

	- Added value of audits – “allow to identify the positive and negative aspects of our action and then bridge the gap to improvement”.	(294 - 295), (393)
	- Regular analysis and improvements – “annually there is always the need [...] to analyse what are the weaknesses and strengths of the school [...] define always a series of objectives [...] revise [them] but always with the aim of achieving those objectives”.	(294- 298), (393)
	- Support in the identification of improvements – “helped us also to identify areas that need to be improved”	(298- 299), (393)
	- Prompt control of non-conformities – “when [the objectives] are not being achieved we have to, as quickly as possible, adopt corrective and preventive actions”. One interviewee highlighted the benefits of applying benchmarking, but due to lack of supporting evidence from the other remaining cases, this sub-construct was not added to the final model.	(300- 304), (393)
La implementación y creación de la documentación	“Provision of strategic focus and foundation for planning” (B3) Consistently mentioned as an internal benefit and, thus, it was added to the final model. Before implementing the standard, many vocational schools had rather ad hoc strategic planning processes, but the certification improved this situation. An underlying principle of ISO 9001:2000 is customer focus, meaning that schools should determine, meet and strive to exceed students’ (and other stakeholders’) needs. Management is also required to define a quality policy and measurable quality objectives, and to ensure that all resources needed to meet those objectives are available.	(308- 314), (393)
	- It is not unexpected, then, that many vocational institutions use the QMS of ISO 9001:2000 to focus their objectives on satisfying the increasingly demanding needs of the educational community and to systematically define the activities necessary to obtain that result. As one interviewee put it: [...] the ISO [9001:2000] enables us to better understand what we are doing [...] and helps us also to define methodologies and strategies so as to improve and adapt to new circumstances which obviously augment the service efficacy.	(315- 321), (393)

	The interview data supported the perception that the implementation of ISO 9001:2000 led to an increased participation of people. One interviewee commented that “teachers and staff have a more collaborative attitude”, while another stated that “people are more responsible”.	(321- 326), (394)
La aplicación del sistema de gestión de calidad ISO 9001	“Increased involvement of people” (B4) remained in the final model. A comprehensive picture of the reasons behind this attitude emerged from the data.	
	- The first reason concerns performance assessment. One interviewee explained that “ISO 9001 requires performance assessment and when there is performance assessment people are more effective and productive”.	(328- 330), (394)
	- The second reason is due to the clarification of tasks, duties and responsibilities. As a result of this, several interviewees felt that many teachers and staff were more committed “because their work was more visible”. Overall, this finding is in accordance with earlier research (van den Berghe, 1997; Moreland and Clark, 1998; Saraiva et al., 2000; Bevans-Gonzales and Nair, 2004) that the standard brings an increased involvement from teachers and staff in organisational activities.	(330- 336), (394)

- Los resultados de la implementación y los logros del SGC ISO 9001.

Sub categoría	Cita	Código (nº de línea y de página)
Resultados de la implementación de la iso (procesos)	Improved market credibility” (B5).	
	- For instance, some interviewees claimed that the certification label augments the credibility of vocational institutions, although admitting that is not sufficient per se. Other interviewees revealed that the standard promotes closer links with companies (especially the ones with certification):	(345- 351), (394)
	[...] the industry is more receptive [to certified schools] because they are the first to know the value of the certification. I think that at this level, the language is more accessible and common. (345- 351), (394)	
	Another interviewee stated that a certified school instils a higher degree of confidence to students and their parents by transmitting “an image of an institution of quality”, thereby contributing to dispel the negative connotation of underperforming students often associated with vocational education.	(352- 355), (394)

	<p>“Promotion of competitiveness” (B6)</p> <p>- was also perceived as an external benefit, although with weaker supporting evidence. Vocational education in Portugal was for many years an exclusive market of private schools, but recently public schools have been extending their offers into this area. Confronted with this, some existing vocational schools may have been using the standard as a competitive weapon, as is suggested by one interviewee: “the ISO [9001:2000] makes sense. We are a private school that competes directly with public schools and public schools have students by nature. We have to fight for them”. This point was also emphasized by another interviewee: “I have no doubt that between a certified organisation and a non-certified one there is higher valuation for the former”, subsequently adding that “vocational schools really need to be concerned with this aspect because they are in the market and if one [...] has projects of quality, naturally, will have here more advantages”.</p> <p>- These results support earlier research (van den Berghe, 1997; Bevans-Gonzales and Nair, 2004; Singh and Sareen, 2006) that the standard contributes to strengthen the school's relationship with external stakeholders. However, this study also went further to uncover a key obstacle preventing vocational schools to fully realise these external benefits. For example, several interviewees noted that the public in general has still little awareness of the standard and it is only those “who are more involved and more in contact with the school” that perceive its real meaning and value. One interviewee suggested that this is “a cultural issue which [...] eventually will bring its fruits”, especially in the long term. Indeed, this may well be a concern, but this may also suggest that educational institutions need to be more proactive in showing the benefits of quality concepts and the certification to the surrounding educational community. Despite this obstacle, many interviewees expressed the belief that in the future the choice will be made as to schools have or not have ISO 9001:2000 certification.</p>	<p>(356- 368), (394- 395)</p> <p>(369- 381), (395)</p>
<p>La evaluación de los logros del SGC</p>	<p>Disadvantages:</p> <p>“Increased bureaucracy” (D1)</p> <p>received the highest number of citations, suggesting that it is perceived as a key drawback. In this regard, one interviewee stated that after implementing the standard the processes became “ultra-bureaucratic”, explaining further that:</p> <p>[...] in order to fill in a form I need another form and then I will need another [...] processes have a high administrative burden requiring close monitoring [...] very, very, very bureaucratic.</p>	<p>(386- 391), (395)</p>

	<p>The reason for this added paperwork is due to the ISO 9001:2000 requirement of gathering evidence about the QMS. This finding corroborates that of similar research (van den Berghe, 1997; Moreland and Clark, 1998; Bevans-Gonzales and Nair, 2004), which reported that bureaucracy is a frequently cited criticism by educational institutions. However, unlike previous studies, this research found that bureaucracy can also play a positive role in educational institutions.</p> <ul style="list-style-type: none"> - First, it can act as a defence mechanism and a safeguard of positions against third parties. As one interviewee put it, “we need some bureaucracy in order to safeguard us. The excess of informality sometimes causes us problems”. - Second, it can promote reflection on practices intended to simplify processes. Elaborating on this point, an interviewee said that: [...] a positive aspect [of bureaucracy] is to reflect about the practices and start thinking whether there is a smarter way to solve that problem [...] at least in our organisation that has already happened, a given subject was approached, discussed and then we simplified processes. -Third, it can contribute to improve the level of organisation. In this sense, one interviewee observed that “bureaucracy is a necessary evil because it forces us to be more organised”. Overall, these comments suggest a less negative tone towards bureaucracy than earlier research, which in turn may encourage further adoption of the standard in the educational sector. <p>The construct “difficulties with interpreting and adapting the standard (D2)”.</p> <ul style="list-style-type: none"> - The interview data showed that the constructs issues with interpreting the standard and difficulties with adapting the standard to education of the a priori model had substantial overlaps and, therefore, were merged into this new construct. Many interviewees made criticisms about the nature of the standard’s language, characterising it, for instance, as “too technical”, “little perceptible to the vast majority of people” or “too specific”. Indeed, teaching and support staff are often unfamiliar with the managerial language of the standard. Linked to this, other interviewees raised doubts during the initial stages of the implementation process about the adaptation of the standard to education. In the words of one interviewee: “the standard is mainly directed to economic activities, which made it difficult to see where the school fitted in all this”. To overcome these issues, the schools under study resorted to intensive training courses and to hiring consultants. 	<p>(392- 396), (395)</p> <p>(369- 381), (395)</p> <p>(398- 401), (395)</p> <p>(306- 410), (395)</p> <p>(412 - 423), (396)</p>
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	<p>The construct “time consuming and demanding process” (D3).</p> <p>Interviewees expressed concerns that the implementation process of ISO 9001:2000 was long (at least one year) and time-consuming and it resulted in added workload. The following quote from an interviewee is illustrative: [...] it was a long, time consuming, but innovative process [...] it started [...] with an intensive training course of 360 hours [...] the process is very complex [...] which had an impact in the workload of everybody.</p> <p>While these two latter constructs are generally consistent with that of earlier reports (van den Berghe, 1997; Moreland and Clark, 1998; Bevans-Gonzales and Nair, 2004), the development of ISO 9000 interpretation guides with introductory concepts and practical explanations on how to implement each of the requirements would seem to provide a useful contribution towards mitigating these disadvantages. Hence, this research reinforces the plea for international and national quality bodies to make more consistent efforts in producing, divulging and maintaining ISO 9000 interpretation guides that address the needs of educational institutions.</p> <p>Finally, it should be noted that two disadvantages were excluded from the final model. The construct “high certification and maintenance costs” was removed for two reasons. First, the certification process of the schools under study, albeit costly, was fully financed by the European Social Fund (ESF). Second, the maintenance costs were considered by interviewees as insignificant or as a necessary investment. This finding is in contrast with that reported by van den Berghe (1997), which reflects perhaps an increasing view that ISO 9001:2000 is a worthwhile investment for educational institutions. Another construct removed from the final model was “problems in the adaptation of human resources”, which received no citations. There may be two explanations for this. One refers to the sample used in this study, which focused on directors or quality directors of vocational schools. The other relates to the fact that the schools of this investigation are of small size, which eases the process of change.</p>	<p>(425 - 430), (396)</p> <p>(431 - 438), (396)</p> <p>(439 – 450), (396)</p>
<p>El desarrollo de procedimiento de acciones correctivas</p>	<p>Success factors:</p> <p>When compared with the benefits and disadvantages, interviewees were less conversational and made more pauses and, hence, the lower overall score of citations. This may be because this category required more reflection and recollection about past experiences. There are four constructs under this category in the final model, three of which stem from the a priori model and the other is a modified construct of the a priori model.</p>	<p>(454 – 458), (396 – 397)</p>

	<p>The most cited success factor across case studies was, somewhat unexpectedly, the construct “quality team” (S1).</p> <p>- A few interviewees even stressed that this was “the most important aspect” in the ISO 9001:2000 implementation. This is because the quality team apart from being usually responsible for setting up the QMS, it also plays a crucial role in promoting a quality culture throughout the organisation and in “disseminating information about the quality objectives”. Basically, it is the quality team that does all the hard work. It is puzzling to note, however, that previous research almost entirely overlooked this factor, an exception being Bevans-Gonzales and Nair (2004) who provided an initial indication of this factor. The reason for this may be that the research herein was the first to explicitly include in its design the identification of the success factors. In addition, interviewees made fruitful comments regarding the key attributes of such team, including “cohesion”, “participation”, “initiative”, “determination” and “include the right people”. If the team successfully blends this panoply of ingredients, it could become, as one interviewee pointed out, “a contagious source of inspiration, capable of involving the remaining members”. Hence, this research further supports the initial proposal of Bevans-Gonzales and Nair (2004), while it also puts forward desirable attributes for the quality team that could be the basis of future investigation.</p> <p>- The construct “management commitment and support” (S2)</p> <p>Was the next most cited success factor.</p> <p>This result is perhaps a direct reflex of the fact that ISO 9001:2000 assigns various responsibilities to top management, one of which is accountability for the QMS. One interviewee clarified that: [...] it is essential for management to be committed to quality issues. If the quality director does not receive the full support of management it cannot accomplish the change needed.</p> <p>This support should not only be logistical but also motivational. Not surprisingly, this factor was already identified by several reports (van den Berghe, 1997; Bevans-Gonzales and Nair, 2004; Thonhauser and Passmore, 2006) and is sometimes singled out as the most important success factor. The findings of the current study did not support, however, this latter aspect. For example, one interviewee even stated that “the influence of management was not significant; what really counted was the team”.</p> <p>- construct “communication with and involvement of all members” (S3).</p> <p>This is a modified version of the construct “involvement of all members” of the a priori model so that it could take into account the new meanings found in the interview data. As in the implementation of any quality management framework, the ISO 9001:2000 requires the involvement of all stakeholders for its success. On this point, one interviewee stated that</p>	<p>(465 – 476), (397)</p> <p>(477 – 482), (397)</p> <p>(483 – 489), (397)</p> <p>(483 – 489), (397)</p>
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	<p>“the most important is the involvement of actors so that there are increasingly more people to find ways towards improvement”. However, this may be far from straightforward. Often, the introduction of changes in educational organisations is marked by extensive resistance from teachers and support staff. To decrease such resistance, it seems sensible that involvement should not be mandatory, but rather conquered. It is in this respect that the quality team plays a critical role in communicating and getting buy-in from all members. As noted by one interviewee, “everyone needs to talk and give their opinion, because otherwise people don’t feel motivated, because then it is only on paper”. Other interviewee added that “what we do is in each meeting, in each opportunity we pass the message on and try to gain supporters”. van den Berghe (1997) and Bevans-Gonzales and Nair (2004) have originally suggested the involvement of all members as a success factor. However, it emerged from this study that communication with all members is an equally important factor. This is a subtle addition, but an important one as interviewees indicated. (491 –509), (397 – 398)</p> <p>The construct “previous level of organisation” (S4)</p> <p>Was also mentioned as a success factor.</p> <p>The reasoning behind this factor is that if a school has, before embarking on the certification trail, well-defined and structured processes in place, it can help bring the implementation of ISO 9001:2000 into success. This was confirmed, for instance, by one interviewee who said that: [...] the fact that we were already an organised school, did not complicate much the implementation of the ISO 9001 requirements [...] to us, and in this process in concrete, it was extremely important. In a similar vein, a different interviewee observed that “one school that is very disorganised has many difficulties in obtaining the certification”. This finding is in accordance with that of van den Berghe (1997). However, given that it scored the lowest number of citations, this factor is perceived as less important than the previous ones. (511 – 522), (398)</p> <p>The findings contribute to the limited existing body of knowledge by providing rich and meaningful insights into the consequences of adopting ISO 9001:2000, and into the key ingredients required for its successful implementation, in vocational institutions and, more broadly, in education. (527 – 530), (398)</p> <p>School management boards and teachers wishing to obtain the ISO 9001 certification can use the results of this study to plan and monitor the implementation process. For instance, the proposed model can serve as a basis against which to compare the outcomes of a given implementation and, thus, take the necessary action to ensure a fruitful implementation of this standard. (530 – 535), (398)</p>	
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	<p>This empirical study has several limitations that should be kept in mind when interpreting its findings. The research design considered only vocational education institutions. Furthermore, the sample of case studies, although representative of Portuguese vocational education institutions, is confined to one country. Finally, only directors or quality directors were interviewed. As a result of these limitations, the scope for generalisation of findings is rather limited. Despite this, the proposed model could be readily adapted in future studies to other levels of education, different countries and to include other stakeholders, such as teachers, staff, students and their parents, companies and local government. Another avenue for further research consists in developing a survey instrument to statistically test the completeness and validity of the proposed model. (536 – 546), (399)</p>	
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ANEXO 4

MATRIZ DE ANÁLISIS GLOBAL DE LOS DOCUMENTOS

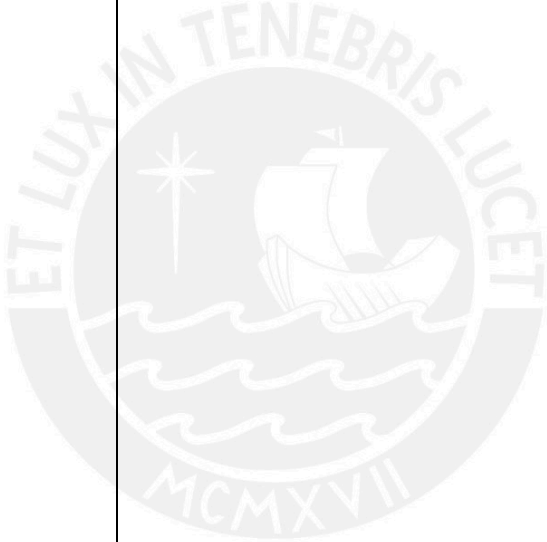
Objetivo: comparar y analizar la información documental emergente que permita identificar los procesos y resultados de la implantación de un sistema de gestión de la calidad según la norma ISO en las tres experiencias. Todo ello con la finalidad de encontrar las semejanzas y las diferencias con relación a las categorías de análisis.

Categorías:

- La adopción de la norma ISO 9001 y su adecuación a la institución.

Sub categoría	Artículo 1	Artículo 2	Artículo 3
Factores motivacionales	... The management realized that the international standard of quality management system ISO 9001 has the ability to address these challenges effectively and has a potential for developing a robust management/governance system.	The challenge to the organization is to invest in the monitoring of quality in such a way as to improve profitability and effectiveness.	Apart from being a direct consequence of the ISO 9001:2000 requirements, this may also denote that vocational institutions are increasingly concerned with questions of efficiency as funding bodies are imposing financial restrictions. Interestingly, it emerged from the data that the implementation of ISO 9001:2000 was particularly beneficial for institutions with several campuses in that it enabled them to improve efficiency by standardising the adoption of best practices across campuses.
	...QMS helped this institute to cope with the above highlighted challenges, and how it builds the overall structure of governance; how it assesses the role of standards or tools such as ISO 9001:2008 can help an educational institution towards developing and managing the organizational profile	Coercive: "ISO certification was requested by funding project or stakeholders needs". Normative: "I come from abroad and have experience with these applications," or "our laboratory belongs in a network", or "ISO adoption was a collective decision". Mimetic: "It was not necessary for the moment, perhaps in the future"; or "was an opportunity for our university".	

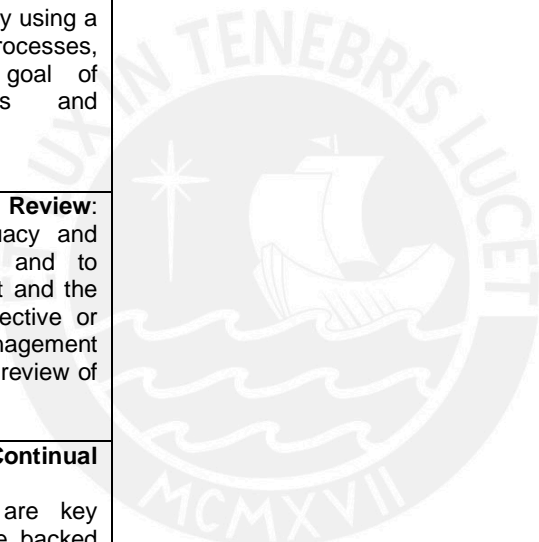
	<p>As an educational institution, the objective is to deliver quality education and for that, an organization carries out all kinds of processes and structural strategies to achieve its goals. To this end, an educational organization must have a clearly defined mission statement. To achieve this mission, objectives are developed; and to achieve these objectives, some mechanism is developed e.g. an organization has a Governing Body, departments and a structure and these structures are designed to achieve the goals.</p>		
	<p>...the standards or tools such as ISO 9001:2008 can help an educational institution towards providing and managing the organizational profile and to build an overall structure of corporate governance.</p>		
<p>La situación presente de la organización.</p>	<p>With its rapid expansion, the institute faced administrative challenges and adopted various administration models, but the challenges kept on growing to an extent that the management of the institute had apprehensions regarding further expansion. HRM, training & development, financial controls, research & development, record keeping, building maintenance, curriculum revision & development, introduction of new programs, industry-academia partnership, research productivity, quality teaching-learning, etc were the challenges for the institute management. The management displayed a strong intention to address these challenges; after several top level consultative meetings it was determined that there is a need for a robust management system.</p>	<p>Data revealed that ISO standards were applied in six Greek universities out of the 21 total. If a university was implementing ISO standards it was usually in separate laboratories or academic support services but not in the entire university.</p> <p>We introduced ourselves and explained that this was the second phase of our research that we would like to know why they adopted this QMS, for what purpose, and if there was any pressure or motivation to adopt a certain system.</p>	<p>“Process standardisation and improvements” (B1). (259 - 260) Process standardisation – “the ISO [9001:2000] obliged us to be more coordinated in terms of the three campuses and to standardise processes and procedures”.</p> <p>Clarification of tasks, duties and responsibilities – “[the development of job descriptions] contributed to clarify functions and responsibilities as well as to a greater coherence among services”.</p> <p>Establishment of process measurement and evaluation – “my main benefit is being able to quantify [...] the result of that process [...] that will enable to meet customer satisfaction”.</p>

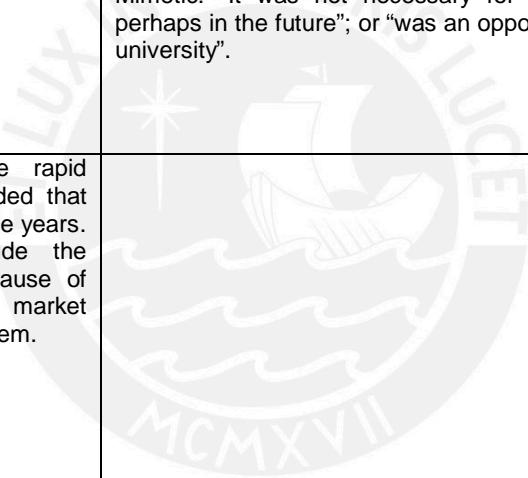
			<p>Improved communication – “[communication] was a sector where we had to intervene so that all teachers, staff and students [...] could have access to all documentation”;</p> <p>Improved document organisation and control – “any person who wants to know where certain documents are, can easily find their location [...] we have more control over documentation”.</p> <p>Better control – “enables us a more effective control of our daily operations”</p> <p>Improved resource management – “with regard to resources, it enables us to make a better management of our school needs [...] there is greater concern with the [cleanliness and state of conservation of] facilities and equipments, because there are records”.</p> <p>Interestingly, it emerged from the data that the implementation of ISO 9001:2000 was particularly beneficial for institutions with several campuses in that it enabled them to improve efficiency by standardising the adoption of best practices across campuses.</p>
<p>La adopción de la norma ISO 9001 y su adecuación.</p>	<p>... the management realized that the international standard of quality management system ISO 9001 has the ability to address these challenges effectively and has a potential for developing a robust management/governance system.</p>	<p>Especialmente en una universidad, la motivación para adoptar estándares ISO fue respaldada por su rectorado en orden de aumentar la competitividad de la universidad.</p>	<p>Interpretation and/or application guidelines are documents published by normalisation organisations and other official institutions that assist educational and training institutions to interpret and/or implement the ISO 9000 standards.</p>

Categorías:

- **Los procesos de implementación del SGC.**



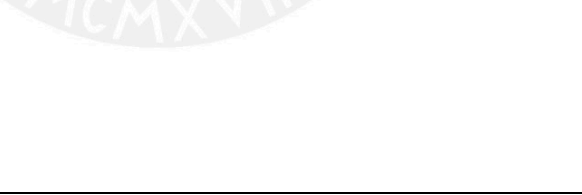

Sub categoría	Artículo 1	Artículo 2	Artículo 3
<p>La clasificación y priorización de los procesos</p>	<p>For this purpose the institute engaged a Consultancy Firm (firms) through a transparent process for the implementation of QMS ... the firm conducted a comprehensive gap analysis/ organizational assessment, in which they evaluated the existing academic and management practices with an aim to identify the areas for improvement and to prioritize the critical processes which need urgent attention.</p>	<p>Based on the theoretical framework adopted for this study, the test for isomorphic pressures involved a study of three types of pressure: coercive, normative, and mimetic: Coercive: "ISO certification was requested by funding project or stakeholders needs". Normative: "I come from abroad and have experience with these applications," or "our laboratory belongs in a network", or "ISO adoption was a collective decision". Mimetic: "It was not necessary for the moment, perhaps in the future"; or "was an opportunity for our university".</p>	<p>"Generation of dynamics of continuous improvement" (B2),</p> <p>Definition of objectives – "we started to map objectives [...] this does not mean that we didn't do it before, but sometimes we used rather abstract data. Therefore, there is more concrete data that helps us in improvement".</p>
	<p>: On the academic side, teaching-learning environment, curriculum revision, industry academia partnership, student feedback, effectiveness of quality enhancement cell, core skill development, department alumni and research productivity need serious attention.</p>		<p>Added value of audits – "allow to identify the positive and negative aspects of our action and then bridge the gap to improvement".</p>
	<p>Administration needs to work on recruitment and performance appraisal, procurement policies, clarity of roles and responsibilities of staff, laboratory management, capacity building of administrative officials, internal client feedback mechanism, setting up and monitoring of smart goals and objectives, clarity in reporting structure, efficient flow of processes, effective record keeping, internal checks and balances, internal planned reviews and mechanism for continual improvement.</p>		<p>Support in the identification of improvements – "helped us also to identify areas that need to be improved"</p> <p>Prompt control of non-conformities – "when [the objectives] are not being achieved we have to, as quickly as possible, adopt corrective and preventive actions". One interviewee highlighted the benefits of applying benchmarking, but due to lack of</p>


	<p>Quality System Procedure for Document and Record Control: This quality system procedure outlines the approval mechanism of a document, review / changes / updating process of documents, identification, storage, protection, retrieval and retention mechanism, distribution and recall of documents, identification and control of external origin documents and disposal method of records.</p> <p>Quality System Procedure for Internal Quality Assurance Auditing: (Sustainability of System): It does this by using a systematic methodology for analyzing processes, procedures and activities with the goal of highlighting organizational problems and recommending solutions</p> <p>Quality System Procedure for System Review: To ensure continuing suitability, adequacy and effectiveness of management system and to assess the opportunities for improvement and the need for changes to quality policy, objective or QMS, it is recommended that top management shall meet on periodic basis to conduct a review of the system.</p> <p>Quality System Procedure for Continual Improvement: To measure the performance there are key performance indicators (KPIs), which are backed by quality objectives. During implementation of standards, measurable quality objectives are established at each relevant function and level within the organization i.e., just about everywhere. After a given time, objectives are measured using quantitative data to track the performance over time.</p>		<p>supporting evidence from the other remaining cases, this sub-construct was not added to the final model.</p>
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<p>La implementación y creación de la documentación</p>	<p>Interactive Research Sessions (IRS) for Faculty Members: To enhance the research productivity it is recommended that each and every academic department should hold interactive research sessions twice a month. IRS will help faculty members in producing research papers as they would be able to review a numbers of studies consistently.</p>	<p>Based on the theoretical framework adopted for this study, the test for isomorphic pressures involved a study of three types of pressure: coercive, normative, and mimetic: Coercive: "ISO certification was requested by funding project or stakeholders needs". Normative: "I come from abroad and have experience with these applications," or "our laboratory belongs in a network", or "ISO adoption was a collective decision". Mimetic: "It was not necessary for the moment, perhaps in the future"; or "was an opportunity for our university".</p>	<p>"Provision of strategic focus and foundation for planning" (B3)</p> <p>Consistently mentioned as an internal benefit and, thus, it was added to the final model. Before implementing the standard, many vocational schools had rather ad hoc strategic planning processes, but the certification improved this situation. An underlying principle of ISO 9001:2000 is customer focus, meaning that schools should determine, meet and strive to exceed students' (and other stakeholders') needs. Management is also required to define a quality policy and measurable quality objectives, and to ensure that all resources needed to meet those objectives are available.</p>
	<p>Curriculum Revision: Considering the rapid developments in technology, it was decided that the curriculum should be revised every three years. Curriculum revision should also include the feedback from industry and alumni, because of their expertise to identify new trends in market /industry and to identify gaps in the old system.</p>		<p>- It is not unexpected, then, that many vocational institutions use the QMS of ISO 9001:2000 to focus their objectives on satisfying the increasingly demanding needs of the educational community and to systematically define the activities necessary to obtain that result. As one interviewee put it: [...] the ISO [9001:2000] enables us to better understand what we are doing [...] and helps us also to define methodologies and strategies so as to improve and adapt to new circumstances which obviously augment the service efficacy.</p>
	<p>Industry-Academia Partnership:...In this way the institute can contribute towards overall development of the related industry, and can add value in the processes and products of the related industry in both the public and private sectors. (172 -175)</p>		


	<p>Student Feedback: The consultancy firm will hold consultative sessions with students and faculty members to deliberate on different aspects of student feedback. Apart from QEC initiatives of spreading student feedback questionnaires and getting feedback from them, there should be some formal meetings with the students, preferably by the HOD, to take recommendations from them regarding faculty and course layout.</p>		
	<p>Departmental Alumni: The consultancy firm has proposed that there should be an interface of the departmental alumni. Initially a group or face book interface may be established by each department and later a website of the alumni may also be developed. The graduates will use this to share job opportunities, research papers, inputs on industry needs and suggestions to improve academic curricula.</p>		
	<p>Laboratory Management: There should be well defined standard operating procedures for key experiments, as well as manuals for equipment maintenance and handling, and health & safety. Calibration of sensitive equipment must be regularly checked and scaled.</p>		
	<p>Core Skill Development: Special focus should be laid on building English language proficiency of the business students and others.</p>		
	<p>Capacity Development Regarding Examination Processes: It has been pointed out by a number of faculty members that some form of capacity development initiative should be carried out for faculty members regarding test item development and evaluation processes.</p>		


<p>La aplicación del sistema de gestión de calidad ISO 9001</p>	<p>Job Descriptions: ... It was mutually agreed with all departments that there should be job descriptions for each official so that they are clear about their roles and responsibilities, and form the base for their accountability and performance management.</p>	<p>... in one university, motivation to adopt ISO standards was supported by its rectorate in order to increase the university's competitiveness. (254 – 256) 236</p> <p>Only three cases showed coercive pressure, as ISO was required by a funding project and the directors had a negative attitude, in some respects, to this quality practice. Their interviews suggested that they believed this practice to be bureaucratic. Another director noted, "in order to qualify for funding projects, we were obligated to participate in this process".</p>	<p>"Increased involvement of people" (B4) remained in the final model. A comprehensive picture of the reasons behind this attitude emerged from the data.</p> <ul style="list-style-type: none"> - The first reason concerns performance assessment. One interviewee explained that "ISO 9001 requires performance assessment and when there is performance assessment people are more effective and productive".
	<p>Development, Implementation and Accessibility of SOPs: Most of the departments do not have SOPs (standard operating procedures) for relevant functions.</p>	<p>In cases where normative pressure was identified, directors emphasised the benefits of ISO standards in everyday operations. Moreover, they pointed out that ISO practices served as a guide to their personnel's operations and perceived that this practice is beneficial not only as a "fundraising technique", but also for academic research processes.</p>	<ul style="list-style-type: none"> - The second reason is due to the clarification of tasks, duties and responsibilities. As a result of this, several interviewees felt that many teachers and staff were more committed "because their work was more visible". Overall, this finding is in accordance with earlier research (van den Berghe, 1997; Moreland and Clark, 1998; Saraiva et al., 2000; Bevans-Gonzales and Nair, 2004) that the standard brings an increased involvement from teachers and staff in organisational activities.
	<p>Capacity Building of Administrative Officials: ... During the gap analysis study, it has been observed that whereas different formal mechanisms are available for the professional development of teaching staff, there is no formal system for the professional development of non-teaching (administrative) staff. It is strongly</p>	<p>Some directors pointed out that "they always had a positive attitude about this application and the funding project helped them to accomplish this goal". Some pointed out that the cost (for ISO application and implementation) is high; however, this was not a reason for declining adoption. A few others mentioned that this QMS was a collaborative</p>	

	<p>recommended that there must be a formal mechanism for continuous professional development ... each academic and administrative department should conduct a training need assessment (TNA) survey, and then prepare a professional development plan on the basis of the TNA.</p>	<p>choice, which reflects normative pressure among the professionals in the laboratory.</p>	
	<p>Client Feedback Mechanism: Client feedback plays a vital role in ensuring client satisfaction. to improve the service level of administrative departments, iso 9001:2008 standards recommend that there must be a feedback mechanism in each department for having unbiased feedback from stakeholders. Careful analysis of feedback will help departments to improve their efficiency and develop their departmental policies and workflow based on that feedback.</p>		
	<p>Recruitment and Performance Appraisal Policies: There should be fair and effective recruitment procedure to ensure that staff appointed to posts has appropriate qualification and skills to meet the organizations current and future needs... This is a complex and technical area which requires a long term concerted and consistent effort to modernize the policies as per the changing needs.</p>		
	<p>Procurement Policies: The mission of the Purchasing Office is to procure the highest possible quality of goods and services for the organization at the lowest possible cost. To accomplish this mission, certain guidelines and procedures need to be established.</p>		
	<p>Formulation of Quality Policy: Quality policy is a guiding principle. It shows the overall intentions and directions of the organization. It is the responsibility of the top management to sketch a comprehensive quality policy. The Consultant will provide</p>		

	<p>guidelines and sample quality policies to the top management for the establishment of the quality policy.</p>		
	<p>Establishment of Quality Objectives and Plans: The quality objectives will drive strategic improvements throughout the organization, significantly elevating the importance of the quality management system. ISO 9001:2008 standards recommend that quality objectives must be established using the SMART principle.</p>		
	<p>SMART stands for: S-Specific – objectives should specify what they want to achieve; M Measurable – you should be able to measure whether you are meeting the objectives or not; A-Achievable - are the objectives you set, achievable and attainable? ; R-Realistic – can you realistically achieve the objectives with the resources you have? ; T-Time bound – When do you want to achieve the set objectives?</p>		
	<p>Development of Organizational Charts: These organizational charts must clearly indicate the departmentalization, chain of command, distribution of authority and span of control. An organizational chart must show how departments, divisions, and various levels of an organization interact with each other.</p>		

	<p>Phase-1: Sensitization and Awareness Development: In this phase, a number of awareness sessions were conducted for all the staff (academic and non-academic) of the institute to sensitize them towards system implementation.</p> <p>A Steering Committee (SC) was officially notified with the aim to oversee the implementation process, keep make it on track all the time, give technical inputs for implementation, resolve implementation issues, review the implementation progress and to analyze the effectiveness of the implementation ... For system implementation an operational level task force (TF) was established; it also had representation from all the departments. The TF has undergone a comprehensive capacity building program of QMS implementation, which included basic and advanced level training on QMS implementation. The purpose of this capacity building program was to fully equip the TF and to mentally prepare them for its implementation.</p> <p>4.2. Phase-2: Organizational Streamlining: After many consultative sessions, the vision, mission and quality policy statements were developed during this phase. (361 -362) 1463</p> <p>Keeping in view the vision statement, the functions of each department were reviewed and organograms were developed by the TF. After approval of organograms, roles and responsibilities (job descriptions) of the each employee were developed and communicated. (363 – 365)</p> <p>JDs were developed after careful analysis of the important facts about a job, such as the individual tasks involved, the methods used to complete the tasks, the purpose and responsibilities of the job,</p>		
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	<p>the relationship of the job to other jobs, qualifications consistent with the training requirement. (365 – 369)</p> <p>Duplication of tasks was clearly seen during development of Job Descriptions (JD); for clarification of roles and elimination of duplication, such cases were sent to the SC which then decided which task was allocated to which employee. Along with the clarification of the roles and responsibilities, another purpose of JDs development was to provide a sound base for employee accountability and performance management. (369 – 373) 1463</p> <p>After development of JDs, the TF, in the light of the functions of a department, identified processes and their sequences, and accordingly developed process maps for the development of Standard Operating Procedures (SOP); these were developed for the effectiveness of operations, control and continual improvement. Procedures and policies already developed were reviewed and brought in line with the functions of the departments. (374 – 378)</p> <p>For effective monitoring of the procedures, Standard Analytical Procedures (SAP) were also developed which also includes the internal quality assurance auditing procedures. (378 – 379) 1464</p> <p>In view of the large number of administrative staff /non-teaching staff of the institute, a Professional Development Center (PDC) was established with the aim to conduct training need assessments on a continuous basis and to provide concomitant training. The PDC is now fully functional. (361 – 384) 1464</p> <p>A high level committee was formed to obtain feedback from the clients; the committee developed</p>		
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	<p>a client feedback form, which has been sent to all the stakeholders and also uploaded on the institute's website. The received responses are analyzed carefully, and approved modifications are then incorporated in the institutional policies on an annual basis.</p> <p>A comprehensive HRM system has been introduced, and competency criteria have been developed for each post. According to the appraisal policy, performance evaluations are conducted annually on 360 degree performance based method; this has resulted in the induction of more qualified, skilled and experienced personnel.</p> <p>To procure the highest possible quality goods and services, and to make the procurement process transparent and effective, procurement policy manual and SOPs have been developed by consultant experts, and approved by the top management. (385 – 395)</p> <p>Phase-3 Implementation of Academic Improvement Initiatives:</p> <p>Academic departments have adopted the IRS system proposed by the firm, wherein fortnightly meetings are held at the faculty level, supervised by respective HODs, to enhance their research productivity; these sessions have had a tremendous impact in producing quality research papers.</p> <p>A curriculum revision wing has been established to periodically review the curriculum, in view of latest developments and feedback from industry, alumni and students; SOPs for the smooth functioning of the wing have also been developed in conjunction with the institute's Quality Enhancement Cell.</p> <p>For students, courses on core skills development have been introduced in departments; also, forms for student feedback have been developed and it has been made mandatory for students to give their feedback at the beginning and end of each</p>		
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	<p>semester. A Career Development Center (CDC) has been established as an interface between alumni and the institute, which has strengthened the ties between academia (institute) and industry. Through the CDC the institute has been able to get real time feedback from the industry on different issues faced by them; the research and development department of the institute has worked on these issues and developed feasible, practical and cost-effective solutions, which have proved to be beneficial to industry.</p>		
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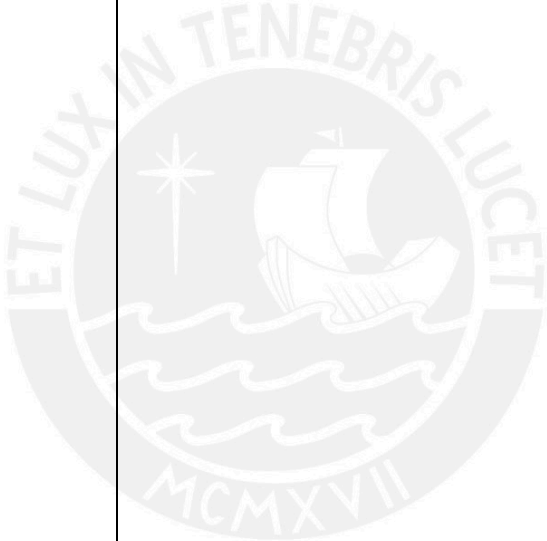
- Los resultados de la implementación y los logros del SGC ISO 9001.

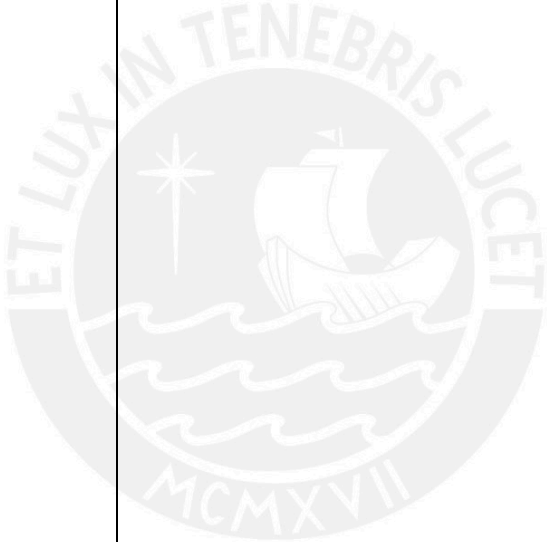
Sub categoría	Artículo 1	Artículo 2	Artículo
<p>Resultados de la implementación de la iso (procesos)</p>	<p>Desarrollo de sistemas operativos Development of SOPs provided roadmaps to visibly transparent operations of the institute; transparency is an important aspect of good governance, and transparent decision making is critical for the private sector to make sound decisions and investments. Accountability and the rule of law require openness and easy access to information so higher levels of administration, external reviewers, and the general public can verify performance and compliance to law. The institute has achieved all these through the developed SOPs.</p>	<p>Only three cases showed coercive pressure, as ISO was required by a funding project and the directors had a negative attitude, in some respects, to this quality practice. Their interviews suggested that they believed this practice to be bureaucratic. Another director noted, “in order to qualify for funding projects, we were obligated to participate in this process”. He further commented that his perception regarding his laboratory’s role is different than that of the market; this remark we interpreted to reflect coercive pressure (on the funds for the laboratory).</p> <p>In cases where normative pressure was identified, directors emphasised the benefits of ISO standards in everyday operations. Moreover, they pointed out</p>	<p>Improved market credibility” (B5). For instance, some interviewees claimed that the certification label augments the credibility of vocational institutions, although admitting that is not sufficient per se. Other interviewees revealed that the standard promotes closer links with companies (especially the ones with certification):</p> <p>[...] the industry is more receptive [to certified schools] because they are the first to know the value of the certification. I think that at this level, the language is more accessible and common. (345-351), (394)</p>

		<p>that ISO practices served as a guide to their personnel's operations and perceived that this practice is beneficial not only as a "fundraising technique", but also for academic research processes.</p>	<p>Another interviewee stated that a certified school instills a higher degree of confidence to students and their parents by transmitting "an image of an institution of quality", thereby contributing to dispel the negative connotation of underperforming students often associated with vocational education.</p>
		<p>The above findings do not suggest clear mimetic pressure, although in one case a combination of normative and mimetic pressure was underlined. Some directors pointed out that "they always had a positive attitude about this application and the funding project helped them to accomplish this goal". Some pointed out that the cost (for ISO application and implementation) is high; however, this was not a reason for declining adoption. A few others mentioned that this QMS was a collaborative choice, which reflects normative pressure among the professionals in the laboratory.</p> <p>Furthermore, normative pressure was associated with networks. In this study, we interpreted pressure as normative when the laboratories and academic support services participated in network practices. In some ISO 9001 cases, laboratories were in the process of adopting the 17025 and vice versa in order to be more competitive and comprehensive regarding their laboratory's quality.</p>	<p>"Promotion of competitiveness" (B6) was also perceived as an external benefit, although with weaker supporting evidence. Vocational education in Portugal was for many years an exclusive market of private schools, but recently public schools have been extending their offers into this area. Confronted with this, some existing vocational schools may have been using the standard as a competitive weapon, as is suggested by one interviewee: "the ISO [9001:2000] makes sense. We are a private school that competes directly with public schools and public schools have students by nature. We have to fight for them". This point was also emphasized by another interviewee: "I have no doubt that between a certified organisation and a non-certified one there is higher valuation for the former", subsequently adding that "vocational schools really need to be concerned with this aspect because they are in the market and if one [...] has projects of quality, naturally, will have here more advantages".</p>
		<p>Most cases, 13 out of 22, involved normative and coercive pressures. Of all 22 interviews, only one</p>	

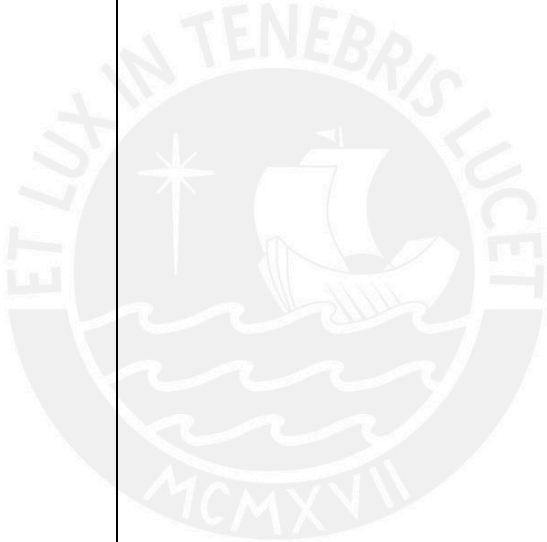
		<p>pointed out that this system was not used, as services provided by the laboratory were not connected anymore with market needs. However, the director pointed out that the laboratory's staff followed ISO requirements and they have adopted the style of this system. Even if their ISO application is declined, quality practice and quality culture in this laboratory are still being employed.</p>	<p>These results support earlier research (van den Berghe, 1997; Bevans-Gonzales and Nair, 2004; Singh and Sareen, 2006) that the standard contributes to strengthen the school's relationship with external stakeholders. However, this study also went further to uncover a key obstacle preventing vocational schools to fully realise these external benefits. For example, several interviewees noted that the public in general has still little awareness of the standard and it is only those "who are more involved and more in contact with the school" that perceive its real meaning and value. One interviewee suggested that this is "a cultural issue which [...] eventually will bring its fruits", especially in the long term. Indeed, this may well be a concern, but this may also suggest that educational institutions need to be more proactive in showing the benefits of quality concepts and the certification to the surrounding educational community. Despite this obstacle, many interviewees expressed the belief that in the future the choice will be made as to schools have or not have ISO 9001:2000 certification.</p>
<p>La evaluación de los logros del SGC</p>	<p>Control de la organización The developed organizational charts provided support to the management of the institute for planning, budgeting and resource allocation. It also defined the leadership as well as responsibilities, dependencies and relationships throughout the institute. It facilitated the structures of teams with clear responsibilities, titles and lines of authority. It really helped in organizing, categorizing and delegating tasks to achieve specific goals.</p>	<p>This university published the research income budget on its webpage which directly related to its research capacity. Comments made by directors [in Ua laboratories] connected adoption of ISO standards with the university's mission and quality. More specifically, one of them stated, "our university's mission is the triptych: education, research, and distribution of services and knowledge (spin off) to industry; thus ISO is parallel to our university's mission".</p>	<p>"Increased bureaucracy"</p> <p>received the highest number of citations, suggesting that it is perceived as a key drawback. In this regard, one interviewee stated that after implementing the standard the processes became "ultra-bureaucratic", explaining further that:</p> <p>[...] in order to fill in a form I need another form and then I will need another [...]</p>

		<p>Another pointed out: “ISO represents an inductive method in order to define quality in a university as a whole; in other words, if a university has various quality units it means that the university is perceived as high quality”. Another commented: “motivation starts from the rectorate’s encouragement for laboratories’ competitive advantage”. Universidad Ub, Uc:</p>	<p>processes have a high administrative burden requiring close monitoring [...] very, very, very bureaucratic.</p>
		<p>The rectorate’s motivation and encouragement definitely played an important role in many participants’ persistence in adoption of ISO not only in the Ua but in other universities too (Ub and Uc). This mediation could be perceived as another “inside coercive pressure” and is related to university leadership practices.</p>	<p>The reason for this added paperwork is due to the ISO 9001:2000 requirement of gathering evidence about the QMS. This finding corroborates that of similar research (van den Berghe, 1997; Moreland and Clark, 1998; Bevans-Gonzales and Nair, 2004), which reported that bureaucracy is a frequently cited criticism by educational institutions. However, unlike previous studies, this research found that bureaucracy can also play a positive role in educational institutions.</p>
		<p>Professional networks are an important source of normative pressures. Professional networks and associations provide norms that constrain the behaviour of their members. DiMaggio and Powell (1983, p. 152) stated that professional networks “create a pool of almost interchangeable individuals who occupy similar positions across a range of organizations and possess a similarity of orientation and disposition that may override variations in tradition and control that might shape organizational behaviour”.</p>	<p>- First, it can act as a defence mechanism and a safeguard of positions against third parties. As one interviewee put it, “we need some bureaucracy in order to safeguard us. The excess of informality sometimes causes us problems”.</p> <p>- Second, it can promote reflection on practices intended to simplify processes. Elaborating on this point, an interviewee said that: [...] a positive aspect [of bureaucracy] is to reflect about the practices and start thinking whether there is a smarter way to solve that problem [...] at least in our organisation that has already happened, a given subject was approached, discussed and then we simplified processes.</p>

			<p>-Third, it can contribute to improve the level of organisation. In this sense, one interviewee observed that “bureaucracy is a necessary evil because it forces us to be more organised”. Overall, these comments suggest a less negative tone towards bureaucracy than earlier research, which in turn may encourage further adoption of the standard in the educational sector.</p> <p>The construct “difficulties with interpreting and adapting the standard (D2)”.</p> <p>- The interview data showed that the constructs issues with interpreting the standard and difficulties with adapting the standard to education of the a priori model had substantial overlaps and, therefore, were merged into this new construct. Many interviewees made criticisms about the nature of the standard’s language, characterising it, for instance, as “too technical”, “little perceptible to the vast majority of people” or “too specific”. Indeed, teaching and support staff are often unfamiliar with the managerial language of the standard. Linked to this, other interviewees raised doubts during the initial stages of the implementation process about the adaptation of the standard to education. In the words of one interviewee: “the standard is mainly directed to economic activities, which made it difficult to see where the school fitted in all this”. To overcome these issues, the schools under study resorted to intensive training courses and to hiring consultants.</p>
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			<p>The construct “time consuming and demanding process” (D3).</p> <p>Interviewees expressed concerns that the implementation process of ISO 9001:2000 was long (at least one year) and time-consuming and it resulted in added workload. The following quote from an interviewee is illustrative: [...] it was a long, time consuming, but innovative process [...] it started [...] with an intensive training course of 360 hours [...] the process is very complex [...] which had an impact in the workload of everybody.</p> <p>While these two latter constructs are generally consistent with that of earlier reports (van den Berghe, 1997; Moreland and Clark, 1998; Bevans-Gonzales and Nair, 2004), the development of ISO 9000 interpretation guides with introductory concepts and practical explanations on how to implement each of the requirements would seem to provide a useful contribution towards mitigating these disadvantages. Hence, this research reinforces the plea for international and national quality bodies to make more consistent efforts in producing, divulging and maintaining ISO 9000 interpretation guides that address the needs of educational institutions.</p>
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			<p>Finally, it should be noted that two disadvantages were excluded from the final model. The construct “high certification and maintenance costs” was removed for two reasons. First, the certification process of the schools under study, albeit costly, was fully financed by the European Social Fund (ESF). Second, the maintenance costs were considered by interviewees as insignificant or as a necessary investment. This finding is in contrast with that reported by van den Berghe (1997), which reflects perhaps an increasing view that ISO 9001:2000 is a worthwhile investment for educational institutions. Another construct removed from the final model was “problems in the adaptation of human resources”, which received no citations. There may be two explanations for this. One refers to the sample used in this study, which focused on directors or quality directors of vocational schools. The other relates to the fact that the schools of this investigation are of small size, which eases the process of change.</p>
<p>Resultados de la aplicación de ISO</p>	<p>Mejora laboral Job descriptions were used to explain the roles and responsibilities, necessary skills, trainings and qualification needed by a potential employee. The development of JDs resulted in the elimination of task duplication and also helped in interviewing candidates. JDs were also utilized to orient new employees about the job and to track their performance.</p>	<p>The quality assurance law (Law 3374/2005) by the end of 2006 was not in effect. On the positive side, if institutions engage in quality assurance voluntarily, the effectiveness tended to be much more noticeable than when complying with government-initiated policies (Brennan and Shah, 2000).</p> <p>this empirical study indicated that neo-institutional pressures do matter in the adoption of ISO standards within Greek universities: the competitive environment gave rise for coercive and normative isomorphism in laboratories and normative and mimetic isomorphism in academic support services, while the institutional isomorphism in departments worked against adoption of ISO (or any other quality</p>	<p>Success factors:</p> <p>When compared with the benefits and disadvantages, interviewees were less conversational and made more pauses and, hence, the lower overall score of citations. This may be because this category required more reflection and recollection about past experiences. There are four constructs under this category in the final model, three of which stem from the a priori model and the other is a modified construct of the a priori model.</p> <p>The most cited success factor across case studies was, somewhat unexpectedly, the construct “quality team” (S1).</p> <ul style="list-style-type: none"> - A few interviewees even stressed

			<p>School management boards and teachers wishing to obtain the ISO 9001 certification can use the results of this study to plan and monitor the implementation process. For instance, the proposed model can serve as a basis against which to compare the outcomes of a given implementation and, thus, take the necessary action to ensure a fruitful implementation of this standard. (530 – 535), (398)</p> <p>This empirical study has several limitations that should be kept in mind when interpreting its findings. The research design considered only vocational education institutions. Furthermore, the sample of case studies, although representative of Portuguese vocational education institutions, is confined to one country. Finally, only directors or quality directors were interviewed. As a result of these limitations, the scope for generalisation of findings is rather limited. Despite this, the proposed model could be readily adapted in future studies to other levels of education, different countries and to include other stakeholders, such as teachers, staff, students and their parents, companies and local government. Another avenue for further research consists in developing a survey instrument to statistically test the completeness and validity of the proposed model. (536 – 546), (399)</p>
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