

A Case Study on the Improvement of Organizational Operational Efficiency through Quality Management Systems ISO 9001

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Abstract

ISO 9001 is a series of quality management system standards which provide guidance and tools for companies and organization to ensure that their products/services consistently meet customer requirements. Adamson University applied for and successfully achieved the prestigious ISO 9001:2008 Management Systems certification by TÜV Rheinland. The ISO 9001:2008 certification means that the quality of the university's processes and standards are at par with international management systems and that the University has instituted quality assurance methods in both the academic and support services with procedures for its maintenance. The goal of this research is to identify the success of the ISO 9001 program and its contribution to the success of operational efficiency in Adamson University. The data were gathered from the survey questionnaire answered by selected employees of Adamson University. The findings of this study were based on the answers of one hundred twenty-five (125) respondents. Finally, the analysis of data was accomplished by descriptive statistics to find the results and conclusion. Resource Management is the only significant factor among the components of Quality Management System that has significant effect on the scores on the Contributions of ISO. Also, employees' assessments for all the components of Quality Management System are positively correlated with both Contribution of ISO and the Ratings of Success in improving operational efficiency. These significant positive correlations have shown that the ISO program of Adamson University is associated to the success in improving operational efficiency of the employees positively. Lastly, the main contribution of ISO 9001 Quality Management System focused on customer focus, improvement, process approach and engagement of people within the organization. Employees elaborated that ISO contributed to the operational efficiency in Adamson University by making their work more efficient, improving work flow, improving customer focus and organized process and documentations. Moreover, the result in ANOVA implied that there is no significant difference on the contribution of ISO 9001 on different offices in Adamson University. The researchers therefore recommended having

twice every year internal audits that will help the management review the irregularities and plan what action should be performed in order to control and solve the problems and issues immediately. Since the success and contributions of ISO program in Adamson University were being felt and observed by the employees, the researchers recommended for continuously sustaining the ISO 9001 Certification for process improvement.

Keywords

ISO 9001; Quality Management System; Correlation Analysis; One-way ANOVA

1. Introduction

Management of universities has witnessed adoption of management practices with a lot of emphasis on the use of quality management systems that are globally recognized. The approaches for quality management have indeed changed the practice of modern management for the better. Wadsworth (2004) defined Quality System as the collective plans, activities and events provided to ensure that a product, a process or services will satisfy given needs. Quality management system on the other hand is a management system to direct and control an organization regarding quality. According to Waswa F. and Swaleh, S. (2012) pressure from powerful interest groups for universities to adopt quality management are evidently mounting and a number of universities globally have put in place quality management systems to address quality management. Firstly, the internationalization of universities and move by some universities to market their courses in overseas countries is fueling the adoption of quality management practices in the management of universities.

According to Williams (2007) management is getting work done through people. A manager performs planning, organizing, leading and controlling functions. Managers in organizations such as universities therefore have to be concerned with efficiency and effectiveness in their organizations. The nature of management is to coordinate others to cope with diverse and far reaching challenges through the application of the elements of organizational behavior and the effective management of people which take place in the context of the wider environmental setting (Mullins, 2012).

Organizations operate in an environment which influences their operations. There is an internal and external environment both shaping the operations of the organization, however internal environment is significant to the organization in the sense that it falls within the domain of management. A number of elements within an organization constitute the organization's internal environment. They include management's commitment to strategic goals, nature of incentives provided to energize the human resources, nature of communication, documented policies and procedures to provide work related directions in order to meet the strategy.

The implementation and subsequent successful institutionalization of ISO 9001:2015 QMS in Adamson University is a subject of varied internal factors such as the University management's commitment, contribution of quality procedures and quality policy. They are the core internal factors which determine the success in the process of implementation of ISO 9001: 2015 based QMS. Quality management systems and frameworks, such as the ISO 9001 have been and continue to be adopted by different nations across the world in an effort to promote quality in the public sector and civil organizations. These frameworks provide guidelines on how the public sector and civil organizations should organize themselves and effectively manage the available resources and processes to deliver quality and focus on continual improvement where necessary (Dale and Newman, 2010).

Positive or negative impacts of ISO 9001 Standard depends on specific contextual factors and by fully determining these factors, use of the standard can improve organizational efficiency and mitigate the risks of improper use (Boiral, 2011). ISO certification should not be considered as a goal in itself, but rather as a learning process with its own drawbacks, benefits and surprises. Allur et al. (2014) analyzed the influence of the motivation to adopt ISO 9001 on both the active day-to-day use of its main underlying practices and the benefits obtained from its adoption in Spanish organizations that adopted the standard in its early phase of dissemination.

1.1 Objectives

The goal of this research is to identify the success of the ISO 9001 program and its contribution to the success of operational efficiency in Adamson University. Thus the objectives of the study are the following:

1.1.1. To determine the significant factors that should be considered in the Quality Management System in Adamson University.

1.1.2. To identify the significant relationship between employee's assessments on the components of the Quality Management System and the success of the ISO Program and its contribution.

1.1.3 To determine the ways on how ISO contributed to the operational efficiency of different offices.

2. Literature Review

Employee Performance

In the organizational context, performance is usually defined as the extent to which an organizational member contributes to achieving the goals of the organization. Employees are a primary source of competitive advantage in service-oriented organizations Luthans and Stajkovic (1999); Pfeffer (1994).

In addition, a commitment performance approach views employees as resources or assets, and values their voice. Employee performance plays an important role for organizational performance. Employee performance is originally what an employee does or does not do. Performance of employees could include: quantity of output, quality of output, timeliness of output, presence at work, cooperativeness, Güngör (2011). Macky and Johnson (2000) pointed that improved individual employee performance could improve organizational performance as well. From Deadrick and Gardner's (1997) points, employee performance could be defined as the record of outcomes achieved, for each job function, during a specified period of time. If viewed in this way, performance is represented as a distribution of outcomes achieved, and performance could be measured by using a variety of parameters 15 which describe an employee's pattern of performance over time. On the other hand, Darden and Babin (1994) said employee's performance is a rating system used in many corporations to decide the abilities and output of an employee. Good employee performance has been linked with increased consumer perception of service quality, while poor employee performance has been linked with increased customer complaints.

History and Definition of Quality

There are various definitions of quality that are considered. That said, quality is defined using different perspectives as it is still a subjective goal that has indefinable characteristics (Kazan et al., 2006). For easy reference, S. Alolayan, 2014 has tabulated more definitions of quality in chronological order with various authors' names.

If the above statements about the various definitions of quality are considered, it is easy to say that quality is about making the organization perform to the best of its ability for their stakeholders, from improving the processes, systems and services that they provide to their customers to make sure that the organization as a whole is fit and it's effective. Therefore, quality should help work organizations enhance their competitiveness and lead to or even improve customer loyalty through meeting customers' requirements and expectations (S. Alolayan, 2014). Quality was introduced merely as a definition with no means to achieve it. However, there are quality implementations that can be practiced within the organization to achieve quality results. One of these is ISO 9001. Collis and Montgomery (1997) suggested that the implementation of practices (i.e., quality) such as ISO 9000 can raise organizational performance and result in real competitive advantage.

Quality Management System

A Quality Management System, often called a QMS, is a set of internal rules that are defined by a collection of policies, processes, documented procedures, and records (9001Academy). QMS includes systematic approach, documentation, guidance, and audit that can be a part of every project management process from the moment the project initiates to the final steps in the project closure phase as well (Aized, 2012).

In an ISO 9001 quality system, this structured way of delivering a better service or product is supported by documented information such as procedures, work instructions, policies and forms. QMS documentation fulfills many functions such as communication of information, providing evidence of conformity and sharing knowledge and as such many different types and levels of documents are needed, for example a quality manual, quality policy, documented procedures and work instructions.

The research literature on Quality Management has identified numerous studies across the world. It is said that Quality Management has the potential to not only increase competitiveness and organizational effectiveness but also improve product quality and organizational performance (Ahire et al., 1996; Opara, 1996; Bayazit & Karpak, 2007; Ortiz et al., 2006). According to the study of V. Singh et al., 2018, these are the various identified TQM measures in which can be measured into five general categories of measures including organizational leadership, customer satisfaction and relationship, human resource focus, strategic planning and development, and supplier quality management.

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). Quality system was introduced by ISO on 15, March 1987. ISO is compatible with proprietary approaches to quality management such as those recommended by Deming, Juran, Crosby, and non-proprietary approaches such as TQM, Lean Six Sigma, Failure Mode and Effects Analysis (FMEA), Cost of Quality (COQ), and other continuous improvement techniques (PMI, 2008). Successful implementation of QMS is to take it as a strategic decision for the organization. The purpose of quality management system can be namely such as reducing possible errors all phases of projects by proper control, finding faults/errors soon, measuring to avoid repeated mistakes, and determining and initiating corrective action/preventive measures (Aized, 2012).

According to the latest survey of ISO (2014), 1,609,294 ISO certificates were issued, and the majority of them were belonged to QMS standard or 1,138,155 ISO 9001 certificates issued that met the requirements of QMS under external audit of third-party or Certification Body (UNIDO, 2012). Approximately, 1600 ISO 9001 certificates issued for different industries in the Philippines by 2014.

International Organization for Standardization (ISO) 9001

ISO 9001 provides the best practices for a Quality Management System, including data management needs, and focuses on product quality and service quality to meet customer needs (9001Academy).

The ISO 9000 series of standards is a non-governmental organization established to support and promote the development of standardization and related activities. The ISO 9000 standard is the most well-known and widely used quality management system (M. Ilkay & E. Aslan, 2017). The ISO International Standard requires that the adoption of a quality management system should be a strategic decision of the organization. The design and implementation of an organization's quality management system is influenced by varying needs, particularly, objectives, the products provided, the processes employed and the size and structure of the organization.

The ISO International Standard consists of eight clauses which precisely describe its requirements. Like a pillar to a building, there are eight Principles that the ISO 900 Quality Management System is based on. Those Eight Principles are important for any successful ISO 9000 QMS, which are: 1) Customer Focus, 2) Leadership, 3) Involvement of People, 4) Process Approach, 5) System Approach to Management, 6) Continual Improvement, 7) Factual Approach to Decision Making, and 8) Mutually Beneficial Supplier Relationships (O. Abdel & A. El Tigani, 2011).

ISO 9001 sets out the criteria for Quality Management System. ISO 9001 can improve the efficiency of the processes of the organizations by generic guidance and documentations, and continual improvement through "Plan-Do-Check-Act" (PDCA) methodology to achieve successfully the satisfaction of customer and quality objectives (B. Neyestani, 2016). It can be used by any institution, company or organization, large or small, regardless of its field of activity (E. Elgobbi, 2014). The main objective of the ISO 9001 was to identify a set of requirements and practices that could be applied to organizations and institutions, regardless of the products or services they produce. In ISO quality standards and other quality initiatives, employees are believed to be satisfied and committed with their job as a result of increased employee participation and involvement in the decision making process (Wilkinson et al, 1998; Wageman & Hackman, 1995).

ISO 9000 standards provide an institution with well-documented procedures to follow in providing goods and services. These procedures define how the tasks should be done, in this way guaranteeing goods and services that meet customer requirements (Singels et al., 2001, p. 63). It is a framework to guide their organizations towards improved performance.

ISO 9000 related research study has been extensively conducted from many perspectives; for example, the implementation process (Bhuiyan & Alam, 2005), benefits and barriers (Singh & Mansour-Nahra, 2006), relationship with quality performance (Gotzamani & Tsiotras, 2001) and country-specific experiences (Quazi & Padibjo, 1998). The favourable view emphasises that ISO 9000 increases employees' awareness in quality issues and encourages continuous improvement through regular and imperative quality audits. Its clear requirements offer a good first step

towards TQM, for which there are no clear requirements and directions. The adverse view states that companies focus mainly on quick and easy certification, without real commitment to quality. This may result in increasing bureaucracy and reduce flexibility and innovation. These basic arguments of both views were mainly based on personal assertions and isolated experiences of certified companies (Gotzamani & Tsiotras, 2001).

It has been found that ISO 9001 certification is needed because of a combination of internal and external motives (Beattie and Sohal, 1999; Tsiotras and Gotzamani, 1996; Kim et al., 2011; Yahya and Goh, 2001; Blessner et al., 2012). The motivations for ISO 9001 can be classified according to two main categories: internal and external motivations. Internal motivations are related to the goal of achieving organizational improvement, while external motivations are primarily related to issues of promotion and marketing, customer pressures, improved market share (Buttle, 1997; Jones et al, 1997; MO & CHAN, 1997; Brown et al, 1998; Bryde & Sloccock, 1998).

Several institutions have required ISO 9001 certification because they believe that it would help them to continue or advance the quality systems of their products/services, or also to develop their internal performance and activities (Zaramdini, 2007; Fotopoulos et al., 2010).

The option for the ISO 9001 implementation, with the accreditation intention, caused numerous impacts on organizations like show some authors focused on the relationship between the application of the ISO certificate and firm performance. Agus & Hassan (2000), for example, confirm the positive relationship between compliance of adopting a quality system and financial performance, while Hendricks & Singhal (2001) show the positive impact of the quality system implementation in the long-term performance. Karia & Asaari (2006) examined the impact of practices on work quality systems related to employee attitudes.

Organizational Impact of ISO 9001

The choice of implementation of ISO 9001, with the accreditation intentions, caused numerous impacts in the organizations. Thus, many researchers conducted research about it and focused on the relationship between the application of the ISO 9001 certification and firm performance.

In the study of M. Kiprob (2014), the author concluded that the university management commitment is important in the process of institutionalization of ISO 9001:2008 QMS, quality procedures contribute towards institutionalization process, quality policy in the university enhances employees' commitment towards duty. The management commitment is seen through employee inspiration, support for ISO based QMS activities and practicing ISO requirements.

In the study of Z. Ying Ying (2012), the author would like to define performance management system, employee performance and employee performance measurement, and also analyze the relationship between performance management system with employee performance. Kruskal-Wallis test and Ordered logit regression were used to test the relationship and the results show the activities: continuous communication within organization and personnel development impact significantly and positively on employee performance. However, the results show that the performance management system has a positive but insignificant relationship with employee performance.

Al-Rawahi and Bashir (2011) did a comparative investigation on the implementation of ISO 9001:2000 in Oman. 42 ISO 9001 certified organizations of different size and sector were studied. No strong evidence was found to suggest that the motives for implementation, the process and cost of achieving certification, the perceived benefits and the shortcomings, differ significantly according to organization size or sector type.

Al-Najjar and Jawad (2011) did an empirical study on ISO 9001 implementation barriers and misconceptions in the service and manufacturing sectors in Iraq. Examples of important barriers to ISO 9001 implementation are a lack of top management commitment, employee resistance, difficulty of performing internal audits, absence of consulting boards, ISO 9001 requirements are unrealistic, lack of financial and human resources, insufficient employee training and insufficient knowledge about quality programs.

E.Bekele & S. Zewedie (2017) examined the impacts of implementing ISO9001:2008 practice towards employee's job satisfaction in Dire tannery located in Addis Abeba Kolfe Keranyo sub city. The data for this study were collected using self-administered questioners from a total of 167 respondents in representative from seven departments of the tannery. The data was analyzed using descriptive statistics, correlation analysis and regressions. The result revealed that, customer focus; training and education, empowerment and teamwork and continuous improvement are all

positively associated with employee's job satisfaction. It is also found that "empowerment and teamwork" and "continuous improvement" explains 46.5 percent of job satisfaction variance which is significant.

S. Marhoobi & H. Balcioglu (2018) did an assessment of the impact of the implemented ISO 9001 Quality Management System (QMS) had on employee performance of Omani civil organizations. The authors used a quantitative research method, focusing on questionnaires as a data collection instrument, random sampling methodology applied to select respondents which was a total of two hundred twenty employees and the results were analyzed through tabulation and SPSS. The findings of this research contribute to the body of literature on the impacts of ISO 9001 QMS implementation in service organizations, as the study results show significant impact on employee performance, the implemented Quality Management System (QMS) ISO 9001 is strongly recommended to be implemented by all Omani Civil Organizations.

3. Methods

From the literature review, different methods have been used to study the concept of quality management these include qualitative methods, quantitative, correlation and regression analysis and meta-analysis, Denzin and Lincoln (2017) define it as having a multi-method focus, with an interpretive and naturalistic approach to the subject of study and Klenke, (2016) states that qualitative research examines the subject in their natural contexts, aiming to understand or interpret the phenomenon with regard to the meanings attached to them by people. Qualitative research entails describing specific situations in detail using research tools such as observations, surveys and interviews Saunders et al, (2011). This method is used to gain an understanding of opinions, reasons and motivations without interfering with the context. Creswell (2013) posits that qualitative research offers insights into the nature of the problem and assists in developing hypotheses and laying a foundation for qualitative research. Additionally, this method is important in uncovering specific trends and delving deeper into the nature of the problem through assessing opinions of respondents.

The purpose of this study is to identify the success of the ISO 9001 program and its contribution to the success of operational efficiency in Adamson University. The researchers will also determine the significant factors that should be considered in the Quality Management System in Adamson University. Also, this study will identify the significant relationship between employees' assessments on the components of the Quality Management System and the success of the ISO Program and its contribution. Lastly is to determine the ways on how ISO contributed to the operational efficiency of different offices.

This study will use quantitative and qualitative research design. This will help to answer the objectives of the study and obtain reliable results and give rational recommendations.

In using qualitative research, it will allow the researchers to answer the research question, "In what ways ISO contributed to the operational efficiency of different offices?" which relies on data obtained and interpreted by the researchers from an open-ended question which includes in the survey questionnaire.

On the other hand, in using Quantitative research, it will allow the researchers to determine the significant factors that should be considered in the Quality Management System in Adamson University. Also, this study will identify the significant relationship between employees' assessments on the components of the Quality Management System and the success of the ISO Program and its contribution. This relies on quantitative measurements to undergo statistical analysis. Researchers will also collect data from survey questionnaires that will be answered by the Management and Administration, Academic employees, Co-academic employees, Faculty members and other support staff throughout the university. Also, Quantitative data shall be analyzed through data tabulations, graphs and advanced analytical methods such as SPSS. Tabulations will be done through construction of percentage and frequency distributions (Neuman, 2009). This allows a comprehensive picture of the patterns of responses and the nature of the data collected. Scores from tables shall be entered into SPSS software, which will help to generate graphs which will show a clear picture for data interpretation.

The researchers devised a conceptual framework to illustrate the precedence of the needed concepts, which the researchers have to pass through, in order to accurately gather information to formulate the conclusions. The figure below shows the flow of process of collecting the valuable data and sequence of the actions that the researchers did to fulfill the study's objectives.

Inputs for this study are the respondents profile, factors about Adamson University and quality manual which the researchers specified and focused to the important variables such as Job Categories, Quality Management System, ISO Contributions and the rate of success of ISO program. In order to come up to the outcomes, the researchers conducted a survey to the employees of Adamson University which tabulated and analyzed using the SPSS Software.

4. Data Collection

From the literature review, different methods have been used to study the concept of quality management these include qualitative methods, quantitative, correlation and regression analysis and meta-analysis, Denzin and Lincoln (2017) define it as having a multi-method focus, with an interpretive and naturalistic approach to the subject of study and Klenke, (2016) states that qualitative research examines the subject in their natural contexts, aiming to understand or interpret the phenomenon with regard to the meanings attached to them by people. Qualitative research entails describing specific situations in detail using research tools such as observations, surveys and interviews Saunders et al, (2011). This method is used to gain an understanding of opinions, reasons and motivations without interfering with the context. Creswell (2013) posits that qualitative research offers insights into the nature of the problem and assists in developing hypotheses and laying a foundation for qualitative research. Additionally, this method is important in uncovering specific trends and delving deeper into the nature of the problem through assessing opinions of respondents.

5. Results and Discussion

The data below were gathered from the survey questionnaire answered by selected employees of Adamson University. The findings of this study were based on the answers of one hundred twenty-five (125) respondents.

Part 1. Demographic Profile (Job Category)

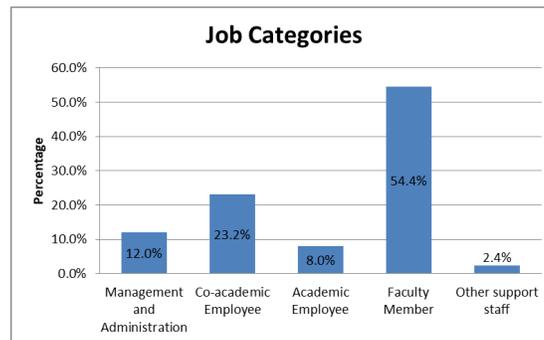


Figure 1. Job Categories

The figure 1. shows that 55.4% of the respondents are Faculty Members of Adamson University. Next is 23.2% were Co-academic employees, 12.0% were from Management and Administration, 8.0% were Academic employees, and 2.4% were other support staffs.

Part 2. Quality Management System

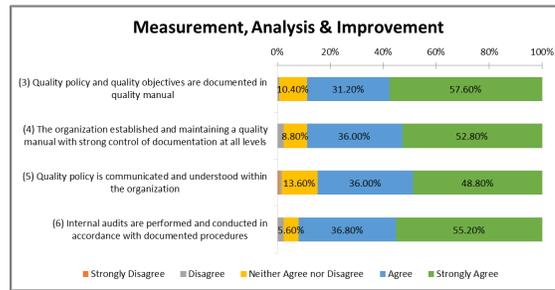


Figure 3. Measurement, Analysis & Improvement

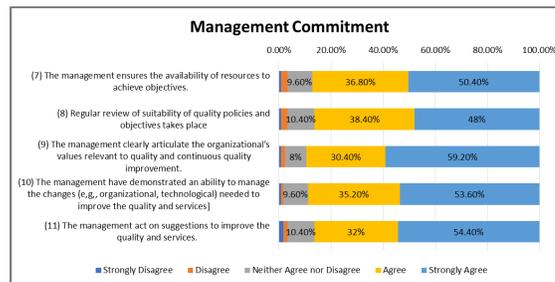


Figure 4. Management Commitment

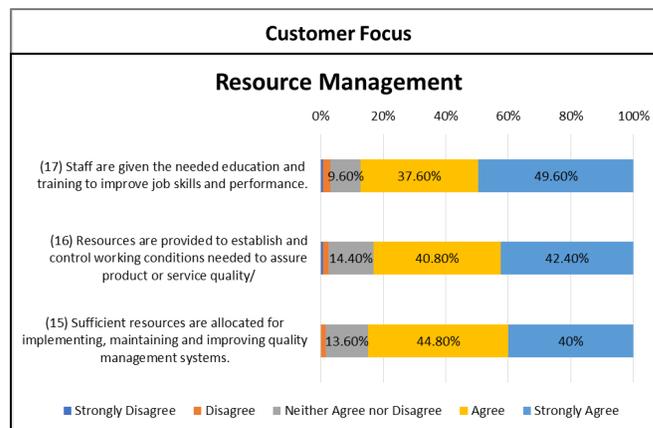


Figure 5. Resource Management

Part 3. Contributions of ISO

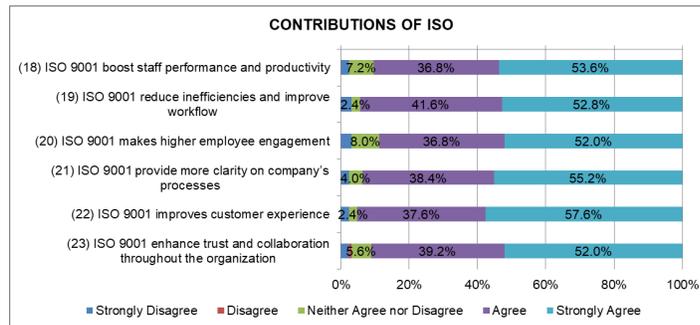


Figure 6. Contributions of ISO

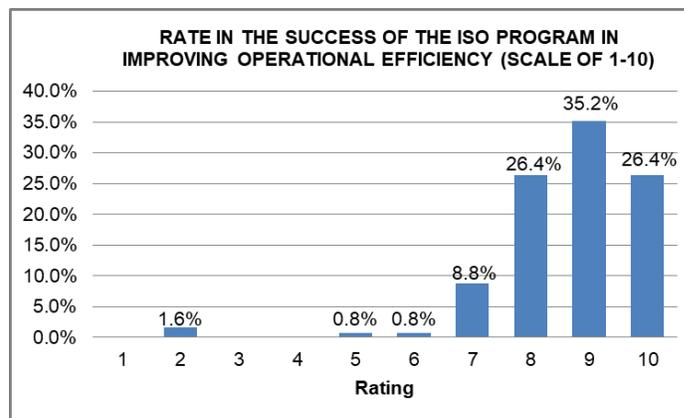


Figure 7. Rate of Success of the ISO Program

Linear Regression

A linear regression analysis was conducted to assess whether Measurement, Analysis & Improvement, Management Commitment, and Customer focus, Resource Management has a significant effect on the Contributions of ISO.

Figure 8. Results for Linear Regression

Variable	B	SE	95% CI	β	t	p
(Intercept)	1.18	0.37	[0.44, 1.92]	0.00	3.15	.002
Measurement, Analysis & Improvement	0.14	0.14	[-0.14, 0.43]	0.12	0.99	.322
Resource Management	0.26	0.11	[0.04, 0.48]	0.25	2.29	.024
Management Commitment	0.18	0.11	[-0.05, 0.40]	0.18	1.57	.119
Customer focus	0.17	0.11	[-0.06, 0.39]	0.17	1.46	.146

The table summarizes the results of the linear regression model. The results show that Resource Management is the most significant factor among the components of Quality Management System which has a significant effect on the scores on the Contributions of ISO with a p-value of 0.024 ($p < 0.05$).

Correlation Analysis

The researchers also used Correlation Analysis to evaluate the strength of relationship between two quantitative variables. The table shows the correlation between the components of Quality Management System and the two

variables about the contribution of the ISO and success ratings of the ISO program based on the perception of the respondents.

The histogram shows that the distribution is skewed to the left which means that majority of the respondents rated the success of the ISO program high

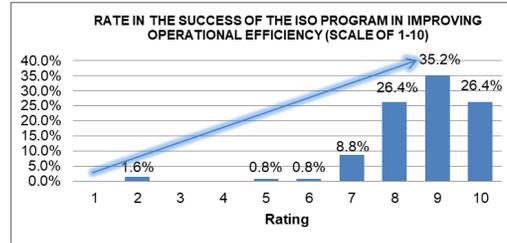


Figure 10. Rate of Success of ISO Program

Table 2. Mean & Standard Deviation of the Rate of Success of ISO Program

	Mean	SD
Rate in the success of the ISO program in improving operational efficiency (Scale of 1-10)	8.65	1.33

The mean rating for the success of the ISO program in improving operational efficiency in the office is 8.65 which is relatively high in the 1 – 10 rating scale. The variability of the respondents rating is generally low with SD = 1.33. This implies that the respondents have generally similar responses.

Table 3. Correlation Analysis

	Measurement, Analysis & Improvement	Management Commitment	Customer Focus	Resource Management
Contribution of ISO	0.743**	0.724**	0.723**	0.679**
Rate in the success of the ISO program in improving operational efficiency	0.611**	0.639**	0.648**	0.685**

**Correlation is significant at 0.01 level (2-tailed)

The employees’ assessments for all the components of Quality Management System were positively correlated with both Contribution of ISO and the Ratings of Success in improving operational efficiency. All of the correlations were significant. This implies that as the ratings on the components of the Quality Management System increase, the contribution and the ratings of success also increase, and vice versa.

Among the pairs of variables, the highest correlation is between Contributions of ISO and Measurement, Analysis & Improvement with p-value of 0.743. The pair of variables that got the lowest correlation is between ratings of success and Measurement, Analysis & Improvement with the p-value of 0.611. Although, this is still highly significant.

Qualitative Analysis

The research question number 3 was answered by using qualitative analysis. The respondents answered an open-ended question, “What is the greatest impact of the ISO program in your office operations?” Interpretative data were collected to understand the employee's personal experience on the contribution of ISO to the operational efficiency in different offices.

Most of the employees stated that implementing ISO 9001 Quality Management System in Adamson University have big contribution in their work. Most of the answers among the employees regarding the contributions of ISO program are mainly about making their work more efficient improving work flow, standardization of process and well organized documentation. With all positive feedback from the employees, ISO 9001 creates and boosts the standards that a particular office/department should cater to its clients and improves the work ethics of all employees and meet the standards of the accreditors.

Analysis of Variance

The researchers used One-way ANOVA to determine if there is a difference with the contributions of ISO 9001 among the offices. The table below shows the mean ratings about the contribution of ISO when grouped according to job category. The highest mean ratings were in Academic Employees with $M=4.53$ and $SD = 0.55$ and Management and Administration with $M=4.52$ and $SD = 0.45$. On the other hand, the lowest mean ratings were from other support staffs with $M=4.28$ and $SD = 0.48$.

Table 4. Mean & Standard Deviation of Job Category

Job Category	n	Mean	Std. Deviation
Academic Employee	10	4.53	0.55
Management and Administration	15	4.52	0.45
Co-academic Employee	29	4.48	0.83
Faculty Member	68	4.34	0.81
Other support staff	3	4.28	0.48
Total	125	4.41	0.75

The results of Analysis of Variance (ANOVA) showed that the differences among the job category are not significant with $F(4,12) = 0.397$ and p-value of 0.811.

Table 5. Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig. (p-value)
Between Groups	0.920	4	.230	.397	0.811
Within Groups	69.602	120	.580		
Total	70.522	124			

6. Conclusion

Based on the results, Resource Management have significant effect on the Contributions of ISO, $B = 0.26$, $t(120) = 2.29$, $p = 0.024$. This indicates that on average, a one-unit increase of Resource Management will increase the value of Contributions of ISO by 0.26 units. Therefore, Resource Management is the most significant factor among the components of Quality Management System which has a significant effect on the scores on the Contributions of ISO. Resource management was centered on the optimization and efficiency as it guides the management to identify and assign resources to implement, maintain and improve the Quality Management System.

Moreover, the mean rating for the success of the ISO program in improving operational efficiency in the office is 8.65 which is relatively high in the 1 – 10 rating scale. The variability of the respondents rating is generally low with $SD = 1.33$. With this very high rating on the success of ISO 9001 in the operational efficiency, the researchers concluded that ISO program really contributed on the employees of Adamson University according to their perception.

Also, employees' assessments for all the components of Quality Management System are positively correlated with both Contribution of ISO and the Ratings of Success in improving operational efficiency. All of the correlations are significant. These significant positive correlations show that the ISO program of Adamson University is associated to the success in improving operational efficiency of the employees positively.

The researcher therefore concluded that implementing ISO 9001 Quality Management System in Adamson University have big contribution in their work. The main contribution of ISO 9001 Quality Management System focused on customer focus, improvement, process approach and engagement of people within the organization. Employees elaborated that ISO contributed to the operational efficiency in Adamson University by making their work more efficient, improving work flow, improving customer focus and organized process and documentations.

The results of analysis of variance (ANOVA) showed that the differences among the job category are not significant with a p-value of 0.811. This implies that there is no significant difference on the contribution of ISO 9001 on different offices in Adamson University.

The researchers therefore recommended having twice every year internal audits that will help the management review the irregularities and plan what action should be performed in order to control and solve the problems and issues immediately.

Secondly, Management should provide more training and education program to boost staff performance and productivity especially during the pandemic where there are changes in the university's process to provide quality education given that Resource Management is the most significant among others QMS principles.

Since the success and contributions of ISO program in Adamson University were being felt and observed by the employees, the researchers recommended for continuously sustaining the ISO 9001 Certification for process improvement.

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