

# Quality Management Practices Framework in Selected Water Refilling Station in Pampanga Towards Stainability of Business Operation

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## ABSTRACT

The study was conducted to determine the quality management practices in selected water refilling station in Pampanga in terms leadership, customer focus, workforce focus, and service management; and sustainability practices relative to environmental safety, return of assets, and return of equity. The researcher employed descriptive research method. The research referred to an open-access and validated tools from *Quality Management in Organizations* by D'Souza and Sequeira (2011) with variables comparing quality management practices; and researcher-made questionnaire on the sustainability practices culled from related literature. The respondents are the employees of Aqua Sparkletts Water Refilling Station. Total enumeration sampling method was applied in the selection of the respondents. The assessment of the employee-respondents were computed and quantified using the mean. Further, the tests of significant difference in the given answers by the respondents were done through the use of the T-test and ANOVA. Findings indicate that quality management practices were practiced to a very high extent by the company. Demographic profile variables of the respondents do not moderate the quality management practices which resulted to the acceptance of the hypotheses. Sustainability of the water refilling station in terms of environmental safety, return on assets and equity are assessed to a very high extent which affect the quality management practices. Recommendations and quality management framework for sustainability of water refilling station were offered.

**Keywords:** *Quality Management Practices, Sustainability, Water Refilling Station*

## I. INTRODUCTION

Total Quality Management (TQM) was originated in the United States in the 1960s and then adopted, promoted, and developed in Japan. It has improved Japanese companies' competence rapidly, hence boosting the Japanese economy. After that, TQM has gained popularity all over the world, and has further evolved into new quality management methods such as Performance Excellence Model (PEM). The concept of "quality" has also gradually evolved from product quality of a single product to service quality, operation quality, development quality, etc. (Wang, H., 2020)

Quality experts state that ineffective leadership can hinder and even destroy efforts to implement total quality management (TQM). Without sound leadership, the quality control process would be likely far less effective. A firm may have all the industry "best practices" employed, but it takes internal leadership to take quality management to a level that will put the firm in the best possible position to succeed (Verma, 2014). The role of leadership in quality management is a major part of any organizational developmental strategy. If the leader can maintain an environment that fosters employee responsibility, the organization will be more likely to meet their quality output goals because each individual will be involved in firm's advancement.

According to Sukdeo (2017), Quality specialists such as Deming, Juran and Crosby, have recognized customer focus as the key to continuous quality improvement in organizations. In their comprehensive review of literature, reports that customer focus had received the widest coverage. The importance of customer focus is the principal point of any quality initiative. The goal of satisfying customers is fundamental to TQM, and the goal could be achieved by an organization's attempt to design and deliver products and services that fulfil customer needs. Customer focus is critical to TQM since it is the customer who dictates the level of quality they want to receive. This means that organizations have to listen to their customers, collect information from their customers and, by analyzing this information, determine the needs and expectations of customers

For TQM to be successful, employees must buy into the processes and system. This includes clearly communicating across departments and leaders what goals, expectations, needs, and constraints are in place. A company

adopting TQM principles must be willing to train employees and give them sufficient resources to complete tasks successfully and on time. TQM also strives to reduce attrition and maintain knowledgeable worker (Barone, 2023)

The importance of service quality and the significance of a quality management system can't be overstated. By managing services' quality, a company develops a support structure for its entire business. High-quality service management in the form of a QMS immediately demonstrates to customers and prospects that your company is seriously committed to meeting their needs, which is a distinct competitive advantage. <https://www.smithers.com/resources/2022/september/the-importance-of-service-quality-management>.

Service quality is a measure of how an organization delivers its services compared to the expectations of its customers. Customers purchase services as a response to specific needs. They either consciously or unconsciously have certain standards and expectations for how a company's delivery of services fulfills those needs. A company with high service quality offers services that match or exceed its customers' expectations (Research Gate, 2023).

This study is significant to the researcher being the owner of the water refilling station which contributes to TQM literature by presenting empirical data on the TQM strategies that work in the water refilling station in Pampanga Philippines and how TQM can be utilized to be a source of competitive advantage and sustainability of business operation.

## II. RESEARCH METHODS

This study is quantitative research. It tested objective theories by examining the relationship among variables. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analyzed using statistical procedures (Creswell, 2009; Kharbach, 2023).

## III. RESULTS AND DISCUSSION

Table 1 presents the mean score and verbal interpretation on the extent of quality management practiced by the water refilling station in Pampanga in terms of leadership.

**Table 1. Mean Score and Verbal Interpretation on the Extent of Quality management Practiced by the Water Refilling Station in Pampanga in terms of LEADERSHIP**

The heads of the company	Mean	Interpretation
1. employ a tradition of visionary and innovative leadership.	4.47	Very High Extent
2. stay true to the core values while changing and improving quality.	4.73	Very High Extent
3. create an environment for empowerment, agility and learning.	4.37	Very High Extent
4. extend cordial relationship and collaboration with administrative/operational level.	4.50	Very High Extent
5. assert code of conduct for the workforce in the organization.	4.63	Very High Extent
<b>Overall Rating</b>	<b>4.54</b>	<b>Very High Extent</b>

**Legend:**

**5 - 4.21- 5.00 - Very High Extent**

**4 - 3.41- 4.20 - High Extent**

**3 - 2.61- 3.40 - Moderate Extent**

**2 - 1.81- 2.60 - Low Extent**

**1 - 1.00- 1.80 - Very Low Extent**

The respondents assessed the quality management in terms of leadership as practiced to a *very high extent* as revealed in the overall rating of 4.54. The indicator, *stay true to the core values while changing and improving quality* was rated the highest mean score of 4.73 interpreted as practiced to a very high extent; while statement, *create an environment for empowerment, agility and learning* was rated with the lowest mean score of 4.37 interpreted as practiced to a very high extent. It is worthy to note that all indicator statements for leadership were all assessed as "practiced to a very high extent". This implies that leadership of the company is very good based on the ratings given in each of the indicators presented in Table 1.

The above findings are indicative of the vision of the company to grow and sustain its leadership in alkaline ionized water distribution in the Province of Pampanga by providing the best customer service experience to their clients by delivering beneficial products that exceed their expectations while ensuring a balanced and caring culture for all customers in Pampanga.

As cited by Panda, (2021): Leadership is one of the eight principles of total quality management. Experts believe that leadership is a fundamental component that can be used to continually improve the performance of organizations. Leadership behavior is central in planning and organizing workflow processes, offering guidance to employees, solving problems, and mobilizing support systems to achieve the desired performance improvement. The role of leadership in quality management is a major part of any organizational developmental strategy. If the leader can maintain an

environment that fosters employee responsibility, the organization will be more likely to meet their quality output goals because each individual will be involved in firm's advancement.

Table 2 presents the mean score and verbal interpretation on the extent of quality management practiced by the water refilling station in Pampanga in terms of *customer focus*.

**Table 2. Mean Score and Verbal Interpretation on the Extent of Quality management Practiced by the Water Refilling Station in Pampanga in terms of CUSTOMER FOCUS**

The company	Mean	Interpretation
1. employs a customer-oriented culture that embeds customer satisfaction throughout organizational practices.	4.43	Very High Extent
2. actively monitors and seeks feedback from customers regarding its services.	4.63	Very High Extent
3. deals with high integrity and fairness on our customer service.	4.53	Very High Extent
4. has an effective management process for solving customers' complaints.	4.50	Very High Extent
5. systemically and regularly measure the extent of customer satisfaction.	4.63	Very High Extent
<b>Overall Rating</b>	<b>4.54</b>	<b>Very High Extent</b>

**Legend:**

**5 - 4.21- 5.00 - Very High Extent**

**4 - 3.41- 4.20 - High Extent**

**3 - 2.61- 3.40 - Moderate Extent**

**2 - 1.81- 2.60 - Low Extent**

**1 - 1.00- 1.80 - Very Low Extent**

The respondents assessed the quality management in terms of *customer focus* as practiced to a *very high extent* as revealed in the overall rating of 4.54. The indicators: *actively monitors and seeks feedback from customers regarding its services* and *systemically and regularly measure the extent of customer satisfaction* were rated the highest mean score of 4.63 interpreted as practiced to a very high extent; while statement, *employs a customer-oriented culture that embeds customer satisfaction throughout organizational practices* was rated with the lowest mean score of 4.43 interpreted as practiced to a very high extent. It is worthy to note that all indicator statements for customer focus were all assessed as "practiced to a very high extent".

The researcher infers that customer focus is one of the salient features of quality management which the company maintains in their operation. This is shown in the company's systematic evaluation of customer satisfaction through feedback with regard to the services rendered to them.

Quality specialists such as Deming, Juran and Crosby, have recognized customer focus as the key to continuous quality improvement in organizations. In their comprehensive review of literature, reports that customer focus had received the widest coverage. The importance of customer focus is the principal point of any quality initiative. The goal of satisfying customers is fundamental to TQM, and the goal could be achieved by an organization's attempt to design and deliver products and services that fulfil customer needs. Customer focus is critical to TQM since it is the customer who dictates the level of quality they want to receive. This means that organizations have to listen to their customers, collect information from their customers and, by analyzing this information, determine the needs and expectations of customers (Sukdeo, 2017).

Table 3 presents the mean score and verbal interpretation on the extent of quality management practiced by the water refilling station in Pampanga in terms of *workforce focus*.

**Table 3. Mean Score and Verbal Interpretation on the Extent of Quality management Practiced by the Water Refilling Station in Pampanga in terms of WORKFORCE FOCUS**

The company	Mean	Interpretation
1. allows employees to discuss work-related issues with immediate supervisor.	4.33	Very High Extent
2. employs effective job matrix system for employees 'professional development.	4.4	Very High Extent
3. provides employees with adequate and satisfactory trainings that are related to current jobs.	4.23	Very High Extent
4. employs a comprehensive system that motivates staff and helps them attain career development.	4.53	Very High Extent
5. provide a conducive working environment for organized and flexible job.	4.57	Very High Extent
<b>Overall Rating</b>	<b>4.41</b>	<b>Very High Extent</b>

**Legend:**

**5 - 4.21- 5.00 - Very High Extent**

**4 - 3.41- 4.20 - High Extent**

**3 - 2.61- 3.40 - Moderate Extent**

**2 - 1.81- 2.60 - Low Extent**

**1 - 1.00- 1.80 - Very Low Extent**

Quality management in terms of workforce focus was assessed by the respondents as *practiced to a very high extent* as revealed by overall rating of 4.41. As glean from table 3, statement *provide a conducive working environment for organized and flexible job* was rated with the highest mean score of 4.57, interpreted as practiced to a very high extent. It is worthy to note that all indicators were assessed as “practiced to a very high extent” which implies that the company provides good working condition to their employees as evidenced by the very good rating given by the respondents in each of the indicator statements as presented in Table 3.

The workforce environment can encompass a variety of factors such as the structure of work, the physical environment, and services and rights available to employees. The workforce environment in TQ encourages the need for employee fulfillment in their job. The workforce is the most dynamic resource in an organization. It dominates the operation process to ensure that an organization performs its daily operations effectively and efficiently (Sabella et al., 2014) to maintaining a high level of quality can be achieved by bringing out the best talents and capabilities of a enhanced through a variety of organizational development practices such as employee training, involvement, empowerment, recognition, teamwork, etc. Where an organization has a high level of workforce focus, the requirements of employees are noticed (i.e. comfortable working environment, self-improvement opportunities, etc.), which in turn will generate greater work performance and increase morale and satisfaction. In the long run, this approach will enhance the organization’s productivity and ultimately its performance (Valmohammadi & Roshanzamir, 2015).

Table 4 presents the mean score and verbal interpretation on the extent of quality management practiced by the water refilling station in Pampanga in terms of *service management*.

**Table 4. Mean Score and Verbal Interpretation on the Extent of Quality management Practiced by the Water Refilling Station in Pampanga in terms of SERVICE MANAGEMENT**

The company	Mean	Interpretation
1. Handles respond to queries with sense of urgency	4.40	Very High Extent
2. ensures efficiency and effectiveness in service processes.	4.50	Very High Extent
3. gives sufficient support service to clients without delay	4.27	Very High Extent
4. has effective methods to improve its service delivery process.	4.37	Very High Extent
5. incorporates new technology into related processes.	4.43	Very High Extent
<b>Overall Rating</b>	<b>4.39</b>	<b>Very High Extent</b>

**Legend:**

- 5 - 4.21- 5.00 - Very High Extent**
- 4 - 3.41- 4.20 - High Extent**
- 3 - 2.61- 3.40 - Moderate Extent**
- 2 - 1.81- 2.60 - Low Extent**
- 1 - 1.00- 1.80 - Very Low Extent**

As presented in Table 4 above the quality management in terms of *service management* yielded an overall mean rating of 4.39, interpreted as *practiced as very high extent* with indicator statement, *ensures efficiency and effectiveness in service processes* rated with the highest mean score of 4.50 assessed as *practiced to a very high extent*. Most the indicators obtained high rating with verbal interpretation of “practiced to a very high extent”. This implies that the company renders quality service to their clients as they ensure efficiency and effectiveness in their processes.

Service quality management is an integrative management philosophy that aims to close the gaps between customer expectations and the quality of processes and services. Practitioners of service quality management approaches understand that delivering high-quality services on a consistent basis gives a business a sustained competitive edge and the ability to continue expanding.

Quality Management (QM) is an important quality improvement philosophy that has been used by organizations all over the world to continuing success through customer satisfaction. QM emphasizes on the participation of all employees of an organization in continually improving deliverables of processes and the culture in which they work. This approach to management is considered as an important strategy aimed at satisfying the needs of customers (Karia, 2016).

**Table 5 Test of the Extent by which Quality Management Practices are Moderated by Gender**

Practices	Coefficient of R	$\chi^2$	p	Decision
Leadership	0.211(Weak)	1.39	0.498	Accept Ho
Customer Focus	0.278(Weak)	2.52	0.283	Accept Ho
Workforce Focus	0.143 (Negligible)	0.627	0.731	Accept Ho
Service management	0.243 (Weak)	1.88	0.39	Accept Ho

*Note: Not significant for  $p > 5\%$*

**Table 6. Test of the Extent by which Quality Management Practices are Moderated by Educational Attainment**

Practices	Coefficient of R	$\chi^2$	p	Decision
Leadership	0.196 (Negligible)	1.19	0.879	Accept Ho
Customer Focus	0.163 (Negligible)	0.821	0.936	Accept Ho
Workforce Focus	0.43 (Strong)	6.82	0.146	Accept Ho
Service management	0.203(Weak)	1.29	0.863	Accept Ho

Note: Not significant for  $p > 5\%$

**Table 7. Test of the Extent by which Quality Management Practices are Moderated by Age**

Practices	Coefficient of R	$\chi^2$	p	Decision
Leadership	0.455 (Strong)	7.85	0.249	Accept Ho
Customer Focus	0.508 (Strong)	10.4	0.108	Accept Ho
Workforce Focus	0.255 (Weak)	2.09	0.911	Accept Ho
Service management	0.544 (Strong)	12.6	0.049	Reject Ho

Note: significant for  $p < 5\%$

**Table 8. Test of the Extent by which Quality Management Practices are Moderated by Years of Service**

Practices	Coefficient of R	$\chi^2$	p	Decision
Leadership	0.476 (Strong)	8.81	0.185	Accept Ho
Customer Focus	0.466 (Strong)	8.32	0.215	Accept Ho
Workforce Focus	0.433 (Strong)	6.91	0.33	Accept Ho
Service management	0.470(Strong)	2.09	0.911	Accept Ho

Note: Not significant for  $p > 5\%$

### Problem 3. To what extent is the sustainability of water refilling station in terms of practices as:

**Table 9. Mean Score and Verbal Interpretation on the Extent of Sustainability of Practicing Environmental safety in the Water Refilling Station**

The company		Mean	Interpretation
1	Employ the principle of Reduce, reuse, and recycle	4.30	Very High Extent
2	Opt for paperless documents.	4.20	High Extent
3	Impose the conservation of water among employees	4.50	Very High Extent
4	Saves electricity thru natural lighting	4.33	Very High Extent
5	Makes sure waste goes to the right place	4.77	Very High Extent
Overall rating		4.42	Very High Extent

Legend:

Rating	Mean Rating	Interpretation
1	1.00 – 1.80	Very Low Extent
2	1.81 - 2.60	Low Extent
3	2.61 - 3.40	Moderate Extent
4	3.41 - 4.20	High Extent
5	4.21 - 5.00	Very High Extent

## IV. CONCLUSION

The research findings confirmed the benefits of total quality management practices in a water refilling station in Pampanga which is very important aspect of the sustainability of business operation.

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