Original Article

Quality Management System of a State University: Status Report

Ana Maria P. Denosta
Iloilo Science and Technology University-La Paz Campus, Burgos St., La Paz, Iloilo City, Philippines
Email: annden28@yahoo.ph
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Abstract

This study was conducted to determine the status of the quality management system of a university satellite campus in Iloilo City during the academic year 2017-2018. A researcher-made questionnaire based on ISO 9001:2008 manual subjected to validation and reliability testing was administered to seventy-two respondents composed of heads, faculty and staff of these satellite campuses. Results show a high implementation and compliance with the quality management system. Specifically, regarding the position, school staff revealed a "very high," while the faculty members responded, "high." Significant differences were noted. The faculty members and department heads must be more involved in implementing and complying with the quality management system. School administrators are urged to implement the findings and recommendations made by the internal auditors during the internal audit. This information will help achieve the optimum implementation and compliance with the quality management system.

Keywords: Quality management system, Status of the implementation and Compliance with the quality management system.

1. INTRODUCTION

The purpose of Philippine universities and colleges is to generate ideas in the wealth-creating realms of science, technology, and innovation. In order to successfully innovate and enhance competitiveness through education and training, school stakeholders are expected to receive high-quality services.

Higher education institutions should provide quality services to achieve client satisfaction. They must ensure the quality of their programmes and services. In the Philippines, many quality assurance projects are underway. As a result, alternative institutional models must be identified and evaluated, as well as the attributes that make them effective (Ruiz & Sabio, 2012).

The process helps ensure that the academe delivers quality education service to its clientele, internal or external, which will benefit the educational institution. Thus, private and public Higher Education Institutions' continuous monitoring of their implementation and compliance with the said standards is deemed necessary. The ISAT U system had responded to this call by certifying to ISO 9001:2008 its programs which started from the marine course to all other program offerings and had now gone system-wide. To further validate the effectiveness of the internal monitoring of its quality management system implementation and conformance to ISO 9001:2008, the researcher needed to determine its status. Hence, this study was conceived.

2. LITERATURE REVIEW

2.1. Quality Management System (QMS)

Quality management begins with a focus on the consumers, whether they be internal workers, other businesses, or members of the general public. After the consumer receives the goods or service, mechanisms for dealing with after-sales problems or enquiries and assessing customer satisfaction must be in place. In a complete quality management system, the quality process may be repeated indefinitely; it is a cyclical process that never ends (Cole, 2004).

Adopting a quality management system should be a strategic decision of the organisation. The design and implementation of an organisation's QMS are influenced by its (1) organisational environment; (2) changes in that environment; (3) risk associated with that environment; (4) it is varying needs; (5) processes it employs; and (6) it is size and organisational structure.

2.2. Quality Management Principles

2.2.1. Principle 1: Customer focus

The first, and perhaps most important, concept states that a business would not exist without its clients. As a result, organisations must strive to understand their current and prospective clients in order to meet their needs and expectations. Increased market share and income, as well as better customer loyalty, are the primary benefits of creating good client connections.

2.2.2. Principle 2: Leadership

This perspective emphasises the characteristics of strong, purposeful, and compassionate leadership. Leaders are accountable for fostering a productive and forward-thinking work environment. They are also responsible for ensuring that future employees have the same culture. This concept demands a strong organisational vision to be implemented in the workplace. The essential leaders have been established to communicate that vision to the entire team. Spending some effort at the outset to get things properly can save you time and trouble afterwards.

2.2.3. Principle 3: People Involvement

Employees at all levels are critical to the firm's success. This notion recognises how important it is for an employer to ensure that their employees are engaged and active not just in their daily tasks but also in the organisation. Without a well-balanced, multi-skilled workforce, the company would be nowhere, just as it would be nowhere without a client base. Employees must grasp the significance of their function and how it contributes to bigger organisational goals, as well as accept responsibility for any hurdles that prevent them from fulfilling their duties to the best of their abilities.

2.2.4. Principle 6: Continual improvement

Every successful business aims for constant improvement. As the phrase goes, if not forward, then backward. A corporation should continuously seek for growth because competitors will. When you look at the top ten most successful organisations in

the world, you'll see that they have entire teams dedicated to staying ahead of the competition. Commitment to improvement also enables the market leader to set the agenda rather than chasing competitors.

2.2.5. Principle 7: Factual Approach to Decision Making

This viewpoint contends that logical data analysis is employed to create sound decisions. While intuition may be advantageous in some situations. It will be unable to explain to the investor board why profits are down 10% this year. Make sure you have all of the info before making any business decision, big or little. There are enough facts to fall back on if questioned on why make an unavoidable decision. This idea is also predicated on having access to reliable and accurate data, which is another essential element of modern business.

2.2.6. Principle 8: Mutually Beneficial Supplier Relations

Perryer (2018) discussed the eight universal concepts of quality management. The ISO guiding principles have been in place since 1947 to protect businesses from costly mistakes. The current version, which went into force in 2015, was adopted to meet new regulatory needs and to improve past models, similar to QMS in 1994 but with key differences. According to this concept, interactions between a company and its suppliers must be mutually beneficial in order for both parties to gain. When everything is working well and smoothly, it allows both parties to respond more quickly and flexibly to client requirements, making cost negotiation easier.

3. ISO 9001

Below are the different ISO 9001 standards, to wit:

1. A quality management framework can be used by businesses to assure consistent product and service quality. ISO 9001 QMS is the most widely used quality management standard in the world, with over one million certified organisations in 180 countries. This QMS decreases the possibility of product flaws, recalls, or service deficiencies and assures that customers may buy with confidence. Companies choose ISO 9001 certification to demonstrate that they have taken the necessary precautions to maintain high standards.

2. ISO 9001-QMS Quality Assurance Model for Design, Development, Production, Installation, and Servicing It is the series' most complete standard. It outlines the standards for a QMS that can be used for internal organisation use, certification, or contractual purposes. It focuses on the effectiveness of the QMS in meeting the needs of the customers.

3. ISO 9001:2008- The only standard in the series that may be certified, it establishes quality management system standards. It is based on many quality management principles, including a strong customer focus, motivation, top-down involvement, the process method, and continuous improvement.

4. It is used by over a million businesses and organisations in over 170 countries.

5. All ISO 9001:2008 criteria are generic and are intended to apply to all organisations, regardless of kind, size, or product provided (Quality Management in Higher Education: 2018).

6. If students' requirements are met, their perspectives give valuable information to lecturers. This view will influence whether or not the student's needs are addressed. Education quality systems assist to raise professional standards by comparing them to worldwide educational qualifications. The major goal is to raise the level of satisfaction among all stakeholders in

higher education. The process of self-evaluation and improvement is an ongoing one that must be present throughout the life cycle of a higher education institution. As a result, there is confidence that the institutions (together with external examiners) meet the accrediting standards.

4. QMS: Its Implementation and Compliance

According to Pragados' (2006) survey, respondents rated the amount of JBLF quality management system implementation as "high" in areas of leadership, strategic planning, customer and market focus, people focus, information analysis, and performance results. It also revealed that the staff have "extremely high" self-efficacy and exceptional work performance.

Morales (2005) determined institutional stability and the implementation and compliance with the quality standards system. All participants agreed that the standards system at Maritime institutions was "well implemented," as were management responsibility, internal control, process control, and people and physical resources.

Lakhal (2014) created a conceptual model to investigate the links between ISO 9001 certification, TQM practises, and organisational performance. The model was evaluated using data from 176 Tunisian enterprises in various economic sectors. Data research revealed that significant support from 176 organisations implementing ISO 9000 prior to deploying the TQM paradigm leads to improved organisational performance and structure.

Langrosen (2006) conducted another research that investigated the understanding and application of real values and practises of quality management systems in various organisational contexts. A postal survey of 500 Swedish quality specialists was conducted. The findings revealed a high association between the acceptance of ideals derived from a quality movement, which are regarded as the foundations of a successful quality management system.

Conceptual Framework

The purpose of this research was to determine the status of the quality management system at the Iloilo Science and Technology satellite campuses for the academic year 2017-2018. This was provided in the research paradigm as a result of this. The independent factors in this study were position and school setting, and the dependent variable was the status of ISATU satellite campuses' quality management systems. The hypothesised relationship was depicted in the study's schematic figure.

Figure 1: A Schematic Diagram showing the status of the implementation and compliance with the quality management system.

Theoretical Framework

According to Mustafa (2011), excellent education is attained when students and other stakeholders receive the finest services in the four roles of the institution, which include instruction, research, extension, production, and other designated services. Deming's notion of total quality management served as the foundation for this investigation. This notion is a long-term approach for achieving customer satisfaction by continuously improving the quality of an organization's goods and services. Although

comprehensive quality management originated in the corporate world, the same principles are now used in the educational sector to provide quality education. Education quality has become a vital factor for prestigious colleges, necessitating a fundamentally new approach to university administration. The universities' intense interest in quality management systems grew from there.

Quality education is attained when students and other stakeholders receive the best services in the institution's four functions, which include instruction, research, extension, production, and other recognised services.

3. OBJECTIVES OF THE STUDY

This study aimed to determine the status of the quality management system of Iloilo Science and Technology satellite campuses.

Specifically, it seeks to answer the following questions:

1. What is the QMS level of implementation when taken as a whole and when classified according to a) respondents' position and b) school setting?

2. What is the QMS extent of compliance when taken as a whole and when classified regarding (a) respondent's position and b) school setting?

3. Are there significant differences in the QMS level when classified according to (a) respondents' position and (b) school setting?

4. Are there significant differences in compliance with the quality management system when classified according to (a) respondents' position and (b) school setting?

5. What is the status of the quality management system of ISAT U satellite campuses?

4. METHODOLOGY

4.1. Research Method

David (2005), on the descriptive method, describes a given state of affairs as thoroughly and carefully as possible. The research design used in this study was descriptive. The gathered data on the status of the quality management system of satellite campuses of Iloilo Science and Technology University helped the researcher describe how the different campuses implemented and complied with the requirements and expectations of the stakeholders.

4.2. Respondents of the Study

In selecting responders, the sample size was determined using Slovin's formula. Stratified sampling was used to determine the samples from the various campuses, and random sampling was used to choose the respondents. Seventy-two heads, staff, and faculty from the four satellite campuses participated in the survey. According to Table 1, the total number of responders to represent the heads, staff, and faculty members was twenty-three from Miag-ao, fifteen from Leon, eighteen from Dumangas, and sixteen from Barotac Nuevo.

Respondents were classified according to their position and school environment. A questionnaire developed by the researchers consisted of three parts: the respondents' personal information, the level of implementation, and the extent of conformance with ISO 9001:2008 quality management system requirements. It was subjected to face and content validation. The reliability of the research tool was established. It was pilot tested on 30 people from the John B. Lacson Foundation Maritime University in Bacolod City, Negros Occidental, and obtained a reliability test score of 0.98, which is higher than 0.70, suggesting that the instrument is extremely reliable.

Table 1. Distribution of Respondents among the Satellite Campuses

Satellite Campus	F
Mag ao	23
Leon	15
Dumangas	18
Barotac Nuevo	16
Total	72

4.3. Research Instrument

In obtaining the data needed for the study, a researcher-made questionnaire was developed based on ISO 9001:2008 manual. It consists of three parts: the respondents' personal information and the items on the level of implementation and extent of compliance with quality management system requirements.

In ascertaining the level of implementation, the respondents rated each of the items on the rating scale, which were as follows:

The rating scale for the Level of Implementation of QMS

Score	Interpretation
5	100% Implemented
4	75-99% Implemented
3	51-74% Implemented
2	21-50% Implemented
1	1-20% Implemented

The following mean and interpretation scales were utilised to interpret the respondent's obtained scores.

Mean Score	Interpretation
4.21-5.00	Very high implementation
3.41-4.20	High implementation
2.61-3.40	Moderate implementation
1.81-2.60	Low implementation
1.00-1.80	Deficient implementation

In ascertaining the extent of compliance with QMS, the respondents were asked to rate each item as follows:

Rating Scale for Extent of Compliance of QMS

Score	Interpretation
5	100% Complied

4	75-99% Complied
3	51-74% Complied
2	21-50% Complied
1	1-20% Complied

The following scales of means and their corresponding interpretations were utilised to interpret the respondents' mean score in compliance.

Mean Score	Interpretation
4.21-5.00	Very high compliance
3.41-4.20	High compliance
2.61-3.40	Moderate compliance
1.81-2.60	Low compliance
1.00-1.80	Deficient compliance

The instrument was subjected to face and content validation to ensure a valid result for the study. It was evaluated by a panel of jurors, considering their expertise in the quality standards system. After finding the questionnaire valid, it was subjected to pilot testing. The result of the reliability test was 0.97, and it was above 0.70, which meant that the questionnaire was reliable.

4.4. Data Gathering Procedure

In order to conduct the study, the researcher got permission from the leaders of various colleges and universities on Panay Island. The researcher travelled to the various colleges and institutions and individually handed the questionnaires to the responders. When all of the questionnaires had been collected, the responses for each item were tabulated. The respondents were told to check the column containing their response to each issue.

4.5. Data Analysis

The research instrument was replicated based on the number of participants in the study. The data were organised, processed, and tabulated after retrieving the completed questionnaire. The Statistical Package for Social Sciences (SPSS) software was used for computations, analyses, and interpretations.

The study employed both descriptive and inferential statistics. For descriptive statistics, the frequency count, mean, and standard deviation were used. The frequency count is used to profile respondents based on the number distribution in each selected personal trait. The mean was used to calculate the average scores that describe the respondents' evaluations when classified by variables. It was used to describe the satellite campuses' quality management system's level of implementation and compliance. To test the significance of differences among three level categories of independent variables, a One-way ANOVA with a 0.05 level of significance was performed. It was utilised to see if there are any notable discrepancies in the level of implementation and extent of compliance of satellite campuses' quality management systems.

5. RESULTS AND DISCUSSION

5.1. Level of Implementation of QMS When Taken as a Whole and when Classified According to Respondents’ Position and School Setting

Table 1: Level of Implementation of QMS when Taken as a Whole and when Classified According to Respondents' Position and School Setting

Variables	Mean	Standard Deviation	Description
As a Whole	4.14	0.56	High Implementation
Position			
Staff	4.50	0.39	Very High Implementation
Faculty	4.00	0.56	High Implementation
Department Head	4.06	0.67	High Implementation
School Setting			
Dumangas	4.43	0.51	Very High Implementation
Mag-ao	4.13	0.51	High Implementation
Barotac Nuevo	4.27	0.51	Very High Implementation
Leon	3.70	0.53	High Implementation

Table 1 shows the QMS level of implementationS as viewed by the respondents when taken as a whole and classified according to categories of variables. Overall, the level of implementation of QMS among Iloilo Science and Technology University Campuses was "high" (Mean=4.14, SD=0.56). The faculty (Mean=4.00, SD =0.39) and department head (Mean=4.06, SD=0.67) revealed the same implementation level. On the other hand, the staff (Mean=4.50, SD=0.39) perceived that the QMS is highly implemented on their respective campuses. When classified according to campus, the level of implementation of QMS in Dumangas- and Barotac Nuevo –Campus. This finding is supported by the obtained mean of 4.43 (SD=0.51) and 4.27 (SD=0.51), respectively. There was a high level of implementation of a QMS as viewed by the respondents on the Miag-ao campus (Mean=4.12, SD=0.51) and Leon campus (Mean=3.70, SD=0.53). The results denote that the QMS is highly implemented in Iloilo Science and Technology University Campuses. They consistently execute the procedures stated in the QMS manual.

5.2. Differences in the Level of Implementation of QMS when the Respondents are Classified According to Respondents' Position and School Setting

Table 2: Differences in the Level of Level of Implementation of QMS when the Respondents are Classified According to Respondents' Position

Variables	Sum of Squares	df	F-value	P-value	Remarks
Position					
Between Groups	3.66	2	6.63	0.002	Significant
Within Groups	19.01	69			
Total	22.67	71			

To determine the significance of the difference in the QMS level of implementation when the respondents were classified according to position and school setting, the Analysis of Variance (ANOVA) set at .05 alpha was performed. The f–test result revealed a significant difference in the level of implementation of QMS when the respondents were classified according to their position. This was supported by the p-value = 0.002 (F-value=6.63) which was less than 0.05 alpha. The null hypothesis advanced in this variable is, therefore, rejected. The result seemed to imply that the respondents' view as to the implementation of the QMS differed significantly compared to the perception of the faculty members and the department heads.

5.3. Differences in the Level of Implementation of QMS when the Respondents are Classified According to School Setting

Table 3: Differences in the Level of Implementation of QMS when the Respondents are Classified According to School Setting

Variables	Sum of Squares	df	F-value	P-value	Remarks
Position					
Between Groups	3.68	2	1.843	6.453	0.003
Within Groups	19.70	69			
Total	23.39	71			

When the respondents were classified according to campus, the f-test results revealed statistical evidence to show significant differences among the school campus in implementing the QMS. The p-value =0.003<.05(F-value=1.843) denotes that the statistical difference was significant between the level of implementation of a QMS when classified according to campus. The result seemed to imply that the level of implementation of QMS differed significantly on different campuses. This development means that the QMS is highly implemented in Dumangas and Barotac Nuevo, significantly higher than in Miag-ao and Leon. The null hypothesis advanced in this variable was rejected.

5.4. Extent of Compliance with QMS when Taken as a Whole and when Classified According to Respondents'' Position and School Setting

Table 4: Extent of Compliance with QMS when Taken a Whole and when Classified According to Respondents' Position and School Setting

Variables	Mean	Standard Deviation	Description
As a Whole	4.18	0.57	High Compliance
Position			
Staff	4.53	0.45	Very High Compliance
Faculty	4.02	0.56	High Compliance
Department Head	4.14	0.63	High Compliance
Campus			
Dumangas	4.46	0.53	Very High Compliance
Mag-ao	4.14	0.52	High Compliance
Barotac Nuevo	4.33	0.53	Very High Compliance
Leon	3.73	0.52	High Compliance

There was a great (Mean=4.18, SD=0.57) extent of compliance with the QMS when the respondents were taken as a group. When the respondents were classified concerning position, the staff believed there was a great extent (Mean=4.53, SD=0.45) of compliance with the QMS. It was the highest mean compared to the mean of faculty members (Mean=4.02, SD=0.56) and department heads (Mean=4.14, SD=0.63), which were interpreted as high. When the respondents were classified according to campus, there was a great extent of compliance in Dumangas (Mean=4.46, SD=0.53) and Barotac Nuevo (Mean=4.33, SD=0.53). Higher than the mean of Miag-ao (Mean=4.14, SD=0.52) and Leon (Mean=3.73, SD=0.52).

The result seemed to imply that the extent of compliance with the QMS varies regarding respondents' positions and the campus where they belong. The school staff perceived the extent as very high since they are intensely involved in ensuring that processes stipulated in the QMS are adequately implemented. On the other hand, department heads and teachers who spend much time teaching and doing administrative work may have less involvement in implementing the QMS. This result may further denote that respondents from Dumangas and Barotac Nuevo had exerted prodigious efforts in complying with the requirements set in the QMS compared to their campus counterparts.

5.5. Differences in the Extent of QMS when the Respondents were Classified According to Respondents' Position

Table 5: Differences in the Extent of Compliance with QMS when the Respondents were Classified According to Respondents' Position

Dependent Variable	(I) Rank	(J) Rank	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval
Conformance with ISO 2008	Staff	Faculty	0.50511*	0.14073	0.001	0.2244 0.7859
		Department Head	0.38537	0.26591	0.152	-0.1451 0.9158
	Faculty	Staff	-0.50511*	0.14073	0.001	-0.7859 -0.2244
		Department Head	-0.11974	0.25163	0.636	-0.6217 0.3822
	Department Head	Staff	-0.38537	0.26591	0.152	-0.9158 0.1451
		Faculty	0.11974	0.25163	0.636	-0.3822 0.6217

F-value=5.916, df=71, p-value=0.003<0.05, Significant

When the F-test was run, the result revealed a p-value =0.001 (F-value=5.916, df =71), which was less than 0.05 alpha. The null hypothesis advanced in this variable was therefore rejected. This finding meant a significant difference in the QMS extent of compliance when the respondents were classified regarding the position. This result also implied that respondents' position matters when it comes to the extent of compliance with the quality management system. The extent of compliance as viewed by staff differed significantly compared to teachers' views. This finding is supported by the results of post hoc analysis which showed that the mean obtained by the staff was significantly higher than the mean obtained by the faculty members. On the other hand, no significant differences were noted between the means of faculty members and department heads.

5.6 Differences in the Extent of Compliance with QMS when the Respondents were Classified According to Respondents' School Setting

Table 6: Differences in the Extent of Compliance with QMS when the Respondents were Classified According to Respondents' School Setting

Dependent Variable	(I) Campus	(J) Campus	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Conformance with ISO 2008	Dumangas	Mag-ao	0.31535	0.16451	0.059	-0.0129	0.6436
		Barotac Nuevo	0.13187	0.17962	0.465	-0.2266	0.4903
		Leon	0.72827*	0.18276	0.000	0.3636	1.0930
	Miag-ao	Dumangas	-0.31535	0.16451	0.059	-0.6436	0.0129
		Barotac Nuevo	-0.18348	0.17018	0.285	-0.5231	0.1561
		Leon	0.41292*	0.17350	0.020	0.0667	0.7591
	Barotac Nuevo	Dumangas	-0.13187	0.17962	0.465	-0.4903	0.2266
		Miag-ao	0.18348	0.17018	0.285	-0.1561	0.5231
		Leon	0.59640*	0.18788	0.002	0.2215	0.9713
	Leon	Dumangas	-0.72827*	0.18276	0.000	-1.0930	-0.3636
		Miag-ao	-0.41292*	0.17350	0.020	-0.7591	-0.0667
		Barotac Nuevo	-0.59640*	0.18788	0.002	-0.9713	-0.2215

F-value=5.861, df=71, p-value=0.001<0.05, Significant

The F-test and Post Hoc analysis determined the significance of the difference in the extent of compliance with the quality management system when the respondents were classified according to campus. The results revealed that there were significant differences existed among the school campuses in terms of their extent of compliance with the quality management system. This was supported by the p-value=0.001<0.05, (F-value=5.861, df =71). The null hypothesis in this variable was also rejected.

The results seemed to imply that the extent of compliance with QMS differed significantly per campus. As noted in the results, the extent of compliance in Leon, which was the lowest among the campuses, differed statistically significantly compared to other campuses. This difference was highlighted in the Post Hoc analysis, which also revealed that the mean obtained by Leon differed significantly compared to the other three campuses.

6. SUMMARY OF FINDINGS

This study determined the status of implementing and compliance with QMS in ISAT U satellite campuses. The respondents in this study were classified according to position and school setting.

The results revealed high implementation and compliance with the respondents' QMS. When classified according to position, the school staff rated very high in implementation and compliance with the QMS. On the other hand, the faculty members and department heads believed that the level of implementation and compliance with the QMS was high.

When classified according to the school setting, the respondents from Dumangas and Barotac Nuevo Campuses perceived that the level of implementation and compliance with the QMS was very high. In contrast, the respondents from Miag-ao and Leon campuses believed that the level of implementation and compliance with the QMS was high. Dumangas campus obtained the highest rating, while Leon campus obtained the lowest.

Significant differences were noted in the QMS level of implementation and QMS compliance when the respondents were classified concerning the position and school setting. The null hypotheses in these variables were rejected.

7. CONCLUSIONS

Generally, the QMS implementation and compliance level in ISA U satellite campuses and the school staff were very highly implemented and complied with the quality management system. At the same time, the faculty members and department believe that it is highly implemented.

When classified according to the school setting, Dumangas and Barotac Nuevo campuses very highly implement and comply with the quality management system while Miag-ao and Leon campuses highly implement and comply with it.

The respondent's position and school setting mattered regarding the level of implementation and compliance with the QMS. The school staff rating in terms of the level of implementation and compliance with QMS significantly differed from that of faculty members and department heads. Leon campus, which obtained the lowest rating, significantly differed in implementation and compliance with the QMS compared to Miag-ao, Barotac Nuevo and Dumagas Campuses.

8. RECOMMENDATIONS

Because of the initial findings and conclusions, the researcher would like to recommend the following, to wit:

1. Faculty members and department heads play equally important roles with the school staff regarding implementing and compliance with the QMS. The faculty members and department heads are to be more involved and aware of the implementation and compliance with the QMS.

2. Internal audit is one excellent undertaking of the university to ensure that the quality management system is religiously implemented and complied with in all satellite campuses. School administrators are urged to implement the findings and recommendations made by the internal auditors during the internal audit. This result will help achieve the optimum implementation and compliance with the QMS.

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