopalakrishnan, Devadasan, Sreenivasa, & Muruges, 2011).

Furthermore, universities should be aware that achieving ISO certification provides them with the competitive advantage needed to sustain their programs in a fast changing and continuously evolving world that admires certifications.

4.5 Commitment of top management

In case of universities, the top management is the decision maker; whether it was a board of directors, president, rector, director, dean, or other top management personnel. Commitment of top management is considered as one of the main challenges for quality management in higher education (Trivelias, Ipsilantis, Papadopoulos, & Kantas, 2012). Without the commitment and the support of the top management, a quality management system could not be easily implemented (Mehfooz & Saeed Lodhi, 2015). Moreover, many empirical studies showed that the commitment of top management comes at the head of the list of barriers that impede the adoption of ISO 9001 (Al-Najjar & Jawad, 2011).

4.6 Time management

Universities staff, instructors, professors, deans and other personnel are always overloaded with their educational duties and administrative tasks. Although multi-tasking is a part of their daily work, it represents a real challenge. Hence, the best way to address and tackle this issue is to assign the job of implementing quality management system to a new dedicated team of employees who are well trained and prepared for that mission. Universities as organizations must identify the training needs of its faculty and staff, and provide for the adequate training.

4.7 Resources availability

In this context, resources may be human resources (human power: staff and faculty members) or financial resources (such as machines and money and all material supplies), which include organizing, controlling, and scheduling of tasks. Resource management is one of the core requirements for ISO 9001, which contributes to the fine implementation for ISO 9001 in the higher education.

In the questionnaire, the rate of significance varies from a scale of 1 to 5 (1 as being not important and 5 as being extremely important). In the next section, the percentage of the scores per each criterion to the discussion done through the ISO PC 288 are compared in order to measure the alignment between the factors raised worldwide and those raised on the Lebanese scale.

Findings

5.1 The question-based survey

The seven criteria considered in the study were raised during the meetings of the ISO PC 288 and the NL ISO PC 288 as frequent factors that could affect the implementation of quality management systems in higher educational institutions. To realize the effect of these seven factors on the implementation of ISO 9001, a question-based survey was launched to reach all the Lebanese private universities, in which their responses were received back and the ratings of the seven criteria are summarized in Table 1.

Table 10: Rates and percentages of the challenging factors.

GRADE	Extremely disagree (1)		Slightly disagree (2)		Nor agree neither disagree (3)		Slightly agree (4)		Extremely agree (5)	
	Rates	%	Rates	%	Rates	%	Rates	%	Rates	%
Lack of awareness on ISO 9001	3	30			2	20	4	40	1	10
Resistance of change	2	20	1	10	2	20	4	40	1	10
Terminology used in ISO 9001	2	20	2	20	2	20	4	40		
Existence of accreditation system	1	10	1	10			4	40	4	40
Commitment of Top management	2	20	1	10	1	10	1	10	5	50
Time management	1	10			3	30	5	50	1	10
Resources availability	1	10	1	10	3	30	2	20	3	30

Among the seven criteria, the **commitment of top management** recorded the highest score. It received 50% as the most critical factor that stands between the educational institutions and the decision to implement ISO 9001. Consequently, the top management of universities shall be convinced and made aware of the benefits of implementing quality standards into their existing structure. In an increasing global environment, educational institutions (like other social institutions) are pressured to be more 'efficient', work better with less funding, meet the needs of the market and engage in never-ending quality improvement efforts (Welch, 1998).

The existence of the accreditation appeared in the second place on the scale of the criticality of the challenges facing the implementation of ISO 9001 in higher education institutions. Surprisingly, most of universities mix up between accreditation and certification. Consequently, awareness sessions, seminars and workshops should be conducted to explain and highlight the distinctions and differences of each one. It is recommended that the Lebanese Standards Institution (LIBNOR) in collaboration with ISO put some initiatives and projects to address this issue and minimize its impact. It is worth noting here that there have been many reports that having a well-established quality management system helps in maintaining or obtaining accreditation. Zapata-Garcia et al. (2007) confirmed that the implementation of the quality system at their university labs allowed the service to achieve accreditation, which gives it both recognition and a good image to clients (Zapata-Garcia, Llauradó, & Rauret, 2007).

Time management is considered as the third ranking factor threatening the implementation of ISO 9001 in the educational institutions. Based on the findings, it is noticed that 60 % of the respondents agreed that dedicating time and serious commitment to follow up with quality standards is a challenging factor scoring 4 to 5 on the scale of importance. This highlights the need to recruit new employees who will be dedicated to the task of implementing the quality management system.

The lack of awareness and the resistance to change represent the fourth and the fifth challenging factors respectively in which 50% of the universities considered each of them as important to extremely important factors. Looking at these two criteria, it may be easily noticed that the lack of awareness leads to the resistance to change and hence they are interconnected. Actually, the resistance to change is predictable in the educational institutions, since it deals with highly educated people who consider themselves as having extensive experience and knowledge and may be hesitant to accept new ways of doing things. The only way to get over this obstacle is to raise a special level of awareness at universities making the faculty members a part of it, which will help in spreading the quality culture smoothly within the educational institution. Engaging faculty and staff early in the process will certainly secure their buy-in and consequently their approval and acceptance of the outcomes.

The terminology used in ISO 9001:2015 received a 40% rating in terms of importance. Most of the universities feel that the ISO 9001 is designed to better fit business and technology organizations rather than the educational sector. This factor can be handled by either updating the current standards or launching another standard directly targeted to quality management into higher educational organization. This is currently being addressed by ISO through the preparations to launch the ISO 21001 which addresses quality management in educational organizations.

The availability of resources recorded the lowest score. This makes sense, because, logically speaking; most of the private universities have the available financial and human resources.

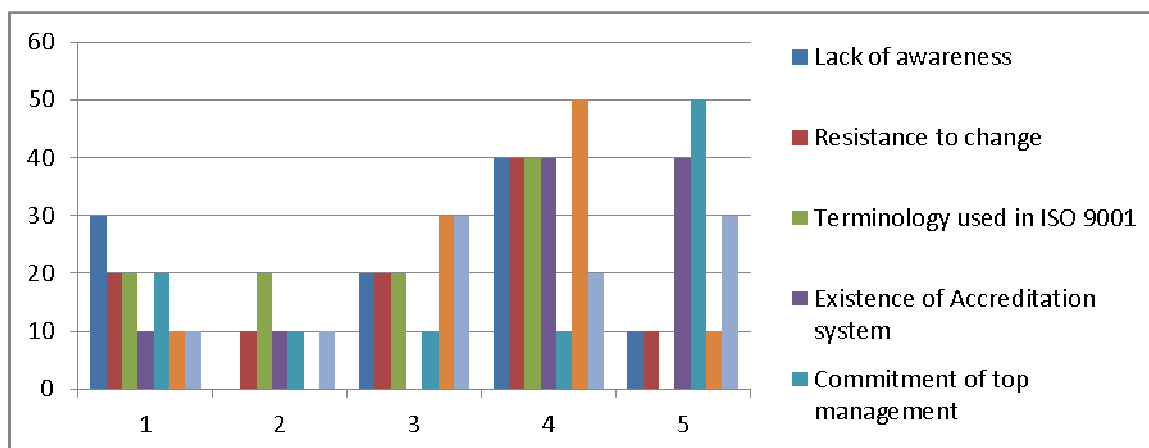


Figure 11: Percentage of the grades per criterion from the universities perspective.

The meetings' discussions

As explained in the previous section, in order to reduce the error that might take place through the survey and to make sure the results are not biased (especially with the limited contribution of universities due to a relatively low response rate of 22%); the factors were re-evaluated from another perspective. The ranking of the seven criteria from the higher educational directorate's point of view are summarized in Table 2.

Observing the results in table 2, it can be clearly notice that most of the decision-making experts in the Lebanese higher education council agreed on the significance of the existence of accreditation system, where 91% of the expertise voted for the criticality of this factor. The commitment of top management, time management, and the terminology used in ISO 9001 approximately received the same attention from the committee on the scale of effectiveness. However, they endorsed the role of the lack of awareness on ISO 9001, the resistance of change, and the resource availability shared the same level of importance.

Comparing the results in tables 1 and 2, note that there is a reasonable match between the recommendations from the discussions and the responses from the universities. Both studies listed the existence of accreditation, the commitment of the top management, and the time management in the same order of importance.

As expected, the lack of awareness and the resistance to change scored the same percentage (45% each). However, a slight difference was tracked over the two criteria; the terminology used in ISO 9001 and the resources available. Moreover, the higher educational directorate office nominated the terminology used in ISO 9001 to be in the fourth place, whereas the results of the survey placed it sixth. Similarly, the resource availability received more attention in the directorate office (the fifth place), whereas experimentally, it took the last place on the order of importance. This slight difference refers to the limitation of the study, which is represented by the insufficient sample taken under study (10 universities out of 45).

Table 11: Rates and percentages of the challenging factors by the directorate's office.

Criteria	Percentage of grades				
	Extremely disagree (1)	Slightly disagree (2)	Nor agree neither disagree (3)	Slightly agree (4)	Extremely agree (5)
Lack of awareness on ISO 9001	36%		18%	36%	9%
Resistance of change	18%	9%	27%	36%	9%
Terminology used in ISO 9001	18%	18%	18%	55%	
Existence of accreditation system	9%	9%		36%	55%
Commitment of Top management	27%	9%	9%	9%	55%
Time management	9%		36%	55%	9%
Resources availability	9%	9%	36%	18%	27%

The chart in figure 2 provides a clear overview of the potential of the proposed factors on the implementation of ISO 9001, which shows the effect of the commitment of top management, the existence of accreditation, the time management and the terminology used in ISO 9001.

As expected, the difference between the results in the qualitative and quantitative assessments is due to the limitation of the study to a limited low rate of responses received (10 out of 45 universities).

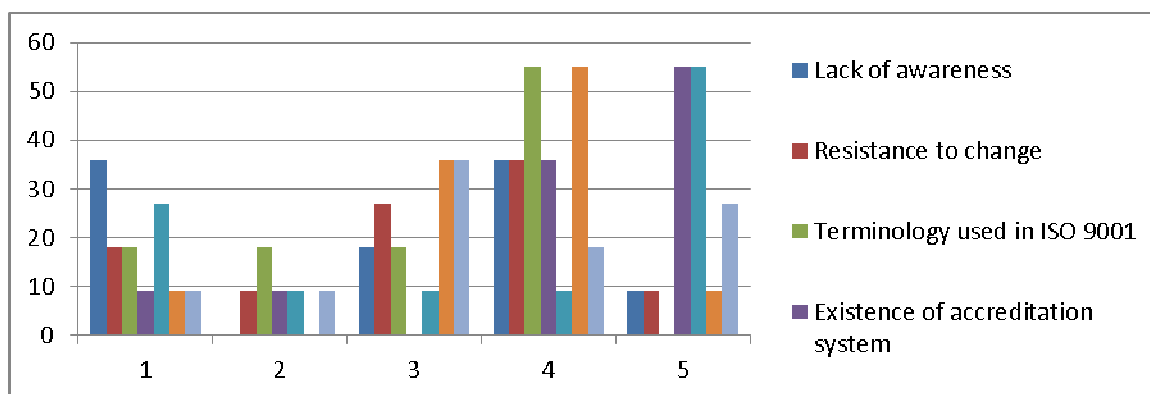


Figure 12: Percentage of the grades per criterion from the experts' perspective.

In the light of the obtained results, a list of powerful challenges stands between the higher educational institutions and the implementation of ISO 9001. This result is also in line with the findings of other researchers in this area. Quinn et al. (2009) report that academic/instructional settings have proven to be the most difficult areas for implementation, while more success has been shown in administrative and auxiliary service settings (Quinn, Lemay, Larsen, & Jahnsen, 2009). To overcome these challenges and get over their negative drawbacks, ISO 21001, a new standard is being created to provide a common quality management standard for the educational organizations.

ISO 21001 is a comprehensive, stand-alone international standard for educational organizations that integrates and complements other international standards. It still under construction and not published yet. A group of international cross-sectoral experts made up of 86 delegates from 39 national standardization bodies with the help of many stakeholders educational organizations are working in ISO/PC288/WG1 to develop the new standard to best fit educational requirements and meet the expectations of the new challenging needs for a competent generation (Stanton, 2015).

As it is built to be, ISO 21001 is created to serve its main goals in the higher educational organizations on different levels: to better align the mission, vision, and the action plans for the institution, to increase the

effectiveness and the efficiency of the assessment tools in higher education, and to enhance the harmonization of national standards within an international framework. It is expected that this standard, like other standards, would provide a solid foundation for continuous quality improvement without changing the way the organization functions (Bevans-Gonzales & Nair, 2004).

Conclusion and Future work

Improving the performance of higher educational institutions in Lebanon is a serious matter that should be handled as a priority. Despite criticism, ISO standards establish a good base for adopting an Educational Organization Management System (EOMS). Consequently, certification against ISO 9001 followed by ISO 21001, when it becomes available, may be considered as a hybrid two step model for getting a higher education institution certified for both its administrative and academic processes, respectively. Quality certification has been traditionally different from academic accreditation; would ISO 21001 cover both? Moreover, to what extent are the Lebanese universities ready for such implementation?

The new ISO 21001 standard which is based on ISO 9001 may certainly be very suitable for educational organizations as it is specifically targeted to address their concerns. If the advantages of an ISO 9001 quality system for each individual member of an academic community are set up front, and the executive management is committed to achieving this goal, the ground for a successful implementation of the system will be set. Ultimately, the benefits of having a meaningful quality assurance system will certainly outweigh unavoidable concerns. With the fast approaching milestone of the approval of the new standard, the near future will reveal how well it will be embraced by educational institutions. The results will need to be assessed after a full cycle in order to have a better understanding of the pros and cons of the standard. This will certainly lead to newer revisions and versions of the standard to address the concerns and the shortcomings raised by the stakeholders.

Appendix

Challenges for the implementation of ISO 9001 in educational organization survey

Kindly, fill the questionnaire out to the best of your knowledge and recollection. Add any additional comments you wish to make and attach any further relevant information to this document:

Name of the educational organization	
Are you aware of the existence of the international standard – ISO 9001 related to quality management system?	
Is the university certified against ISO 9001 “Quality management system”?	
What are the main challenges of implementing ISO 9001 in your institution?	
Is the university accredited?	
Is there any overlapping between implementation of ISO 9001 and the existing Accreditation system implemented in your institution?	
From your point of view what are the reasons behind the low number of certifiable educational organization against ISO 9001?	

Rate the importance of issues that are challenging the implementation of ISO 9001 in your institution from your point of view (the rate of significance varies from a scale of 1 as being not important to 5 as being extremely important):

Lack of awareness on ISO 9001	1	2	3	4	5
Resistance of change	1	2	3	4	5
Terminology used in ISO 9001	1	2	3	4	5
Existence of accreditation system	1	2	3	4	5
Commitment of Top management	1	2	3	4	5
Time management	1	2	3	4	5
Resources availability	1	2	3	4	5

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