Implementation of and Compliance with International Standards: Influence on Institutional Productivity

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Abstract: **A descriptive study was conducted to determine the influence of international standards' implementation and compliance to institutional productivity of ISO 9001:2008 certified Higher Education Institutions in Panay island. A researcher-made questionnaire based on ISO manual was administered to 242 respondents who were administrators, deans, quality assurance managers and faculty of these educational institutions. Results revealed that the implementation of with the (=4.27) and compliance with the (=4.71) international standards, as to position, type of school and certifying body were very high. No significant difference was found in the implementation of international standards as to, position, type of school and certifying body. The level of institutional productivity was very high for instruction with the (=3.50) and extension (=3.62) but only high with the (=3.18) for research. A (p value= 0.100) entailed no significant correlations between the extent of implementation of and level of compliance with international standards and the level of institutional productivity as viewed by the administrators however, significant correlations with a (p value=0.000) were noted by the faculty respondents.**

Keywords: **Institutional Productivity, International Standards.**

I. INTRODUCTION

Standardization in the western world has been the focus not only of industries but also of the education system. There has been a quite dramatic movement towards standardization characterized by detailed legislative frameworks of pupil testing, precise definition of curriculum standards and high stakes of processes for inspecting, monitoring, intervening in school performance (Bottery,2004). Apparently, today is an era apparently calling for greater flexibility and creativity the reason why there are still, sound commercial reasons for standardization (Ritzer, 2004).

Philippine universities and colleges are expected to be the generators of ideas to succeed in the wealth creating fields of science, technology and innovations. Quality services are expected to be delivered to the school stakeholders to innovate success and build competitiveness , through education and trainings.

The higher education institutions should provide quality services to meet clientele satisfaction. They should maintain quality assurance in their programs and services. In the Philippines, various efforts for quality assurance are used. Thus, there is a need to recognize and validate different institutional models and learn about the features that make them effective, finding new ways to define quality, adaptable to different circumstances (Ruiz & Sabio, 2012).

ISO 9001:2008 sets out criteria for a quality management system and is the only standard in the series that can be certified. It is implemented by over 1 million companies and organization in over 170 countries. It is based on a number of quality management principles including a strong customer focus, motivation, and implication to top management, the process approach and continual improvement.

It is the process which helps insure that quality education service is delivered by the academe to its clientele may they be internal or external stakeholders which in turn will bring benefits to the educational institution. Thus, continual monitoring of both private and public Higher Education Institutions on their implementation of and compliance with the said standards is deemed necessary. Hence, this study.

Objectives of the Study

The study determined the influence of international standards' implementation and compliance to institutional productivity of selected ISO 9001:2008 certified Higher Education Institutions in Panay island during school year 2014-2015.

Specifically, it aimed to:

1. find out the extent of implementation of and level of compliance with international standards as assessed by administrators and faculty when taken as a whole and when classified according to a)respondents' position b)type of school and c)certifying body.

2. determine the significant difference in the extent of implementation of and compliance with international standards as assessed by administrators and faculty when classified according to a)respondents' position b)type of school and c)certifying body.

3. find out the level of institutional productivity in the areas if instruction , research and extension

4. determine whether institutional productivity is influenced by the implementation of international standards.

5. determine whether institutional productivity is influenced by the compliance with international standards.

Related Studies

Quality Management System: Its Implementation and Compliance

In the study of Pragados (2006) "Influence of JBLF Quality Management System on Self Efficacy and Work Performance of Personnel at the JBLF System" which aimed at determining the level for implementation of quality management system and the level of efficacy of personnel during school year 2005-2006, results revealed that the respondents evaluated the extent of implementation of JBLF quality management system as "high" in terms of leadership, strategic planning, customer and market focus, personnel focus, information analysis and performance results. It also showed that the self-efficacy of the personnel is "very high" and their work performance is superior.

While Morales (2005) in the "The Implementation of and Compliance with quality standards system and institutional Stability of Selected maritime institution in Western Visayas," determined the implementation and compliance with quality standards system and institutional stability. The study revealed that overall the participants found the standards system in Maritime institutions "highly implemented" and along management responsibility, internal control, process control, and human and physical resources. The participants assessment of compliance with quality standard system was "very high" and they found the maritime institutions "very stable" Positive and significant correlations were noted between program offerings and certifying body; between participants assessment of the overall implementation of the QSS and with the compliance of QSS; between participants assessment of the overall implementation of the QSS and the institutional stability; and between the participants assessment of the compliance with the QSS and the institutional stability.

On the other hand, Sobrevega (2013) conducted a study on the "Perceived Problems and Compliance with ISO Requirements among Philippine Manning Agencies: Implications to Organizational Development." This study ascertained and presented the problems encountered by the Philippine Maritime manning agencies and their compliance with ISO requirements and it appeared that, as viewed by their own managerial and non-managerial personnel, the manning agencies in the Philippines had totally complied with ISO requirements whether entirely or in terms of the specific areas of general QMS, management responsibility, resources and product realization.

The problems encountered by the manning agencies seemed to be fairly serious generally and in terms of government related difficulties and those related to the crew. The small manning agencies had significantly higher level of total compliance with ISO requirements than the large manning agencies. The agencies with shorter period of operation and the small agencies registered significantly higher level problems than the larger agencies and those with longer operation period.

The non-managerial personnel tended to believe that the problems encountered by their agencies were more significantly serious than those with other agencies.

Similarly, the personnel with shorter service experience felt that the problems were more significantly serious than those of other agencies. The manning agencies' ISO compliance and problems encountered were negatively correlated. The negative correlation was significant.

Several studies had examined how the ISO 9001 quality management system standard predicts changes in organizational outcomes and profits. The first large scale study to explore how employee outcomes such as employment, earnings, and health and safety change when employers adopt ISO 9001 was that of Toffel et al. (2010). They analyzed a matched sample of nearly 1,000 companies in California. ISO adopters subsequently had far lower organization death rates than the matched control group of non-adopters. Among surviving employers, ISO adopters had higher growth rates for sales, employment, payroll, average annual earnings. Injury rates declined slightly for ISO 9001 adopters, although total injury costs did not. These results have implications for organizational theory, managers, and public policy.

Lakhal (2014) conducted a study on "The Relationship Between ISO 9000 Certification TQM Practices and Organizational Performance." The paper developed a conceptual model to study the relationships between ISO 9000 certification, TQM practices, and organizational performance. The model was tested with data collected from 176 certified firms in various industrial sectors in Tunisia. Data analysis indicated considerable support for the conceptual model. The results indicated that, in the case of Tunisian firms, implementing ISO 9000 first before embarking on TQM model leads to better organizational performance, although both ISO 9000 and TQM practices directly affect organizational performance and structure.

Mintzberg (1989) as cited by Hoy (2008) provides another more comprehensive conceptual framework for examining organizational structure. He describes structure simply as the ways in which an organization divides its labor into tasks and then achieves coordination among them. Five basic coordinating mechanisms are the fundamental means organization's use to monitor and control work; mutual adjustment, direct supervision, standardization of work processes, standardization of outputs, and standardization of worker skills. These mechanisms glue the organization together.

The study of Lundqvist (1997) on "Quality in Higher Education Approaches to its Management and Improvement" intended to study quality management in higher education, and more specifically to see how perspectives with their origin outside higher education could provide means to improve the activities and setting. The first element of this study was an attempt to formulate a general framework for quality management as it refers to higher education. Secondly, three specific investigations into quality issues in higher education were described. These included how self-assessment according to criteria of Swedish Quality award could be used in higher education, the use of higher education of quality systems and the ISO 9001 set of standards of quality systems and the discussions of similarities and developments in trade and industry on one hand and higher education on the other. It was concluded that perspectives on Total Quality management were argued to be both relevant and meaningful in higher education. The areas which were discussed were both administrative support activities and academic areas. As a result from the studies of self-assessment according to quality awards and of quality systems both instruments seemed valid and useful in higher education settings.

Another study of Lagrosen (2006) on, "Values and Practices of Quality Management - Health Implications and Organizational Differences," explored the knowledge and use of actual values and practices of quality management system in different organizational settings. A mail survey covering 500 Swedish quality professionals were carried out. The results showed that there is a strong correlation between adoption of values grown from the quality movement which are considered as the basis of quality management, and successful quality management.

Further, the connection between quality management and different organizational structures based on Mintzberg's framework was examined.

In the study of Persson (2006) in "Quality Management and Sustainability Exploring Stakeholders Orientation," he investigated on how quality management, environmental management systems and stakeholder theory contribute to the knowledge organization be manage in order achieve both organizational and global sustainability. An archival analysis of nine manufacturing Swedish companies was made in order to find out if their environmental performance had improved during the last decade and if such improvements could be linked to the certification of an environmental system.

A case study was also made in order to explore how organizations may be managed in order to achieved both organizational and global sustainability. The results of the study showed that the investigated companies have improved

their environmental performance, but the connection to the certification of the EMS is not apparent. The results also included a stakeholder model that could be suitable in order to integrate stakeholder theory and quality management. Organizational sustainability is argued to be achieved if the organization managed to endlessly satisfy or exceeds the demands of the stakeholders.

Theoretical Framework

This study was anchored on Deming's theory of total quality management. This is theory of a long term system to achieve customer satisfaction through continuous quality improvement of an organization's goods and services. Although total quality management started in the field of business, the same principles are now applied in educational system to bring about the delivery of quality education. Quality education is achieved when the students and other stakeholders are provided best services in the four functions of the institution such as, instruction, research ,extension, production and other identified services.

William Deming (1900-1993) is credited for his significant contribution to the theory of quality improvement. The quality of education became the critical factor for famous universities at present and forced the completely different approach to the university management. From there it is large interest of the universities about the quality management systems (Mustafa, 2011).

The Conceptual Framework

This study which aimed to determine the influence of international standards' implementation and compliance to influence on institutional productivity of selected higher education institutions in Panay island during academic year 2014-2015, is hereby presented in the research paradigm. The independent variables in this study were the implementation of and the compliance with the international standards on quality management system of selected higher education institutions in Panay island. The antecedent variables are the position of the respondents, type of school, and certifying body of the school.

The dependent variable was the level of institutional productivity. Institutional productivity was classified in terms of instruction, research, and extension. This research paradigm was based on the concept that the implementation of and compliance with the international standards has the influence on institutional productivity. The hypothesized relationship was illustrated in the schematic diagram of the study.
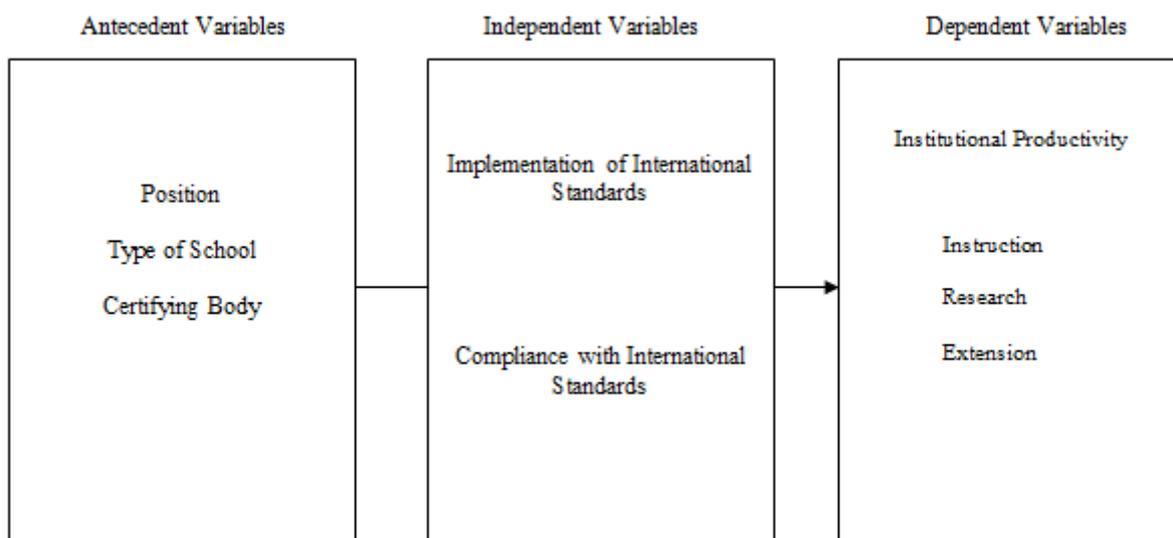
Schematic Diagram

Figure 1: A Conceptual Model Showing the Influence of International Standards' Implementation and compliance to Institutional Productivity

II.   RESEARCH METHODOLOGY

Research Design

The research method used in this study was descriptive. Descriptive method, according to David (2005), is used to describe a given state of affairs as fully and carefully as possible. The gathered data on the implementation of and compliance with international standards and institutional productivity helped the researcher describe how the different colleges and universities implemented and complied with the requirements and expectations of the stakeholders.

Respondents of the Study

The sample size was determined using Slovin's formula in the selection of the respondents. The samples from the different campuses were determined by stratified sampling and the respondents were selected using random sampling.

The respondents of the study were 242 administrators, deans, quality assurance managers, and faculty members teaching in the ISO 9000:2008certified programs only of 9 selected Higher Education Institutions in Panay Island. The respondents were nine (9) administrators, nine (9) quality assurance managers, twenty one(19) deans and two hundred five (205) faculty.

The total number of respondents to represent the administrators, quality assurance managers, deans and faculty members as shown in Table 1 was 59 for Central Philippine University, 9 for University of Iloilo,36 for John B. Lacson Foundation Maritime University (Molo), 29 for John B. Lacson Foundation Maritime University (Arevalo), 23 for St. Therese MTC Colleges, 34 for Iloilo Science and Technology University, 5 for Iloilo State College of Fisheries, and 4 for Northern Iloilo Polytechnic College and Colegio de la Purisima Concepcion, 43. The respondents were classified according to position, school type, and certifying body.

Instrument

A researcher-made questionnaire was developed consisting of three parts which include personal information of the respondents, the extent of implementation of and degree of compliance with the international standards based on the quality management system requirements of ISO 9001:2008, and the level of institutional productivity. It was submitted to face and content validation. The research instrument was found valid. It was pilot tested to 30 respondents from John B. Lacson Foundation Maritime University, Bacolod City, Negros Occidental with reliability test result of .98 which is above .70 to consider the instrument very reliable.

Data Gathering Procedure

Permit from the heads of different colleges and universities in Panay Island was obtained to allow the researcher to conduct the study.

The researcher personally went to the different colleges and universities and distributed the questionnaires to the respondents.

The respondents were instructed to check the column where their response for each item is found. When all questionnaires were gathered, the responses for each item were tabulated.

Data Analysis

The research instrument was reproduced according to the number of respondents of the study. After retrieval of the accomplished questionnaire, the data were organized, computed, and tabulated. Computations, analysis and interpretations were done using the Statistical Package for Social Sciences (SPSS) software.

Statistical Tools

Both the descriptive and inferential statistics were used in the study. For descriptive statistics, the frequency count and mean were used. The inferential statistics used were t-test, One-way ANOVA and Pearson's r set at .05 level of significance.

Frequency Count. It describes the profile of the respondents in terms of number distribution in each selected personal characteristics (Santos, 2006). This will be used to find out the distribution of the respondents in a particular group, who picked out, checked statements or identified which best described the implementation of and compliance with international standards and institutional productivity.

Mean. It is the sum of the total weighted scores of all the items in the checklist divided by the total number of items (Borro, 2002). The mean was used to obtain the average scores that describe the assessment of the respondents when classified according to variables.

t-test. It was used for determining differences between two independent samples.

One-Way Analysis of Variance (ANOVA). It determined the significance of differences among three level categories of independent variables.

Pearson's r. It determined the significance of the relationship between two variables.

III.   RESULTS AND DISCUSSION

Extent of Implementation of International Standards When Taken as a Whole and When Classified According to Identified Variables

The data in Table 1 showed the extent of implementation of international standards based on the position of the administrator-respondent, type of school and certifying body.

Regardless of position, the extent of implementation of international standards was rated very high with mean values ranging from 4.53 to 4.84. The highest mean of 4.84 was noted among the administrators, followed by that of the Deans ($\overline{X}$ =4.66) and the quality assurance manager ($\overline{X}$ =4.53).

A very high extent of implementation was also noted in the rating for implementation of international standards between the private HEIs and that of the SUCs. A very slight difference in the mean value was noted for the two groups.

Six (6) certifying agencies were cited by the administrator-respondents all rating the extent of implementation very high although the mean values vary. The highest mean value of 4.81 was given by the respondents who had CPI as the certifying agency, followed by ABS ($\overline{X}$ =4.78), Det Norske Veritas ($\overline{X}$ =4.77) and BV ($\overline{X}$ =4.68). AJA had a mean rating of 4.60 and TUV was given the lowest mean of 4.30.

Table 1: Extent of Implementation of International Standards When Taken as a Whole and Classified According to Identified Variables

Variables	Mean	Description
As a Whole	4.67	Very High
Position		
Administrator	4.84	Very High
Quality Assurance Manager	4.53	Very High
Dean	4.66	Very High
Overall Mean	4.68	Very High
Type of School		
Private	4.67	Very High
Public	4.65	Very High
Overall Mean	4.66	Very High
Certifying Body		
ABS- American Bureau of Shipping	4.78	Very High
AJA – Anglo Japanese American	4.60	Very High
BV – Bureau Veritas	4.68	Very High
DNV – Det Norske Veritas	4.77	Very High
TUV -	4.30	Very High
CPI-Certifying Philippines Int.	4.81	Very High
Overall Mean	4.66	Very High

Legend

Range	Description
4.21 – 5.00	Very High
3.41 – 4.20	High
2.61 – 3.40	Average
1.81 – 2.60	Low
1.00 – 1.80	Very Low

Differences in the Extent of Implementation of International Standards as Assessed by Administrators and Faculty when Classified According to Type of School

The mean rating of the implementation of international standards by the administrators grouped according to type of school was compared to find out whether there were significant differences between the private HEIs and the SUCs was determined using the t-test for independent sample. The result of the analysis presented in Table 2 reveals no significant differences between the two types of school at t value = 0.165 at p value =0.870>.05. The result indicates that both the private HEIs and the SUCs similarly rated the extent of implementation of the international standards to be very high.

On the other hand, the difference in the extent of implementation of international standards according to the type of school of faculty respondents was determined using the t-test for independent samples. The result of the analysis as shown in Table 2 indicates no significant differences in the extent of implementation of international standards between private HEIs and SUCs. The t value was 0.965 at p=0.336>.05. This result implied that regardless of the type of school, the faculty respondents seem to have a common understanding of the implementation of international standards.

Table 2: Differences in the Extent of Implementation of International Standards as Assessed by Administrators and Faculty when Classified According to Type of School

Type of School	Mean	df	t value	p value	Remarks
Administrators					
Private	4.67	35	0.165	0.870	not significant
Public	4.65				
Faculty					
Private	4.37	203	0.965	0.336	not significant
Public	4.25				

Differences in the Extent of Implementation of International Standards as Assessed by Administrators when Classified According to Position and Certifying Body

The significance of the differences in the level of implementation of international standards among administrators of varying positions was determined using the One-way Analysis of Variance (ANOVA) and the results were presented in Table 3. The analysis disclosed no significant differences in the mean ratings on the extent of implementation of international standards as rated by the administrators with different administrative positions. The F value was 1.402 at p=.0.260>.05. This result indicates similar rating of the administrators on the extent of implementation of the international standards regardless of their position.

On the other hand, the differences in the extent of implementation of international standards as indicated by the respondents based on their identified certifying body were compared statistically using the One-Way Analysis of Variance (ANOVA). The results reflected in Table 3 showed no significant differences in the rated extent of implementation of international standards according to the certifying body identified by the respondents. The F value was 1.449 at p=0.235>.05. This result indicates that the certifying body identified by the respondents though it differed among higher education institutions do not cause significant deviations in the extent of implementation to international standards.

Table 3: Differences in the Extent of Implementation of International Standards as Assessed by Administrators when Classified According to Position and Certifying Body

Source of Variation	Sum of Squares	df	Mean Square	F value	p value	Remarks
Respondents' Position						
Between Groups	0.383	2	0.191	1.402	0.260	Not Significant
Within Group	4.624	34	0.137			
Total	5.025	36				
Certifying Body						
Between Groups	0.952	5	0.190	1.449	0.235	Not Significant
Within Group	4.073	31	0.131			
Total	5.025	36				

Differences in the Level Implementation of International Standards as Assessed by Faculty According to the Rank/Position and Certifying Body

The significant differences in the extent of implementation of international standards according to faculty's position were determined using the One-Way Analysis of Variance or (ANOVA). Table 4 gives the result of the analysis. There were no significant differences in the extent of implementation of international standards based on teacher's position. The F value was 0.685 at p=0.562>.05.

On the other hand, to establish whether or not the differences in the extent of implementation of international standards significantly differed when faculty identify varied certifying body, the One-Way Analysis of Variance (ANOVA) was used. The results of the analysis presented in Table 4 showed no significant differences in the extent of implementation of international standards based on the identified certifying body. The F value was 1.735 at p=.103>.05. The result implied that the extent of implementation of the international standards by the different HEIs in the island of Panay is in accordance with the provision, hence not much deviations were noted nor documented by faculty.

Table 4: Differences in the Extent of Implementation of International Standards as Assessed by Faculty when Classified According to Position and Certifying Body

Variables	Sum of Squares	df	Mean Square	F value	p value	Remarks
Respondents' Position						
Between Groups	0.689	3	0.230	0.685	0.562	Not Significant
Within Group	67.40	201	0.335			
Total	68.09	204	0.685			
Certifying Body						
Between Groups	3.954	197	0.565	1.735	0.103	Not Significant
Within Group	64.132	204	0.626			
Total	68.087					

Level of Compliance with International Standards when Respondents are Classified

According to Identified Variables

The level of compliance with the international standards was very high in general and in five component areas of documentation requirements, management responsibility, resource management, product realization and measurement analysis and improvement as assessed by the administrators and faculty.

In terms of five components, the administrators regardless of position rated all components very high while the faculty with different ranks rated the component product realization high only. The asst. professors, associate professors and professors rated the component resource management high while the associate professors rated management responsibility average only.

When grouped as to type of school, the administrators from both public and private HEI's rated all the components very high while the faculty from private HEI's rated product realization high. This implied that entry standard for admission of students in the private HEI's was not so rigid to meet the desired number of student population.   Likewise, those faculty from public HEI's rated resource management high and product realization average only. This result called for enough resources to maintain quality education service such as infrastructure facilities and competent employees.

On the other hand, administrators with certifying body such as Bureau Veritas and TUV rated resource management high only. All other components were rated very high. The faculty regardless of certifying body rated documentation requirements very high; however, they rated product realization high and average only.

When grouped as a whole and when classified according to position, type of school and certifying body, the level of compliance of international standard by the administrators was very high while that of the faculty was high only. Faculty with instructor rank only got the very high mean. This trend in the perspective of the faculty based on their position could be interpreted that the instructors may still have a limited idea of the comprehensiveness of the provisions of international standards hence they gave high rating compared with the seasoned faculty.

Table 5: Level of Compliance with International Standards when Respondents are Classified According to Identified Variables

	Mean	Description
Category		
President	4.87	Very High
Quality Assurance Manager	4.52	Very High
Dean	4.74	Very High
Overall Mean	4.71	Very High
Type of School		
Private	4.73	Very High
Public	4.69	Very High
Overall Mean	4.71	Very High
Certifying Body		
ABS- American Bureau of Shipping	4.78	Very High
BV – Bureau Veritas	4.81	Very High
AJA – Anglo Japanese American	4.60	Very High
DNV – Det Norske Veritas	4.81	Very High
TUV -	4.34	Very High
CPI-Certifying Philippines Int.	4.86	Very High
Overall Mean	4.71	Very High

Legend:

  Scale   Description

4.21 – 5.00   Very High

3.41 – 4.20   High

2.61 – 3.40   Average

1.81 – 2.60   Low

1.00 – 1.80   Very Low

When grouped as a whole and when classified according to position, type of school and certifying body, the level of compliance of international standard by the administrators was very high while that of the faculty was high only. Faculty with instructor rank only got the very high mean. This trend in the perspective of the faculty based on their position could be interpreted that the instructors may still have a limited idea of the comprehensiveness of the provisions of international standards hence they gave high rating compared with the seasoned faculty.

The level of compliance by both administrators and faculty was very high in general and in terms of component areas such as instruction, research and extension. In terms of three areas, the administrators rated research high while the faculty regardless of position rated the all areas very high. As to type of school, the administrators from both public and private HEI's rated instruction and extension very high and the area of research high only. On the other hand the faculty regardless of the type of school rated all areas very high. The administrators with AJA as their certifying body rated the areas of instruction, research and extension high only. The other administrators with certifying body such as CPI,BV, and TUV rated research high while other areas were rated very high. The faculty with certifying body such as Bureau Veritas (BV) rate all areas very high and all the rest rated other areas high.

Differences in the Level of Compliance with International Standards as Assessed by Administrators and Faculty when Classified According to Type of School

The difference in the level of compliance between private HEIs and the SUCs was determined using the t-test for independent samples and the result of the analysis is given in Table 6. The result show no significant difference between the two types of school as supported by the t-value of 0.300 at p=0.766>.05. The result indicates that the compliance with international standards was similarly observed by the two groups of schools and that the level to which it was observed was comparable.

Likewise, Table 6 gives the result of the t-test for independent samples to determine whether or not the difference in the mean rating on the level of compliance with international standards of faculty in private HEIs and those in SUCs is significant. The t value obtained was 0.747 at p=0.456>.05 which means that the difference in the level of compliance with international standards between the two groups is not significant. The result implied that the level of compliance with international standards is well understood by the teachers regardless of the HEIs they were employed in.

Table 6: Difference in the Level of Compliance with International Standards as Assessed by Administrators and Faculty when Classified According to Type of School

Type of School	n	Mean	df	t-value	p-value	Remarks
Administrators						
Private	24	4.73	35	0.300	0.766	Not Significant
Public	13	4.69				
Faculty						
Private	24	4.17	203	0.747	0.456	Not Significant
Public	13	4.08				

Differences in the Level of Compliance with International Standards as Assessed by Administrators when Classified According to Position and Certifying Body

The differences in the level of compliance with the international standards by higher education institutions in Panay were determined using the One-Way Analysis of Variance (ANOVA) and the result was given in Table 7. No significant differences were noted in the level of compliance of the different HEIs to international standards according to the respondents grouped as to their position. The F value of 1.715 at p=0.195>.05 is the supporting evidence. The result implied that despite the positions of the respondents, their rating as to the level of compliance with international standards of their institution remained similar.

On the other hand, the significance of the differences in the level of compliance with international standards according to certifying body was also determined using the One-way analysis of variance and the result is presented in Table 7. The result disclosed no significant differences in the level of compliance with international standards considering the certifying body. The F value was 1.377 at p=0.260>.05. This result implied that regardless of certifying body, the level of compliance with international standards remained to be very high.

Table 7: Differences in the Level of Compliance with International Standards as assessed by Administrators when Classified According to Position and Certifying Body

Source of Variation	Sum of Squares	df	Mean Square	F value	p value	Remarks
Respondents' Position						
Between Groups	0.531	2	0.266	1.715	0.195	Not Significant
Within Group	5.265	34	0.155			
Total	5.796	36				
Certifying Body						
Between Groups	1.053	5	0.211	1.377	0.260	Not Significant
Within Group	4.742	31	0.153			
Total	5.796	36				

Differences in the Level of Compliance with International Standards as Assessed by Faculty When Classified According to Position and Certifying Body

The significance of the differences in the level of compliance with international standards among faculty grouped according to rank or position was determined using the One-Way Analysis of Variance (ANOVA). The result given in Table 8 showed that there was no significant difference in the level of compliance with international standards among teachers grouped according to position. The F value was 1.893 at p=0.132>.05. This result implied that the position of the faculty do not necessarily determine their assessment as to the compliance of their institution with international standards.

On the other hand, the significance of the differences in the level of compliances with international standards among certifying body identified by the faculty was determined using the One-Way Analysis of Variance (ANOVA). The result given in Table 8 disclosed highly significant differences in the level of compliance with international standards based on the specified certifying body. The F value was 2.850 which is significant at p=.007<.05.

Table 8: Differences in the Level of Compliance with International Standards as Assessed by Faculty when Classified According to Position and Certifying Body

Source of Variation	Sum of Squares	df	Mean Square	F value	p value	Remarks
Respondents' Position						
Between Groups	1.73	3	0.578	1.893	0.132	Not Significant
Within Group	61.31	201	0.305			
Total	68.04	204				
Certifying Body						
Between Groups	5.797	7	0.828	2.850	0.007	Significant
Within Group	57.241	197	0.291			
Total	63.039	204				

p<.05, significant

Level of Institutional Productivity as Assessed by Administrators when Classified According to Identified Variables

When grouped as a whole and when classified according to position, type of school and certifying body, the level of institutional productivity by both administrators and faculty were very high.

There were no significant differences on the level of institutional productivity in terms of areas such as instruction, research and instruction, however, the administrators found significant differences on the area of research as to certifying body. Likewise, significant differences were found by faculty in the area of instruction when grouped as to position and significant differences were also noted by faculty in all areas according to certifying body. There were no significant differences in the level of institutional productivity when the administrators and faculty were classified to type of school. No significant differences were noted as to administrators' position and certifying body. Likewise, no significant difference was noted by faculty when classified as to position, however, significant differences was found when the faculty was classified according to certifying body.

Table 9: Level of Institutional Productivity as Assessed by Administrators when Classified According to Identified Variables

Variables	Mean	Description
As a whole group	3.41	Very High
Category		
President	3.35	High
Quality Assurance Manager	3.39	High
Dean	3.49	Very high
Total Mean	3.41	Very High
Type of School		
Private	3.43	Very High
Public	3.45	Very High
Total Mean	3.44	Very High
Certifying Body		
ABS- American Bureau of Shipping	3.16	High
BV – Bureau Veritas	3.47	Very High
AJA – Anglo Japanese American	3.79	Very High
DNV – Det Norske Veritas	3.65	Very High
TUV -	3.10	High
CPI-Certifying Philippines Int.	3.73	Very High
Total Mean	3.48	Very High

Legend:

Scale	Description
3.41 – 4.00	Very High (VH)
2.81 – 3.40	High (H)
2.21 – 2.80	Average (A)
1.61 – 2.20	Low (L)
1.00 – 1.60	Very Low (VL)

When grouped as a whole and when classified according to position, type of school and certifying body, the level of institutional productivity by both administrators and faculty were very high.

Table 10: Institutional Productivity as Influenced by the Extent of Implementation and Compliance of International Standards as Assessed by Administrators

	Extent of Implementation of International Standards			Level of Compliance with International Standards		
	Pearson r	P value	Remarks	Pearson r	P value	Remarks
Institutional Productivity	0.276	.098	Not significant	0.27	0.100	Not significant

No significant influence was found between the extent of implementation of and level of compliance with international standards and the level of institutional productivity as assessed by the administrators.

Table 11: Institutional Productivity as Influenced by the Extent of Implementation of and Level of Compliance with International Standards as Assessed by Faculty

	Extent of Implementation of International Standards			Level of Compliance with International Standards		
	Pearson r	P value	Remarks	Pearson r	P value	Remarks
Institutional Productivity	0.541	.000	Significant	0.590	.000	Significant

p<.05, significant

A significant influence was found between the extent of implementation of and level of compliance with the international standards and the level of institutional productivity as assessed by the faculty respondents.

Summary of Findings

The study generated the following findings:

The extent of implementation of international standards by the administrators and faculty remained to be very high.

There were no significant differences in the extent of implementation of international standards when the administrators and faculty were classified according to position, type of school and certifying body.

When grouped as a whole and when classified according to position, type of school and certifying body, the level of compliance of international standard by the administrators was very high while that of the faculty was high only. Faculty with instructor rank only got the very high mean. This trend in the perspective of the faculty based on their position could be interpreted that the instructors may still have a limited idea of the comprehensiveness of the provisions of international standards hence they gave high rating compared with the seasoned faculty.

No significant difference was found by both administrators and faculty in the level of implementation of international standards as to type of school. Likewise, there was no significant differences on the level of compliance when the administrators and faculty were classified according to type of school and position. No significant difference was found when the administrators were classified according to certifying body however, the faculty noted significant differences in the level of compliance with international standards when classified to certifying body.

The level of compliance by both administrators and faculty was very high in general and in areas such as instruction, research and extension.

In terms of three areas, the administrators rated research high while the faculty regardless of position rated the all areas very high. As to type of school, the administrators from both public and private HEI's rated instruction and extension very high and the area of research high only. On the other hand the faculty regardless of the type of school rated all areas very high.

The administrators with AJA as their certifying body rated the areas of instruction, research and extension high only. The other administrators with certifying body such as CPI,BV, and TUV rated research high while other areas were rated very high. The faculty with certifying body such as Bureau Veritas (BV) rate all areas very high and all the rest rated other areas high.

When grouped as a whole and when classified according to position, type of school and certifying body, the level of institutional productivity by both administrators and faculty were very high.

No significant influence was found between the extent of implementation of and level of compliance with international standards and the level of institutional productivity as assessed by the administrators.

However, significant influence was found between the extent of implementation of and level of compliance with the international standards and the level of institutional productivity as assessed by the faculty respondents.

IV.   CONCLUSIONS

Based on the findings of the study, the following conclusions were derived:

The administrators and faculty, of the Higher Education Institutions in Panay island had implemented the international standards to a very high extent considering the five components of documentation requirements, management responsibility, resource management, product realization and measurement analysis and improvement.

Admission policies should be strengthened in the private HEI's while infrastructures and facilities should be improved in the public HEI's. The full implementation of the international standards was maintained by administrators and faculty regardless of position, type of school and certifying body. The component areas of the International Standards were implemented by both administrators and faculty despite the differences of certifying bodies the HEI's were certified to due to the common requirements of the standards.

There was a stringent implementation of the international standards regardless of the variables considered such as such as position, type of school and certifying body. The administrators and faculty had a deeper understanding of the implications of the compliance of the standards to the international community. It likewise, reflects the recognition of the Higher Education Institutions of the need to maintain a standard which is acceptable globally. The three mandated functions of the HEI's such as instruction, research and extension were very functional, an indications of the quality service the institution provide to the clientele. However, among the mandated functions, research remained to be below par the others. The administrators of different positions being preoccupied with their other functions had little time for research, an area which entails more time.

Moreover, administrators and faculty identified with various certifying body showed differences in their views of the level of institutional productivity, an indication that the three areas such as instruction, research and extension had been utilized by the HEI's to increase or enhance productivity. Institutional productivity from the point of view of administrators is not determined by the implementation of and compliance with international standards. However, the faculty has a strong contention that the implementation of and compliance with international standards influence institutional productivity .It is an indication that as prime movers of the Higher Education Institutions, they had taken seriously the compliance of the requirements of international standards and had initiated and performed activities as regards instruction, research and extension.

V.   RECOMMENDATIONS

Based on the findings presented and the conclusions derived, the following recommendations are given:

The administrators and the faculty of Higher Education Institutions should always anchor their way of discharging their duties and responsibilities to the provisions of the international standards, regardless of whether they belong to a private or public higher education institution.

The administrators should see to it that the implementation of international standards be aligned with the compliance requirements. Thus, newly hired instructors of the institution should be oriented or be made aware of the documentation requirements and the certifying body the HEI is being certified to. Moreover, they should be aware that the extent of implementation of international standards influences institutional productivity, hence, all the functions of the Higher Education Institutions such as instruction, production and extension specifically the area of research be given attention and funding.

Both the administrators and the faculty should also note that the level of compliance with international standards determine the level of institutional productivity and must be attentive to the requisites. The HEI's should not only settle with a high level of accredited status which is only locally certified but must go for international accreditation by complying with the international standards to elevate their status. The findings of the study should be accordingly disseminated to HEI's as instrument to guide them in their decision to either go for ISO certification or not.

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