


**THE IMPACT OF APPLYING QUALITY STANDARDS ON THE INTERNAL OPERATIONS
IN THE PUBLIC SECTOR IN THE SULTANATE OF OMAN**

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ARTICLE INFO	ABSTRACT
<p>Article history:</p> <p>Received 31 January 2023</p> <p>Accepted 26 April 2023</p>	<p>Purpose: The aim of this study is to identify the impact of applying quality standards on the internal operations efficiency in public sector institutions in the Sultanate of Oman along with measuring the effectiveness and efficiency of operations after applying quality standards.</p>
<p>Keywords:</p> <p>Quality Standards; Process Efficiency; Institutional Excellence; Quality.</p> <div data-bbox="172 952 480 1198" style="text-align: center;">  </div>	<p>Theoretical framework: This study focuses on the definition of quality and its history, quality standards, its types, rational behind their application, continuous improvement methodology which is Deming cycle (plan, Do, check, Act), and defining internal processes and their dimensions.</p> <p>Design/Methodology/Approach: To achieve the objective of this study , the questionnaire was used as a main tool for data collection. Questionnaires were distributed to a simple random sample of 115; 107, questionnaires were retrieved and (102) were suitable for analysis. The data was then analyzed using a variety of statistical techniques (arithmetic means and standard deviations, multiple linear regression analysis using the stepwise method, and Cronbach alpha for stability).</p> <p>Findings: The main findings in this study was identifies that prove there is a gap between quality standereds applications in planning of operations, readiness, and outputs.</p> <p>Research /Practical /Social Implications: This study is significant since it focuses on the influence of applying quality standards in terms of results and effect, specifically on processes and whether there is continuous process improvement. In social indicator it is impacting individuals satisfactions specially when speaking about the customers experience. Moreover, in econmoical indocators it is indicates improvement of the institutional performance.</p> <p>Originality/ Value: This study is distinguished from previous studies in that it focuses on the impact of applying quality standards in terms of results and effect, specifically on processes. Moreover, this study specially build based on Oman experience.</p> <p>Doi: https://doi.org/10.26668/businessreview/2023.v8i5.1608</p>

O IMPACTO DA APLICAÇÃO DOS PADRÕES DE QUALIDADE NAS OPERAÇÕES INTERNAS DO SETOR PÚBLICO NO SULTANATO DE OMÃ.

RESUMO

Objetivo: O objetivo deste estudo é identificar o impacto da aplicação de padrões de qualidade na eficiência das operações internas em instituições do setor público no Sultanato de Omã, além de medir a eficácia e eficiência das operações após a aplicação dos padrões de qualidade.

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Referencial teórico: Este estudo enfoca a definição de qualidade e sua história, padrões de qualidade, seus tipos, racional por trás de sua aplicação, metodologia de melhoria contínua que é o ciclo de Deming (planejar, fazer, verificar, agir) e definir processos internos e suas dimensões .

Desenho/ Metodologia/ Abordagem: Para alcançar o objetivo deste estudo, o questionário foi utilizado como ferramenta principal para coleta de dados. Os questionários foram distribuídos a uma amostra aleatória simples de 115; 107, os questionários foram recuperados e (102) foram adequados para análise. Os dados foram então analisados usando uma variedade de técnicas estatísticas (médias aritméticas e desvios padrão, análise de regressão linear múltipla usando o método stepwise e alfa de Cronbach para estabilidade).

Descobertas: As principais descobertas deste estudo foram identificar que existe uma lacuna entre as aplicações de padrões de qualidade no planejamento de operações, prontidão e resultados.

Pesquisa/ Implicações práticas/ sociais: Este estudo é significativo, pois enfoca a influência da aplicação de padrões de qualidade em termos de resultados e efeitos, especificamente nos processos e se há melhoria contínua dos processos. No indicador social está impactando a satisfação dos indivíduos principalmente quando se fala sobre a experiência do cliente. Além disso, em médicos endossantes é indicativo de melhoria do desempenho institucional.

Originalidade/ Valor: Este estudo se distingue de estudos anteriores por focar no impacto da aplicação de padrões de qualidade em termos de resultados e efeitos, especificamente em processos. Além disso, este estudo foi construído especialmente com base na experiência de Omã.

Palavras-chave: Padrões de Qualidade, Eficiência de Processos, Excelência Institucional, Qualidade.

EL IMPACTO DE LA APLICACIÓN DE ESTÁNDARES DE CALIDAD EN LAS OPERACIONES INTERNAS DEL SECTOR PÚBLICO EN EL SULTANATO DE OMÁN

RESUMEN

Propósito: El objetivo de este estudio es identificar el impacto de la aplicación de estándares de calidad en la eficiencia de las operaciones internas en las instituciones del sector público en el Sultanato de Omán junto con la medición de la eficacia y eficiencia de las operaciones después de aplicar los estándares de calidad.

Marco teórico: Este estudio se centra en la definición de calidad y su historia, los estándares de calidad, sus tipos, racional detrás de su aplicación, la metodología de mejora continua que es el ciclo de Deming (planificar, hacer, verificar, actuar), y la definición de procesos internos y sus dimensiones. .

Diseño/ Metodología/ Enfoque: Para lograr el objetivo de este estudio, se utilizó el cuestionario como herramienta principal para la recolección de datos. Los cuestionarios se distribuyeron a una muestra aleatoria simple de 115; 107, se recuperaron cuestionarios y (102) eran aptos para el análisis. Luego, los datos se analizaron utilizando una variedad de técnicas estadísticas (medias aritméticas y desviaciones estándar, análisis de regresión lineal múltiple utilizando el método paso a paso y alfa de Cronbach para la estabilidad).

Hallazgos: Los principales hallazgos de este estudio fueron identificados que prueban que existe una brecha entre las aplicaciones de estándares de calidad en la planificación de operaciones, la preparación y los resultados.

Implicaciones de investigación/ prácticas/ sociales: este estudio es significativo ya que se centra en la influencia de la aplicación de estándares de calidad en términos de resultados y efecto, específicamente en los procesos y si hay una mejora continua del proceso. En indicador social está impactando en las satisfacciones de los individuos especialmente cuando se habla de la experiencia de los clientes. Además, en los indicadores de encomio es indicativo de mejora del desempeño institucional.

Originalidad/ Valor: este estudio se distingue de estudios anteriores en que se centra en el impacto de la aplicación de estándares de calidad en términos de resultados y efectos, específicamente en los procesos. Además, este estudio se basa especialmente en la experiencia de Omán.

Palabras clave: Estándares de Calidad, Eficiencia de Procesos, Excelencia Institucional, Calidad.

INTRODUCTION

According to worldwide models and specifications developed for this purpose, there has recently been an increase in interest in quality management and models of institutional excellence as an organizational philosophy in government institutions. There are multiple

factors for this rise, the most important of which are the changes in the global economy brought on by the Covid-19 pandemic and the need to activate quality systems and business continuity. The administrative apparatus of the state has also slackened. In addition, Oman Vision 2040, whose primary axes include quality, governance, and institutional excellence, is in line with the structural reforms implemented to the government. Although many government institutions use quality standards to promote continuous improvement and increase operational effectiveness, there is no real monitoring of how these standards affect the institution's internal operations, including whether they have been effective in improving performance and whether staff members are aware of the positive effects these standards have on their jobs, particularly in relation to the aspect of operations and their improvement. This confirms the high rate of complaints about the service through communication and the restructuring and merging of units due to poor performance. Hence, this study working in evaluating the accuracy and the reasons leading to poor application of the standards and the failure to reach the desired results. This achieved through examining the reality and impact of applying quality specifications on internal processes in the institutions. Moreover, this study will highlight the most challenges and propose suitable solutions .

LITERATURE REVIEW

The vision of the Sultanate Oman 2040 focused on a set of axes and pillars, including “governance and institutional performance”, which seeks to establish effective frameworks for governance and the rules of law. Along with improving the effectiveness of government organizations and their level of coordination, which promotes citizens trust by establishing laws and practices, and raising the quality of operations that dictate stakeholder interactions and connections.

Therefore, this chapter focuses on the definition of quality and its history, quality standards, types, the rational behind their application, continuous improvement methodology (plan, implement, check, improve), and defining internal processes and their dimensions.

Quality

The Arabic word for quality signifies that the work was done well and at a higher level (the work is of the utmost quality and proficiency). Additionally, it entails bringing forth excellent words and deeds in LIsan Al-Arab. There are multiple interpretations for the word in English. It could refer to an aspect of perfection or a quality that characterizes unpleasantness.

For instance, it is defined as having a high level of quality or value in the Oxford dictionary. The definitions of quality have varied according to the need and the aim, but all of these are appropriate. Crosby (1979) defined it as conformity with requirements, and Joseph Juran (1989) as the suitability of the product to use the correct performance of the business from the first time and every time. He also emphasized the importance of the organization developing employee training programs (Al-Hadi, 2018) (Bahia, T. H. A. et al. 2023) , In all of the previous definitions, it can be noted that quality includes two important types:

1. Product quality: in terms of the design and characteristics that must be taken into account in the product and the extent to which it meets consumer requirements.
2. Performance quality: carrying out work according to the specified standards (Muslim, 2015).

Quality standards

With the rise of global competition, the abundance of goods, and the propensity of consumers to choose a measure of quality and reputation, the perception of quality today has changed. In 1951, the ISO organization issued the first standard specific to the industry. Since then, the standards have been updated and issued systematically. However, the biggest change was in 1987 when the organization published the quality management standards of the 9000 family, which has become one of the most widely applied standards in quality management based on several principles, including customer focus, process approach, and leadership (International Organization for Standardization, 2021).

Types of quality standards

At least 20,000 specifications and standards are currently held by the International Organization for Standardization. There are several groups, but for the sake of this study, it will only focus on the most well-known standards that are applied globally along with listing the advantages of each standard, which are as follows:

- ISO 9001: It is one of the most important standards for organizations that aims to improve the quality management system, products, and services.
- ISO 27001 Information Security: It is a standard for information security, which aims to provide a general framework for the safety of the electronic system and reduce risks.

- ISO 31000 Risk Management: It is a special framework that helps organizations and institutions to build and implement management methodologies. (Alharbi, Mohammad & Yusoff, Rushami Zien, 2012)

The expected benefits of applying quality management standard

- Raising the organization's ability to achieve customer and regulatory requirements with products and services.
- Enhancing customer satisfaction.
- Focusing on and dealing with risks and opportunities that limit achieving the organization's goals.
- Cost reduction as a result of reducing errors.
- Increasing the flexibility of the organization by dealing with all variables (internal and external).

Internal Process

The institution's internal processes are the basis and nucleus of its work and the most important part of the quality standards. It aims to improve and achieve excellence in these processes in line with customer expectations, reflected in performance efficiency and effectiveness.

The definition of process

A process is a set of coherent activities to convert inputs into outputs. It is defined by Qaqa(2015) as the final outcome of the efforts, activities, processes, or behaviors related to the aims or results that organizations seek to achieve. It has several dimensions:

- The way to provide high-quality services to the customer in less time.
- The dimension of performing the same process in terms of time and cost.
- Innovating and creating services that exceed customer expectations.

The objectives of internal processes

There is more than one aim for an internal process. (Abu Arab and Abu Swerh, 2020) believe that it has several aims:

- Developing the capabilities and practices of employees
- Matching the performance of the organization to the standards

- Improve the organization's reputation and achieve customer expectations
- A means for the organization to achieve its vision and aims

MATERIAL AND METHODOLOGY

This study relied on the descriptive analytical approach suitable to the study and its objectives to identify the impact of applying quality standards on the efficiency of operations in the public sector in the Sultanate of Oman by reviewing the theoretical literature related to quality standards and previous studies related to the subject of the study. The analytical approach in this study was based on preparing and analyzing a questionnaire using the statistical analysis software 'Statistical Package for Social Sciences and Statistical Tests – SPSS' to test the study's questions and hypotheses, reach the necessary results, and make recommendations. The questionnaire aim to answer The primary hypothesis of this study is: There is a statistically significant effect at the significance level ($\geq 00.05\%$) for applying quality standards on the efficiency of internal operations in public sector institutions in the Sultanate of Oman.

The study population consisted of a random sample of leaders and middle leadership, heads of departments, and employees in some government agencies applying quality standards. The number is (115) employees, where (115) questionnaires were distributed and (107) questionnaires were retrieved; thus, the number of unrecovered questionnaires is (8). After examining the questionnaires, (6) questionnaires were excluded because they were not valid for analysis, and (101) questionnaires were approved, i.e. (87.8%) of the study sample.

RESULTS AND DISCUSSION

Study tool

The scholar developed a questionnaire for the present study to achieve its objectives and answer its questions. Evaluative expressions were used to determine the responses of the study population on the Likert scale, and they were given the relative values shown in Table No (1).

Table (1): Likert scale scores

Scale degree	Degree of approval
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Agree	1

Source: Prepared by the authors (2023).

Likert scale was adopted to the current study tools by giving each of its paragraphs one degree out of its five degrees, which are represented numerically (1, 2,3,4, 5), respectively. The following scale was adopted for the purposes of analyzing the results:

The scale was calculated using the following equation:

$$\frac{\text{Scale upper limit (5) - Scale lower limit(1)}}{\text{Number of categories required (3)}}$$

Number of categories required (3)

$$\frac{1-5}{3} = 1.33$$

Then the answer (1.33) was added to the end of each category.

- From 1.00 to less than 2.34: Low
- From 2.34-less than 3.68: Average
- From 3.68- 5.00: High

Stability of the Tool

To ensure the stability of the tool, the internal consistency was calculated according to the Cronbach alpha equation. Table (2) shows this information, and these percentages were considered suitable for the purposes of this study.

Table (2): Internal consistency coefficient.

domains	internal consistency
Plans	0.87
Do	0.71
Check	0.75
Act \Continuous improvement	0.89
Total	0.94

Source: Prepared by the authors (2023).

Validity of the Study Tool

In this study, the face validity test was used. It is the process of ensuring that the statements involved in the study tool lead to accurate data collection (Zhao, 2004). To achieve this, the scholar presented it to a group of academic arbitrators in order to identify the clarity of the phrases used, their ease, and their comprehensiveness of the subject of the study. The scholar made the required modification to the items that were difficult to understand according to the opinions of the arbitrators.

Data Collection Methods and Sources

The scholar relied on the descriptive analytical approach and obtained information and data from the following sources:

a. secondary sources:

- 1- Books and periodicals related to the subject of the study.
- 2- literature review related to the topic.

b. Primary sources:

- 1- The information obtained through the study questionnaire.

Statistical Processing Used

The scholar relied on the following tests:

- Frequencies and ratios: They were used to find the frequency and ratios of personal and functional variables.
- Arithmetic means and standard deviations: The arithmetic mean is used to measure the average responses in the study population, and the standard deviation is used to find out the degree of values diversion from their arithmetic mean.
- Cronbach Alpha Test: This test was used to measure the internal stability and reliability of the questionnaire.
- Multiple Linear Regression Test: To test the hypotheses.
- Anova test: a one-way analysis of variance to test demographic factors on the fields of study.

Analysis of the Results

All the arithmetic means and standard deviations were calculated for the questions related to their variables, and the following tables show the responses of the study sample to the items related to each field of the study, which was as follows:

Table (3) the arithmetic mean and rank for the fields of study.

No	Domains	Arithmetic mean	Rank	Impact level
1	Planned	2.79	Second	Average
2	Implemented	3.207	First	Average
3	Tested	2.747	Third	Average
4	Improved	2.743	Fourth	Average

Source: Prepared by the authors (2023).

In order to identify each effect separately and in detail, the results were as follows:

Results Related to Dimension Plans

Table (4)

Rank	No	Items	Arithmetic mean	Standard deviation	Degree
1	1	The application of quality standards contributed to making all the organization's processes and procedures documented, available, reviewed and updated periodically	3.5	1.146	High
2	2	The organization analyzes and improves its internal operational processes according to customer requirements through feedback (questionnaires, complaints, suggestions...)	2.94	1.121	Average
3	3	The organization works to involve the staff responsible for the operations (owner of the process) in its development and studies of challenges and solutions	2.88	1.125	Average
4	4	When designing the process, the organization takes into account defining the inputs, activities, and outputs for each process based on customer requirements, legal requirements, and compliance, while setting performance indicators that measure performance for each stage.	2.67	1.184	Average
5	5	The organization works on determining the level of the service agreement (SLA) to control the overlapping operations between several directorates/departments. (SLA) is to specify the appropriate time to complete each procedure in each process between the various departments.	2.43	1.152	average
6	6	The organization works to ensure that employees and service centers are ready for new processes and procedures before announcing them to customers through awareness, training and providing the necessary resources	2.33	1.226	Low
		Planning	2.79	1.159	Average

Source: Prepared by the authors (2023).

Table (4) shows the arithmetic mean and standard deviations. The arithmetic means ranged between (2.33-3.5), as Paragraph No. (1) The application of quality standards

contributed to making all the organization's processes and procedures documented, available, reviewed and updated on a regular basis." ranked first with an arithmetic mean of (3.5) and a high degree, while Paragraph No(6) "The organization works to ensure that employees and service centers are ready for new operations and procedures before announcing them to customers through awareness, training and provision of the necessary resources" ranked last, with an arithmetic mean of (2.33) and a lesser degree.

Results related to the implementation dimension

Table (5): The arithmetic means and standard deviations of the items related to the implementation dimension, arranged in descending order according to the arithmetic means.

Rank	No	Items	Arithmetic means.	Standard deviation	Degree
1	2	The application of specifications and standards of quality and institutional excellence contributed to reducing the time / cost of services provided to customers	3.28	1.106	Average
2	3	The application of specifications and standards of quality and institutional excellence contributed to increasing the rate of customer satisfaction with operations	3.27	1.029	Average
3	1	The organization works to innovate, build, and develop electronic systems that help simplify procedures, and improve the performance and control of operations.	3.07	1.243	Average
		Implementation	3.207	1.126	Average

Source: Prepared by the authors (2023).

Table (5) shows the arithmetic means and standard deviations. Arithmetic means ranged between (3.07-3.28). Item (2), which states "The application of quality specifications and standards and institutional excellence contributed to reducing the time/cost of service provided to customers" came in the first place with a mean of (3.28) and an average degree. Item (1) "the enterprise works to innovate, build and develop electronic systems that help simplify procedures and improve the performance and control of operations" ranked last with a mean of (3.07) and an average degree.

Findings Related to Test Dimensions

Table (6): the arithmetic means and standard deviations of the items related to the examination dimension, arranged in descending order according to the arithmetic means.

Rank	No	Items	Arithmetic means	Standard deviations	Degree
1	1	The organization works periodically and within a special program to apply quality audit / internal evaluation to monitor the commitment of employees to implement operations and to identify opportunities for improvement.	3.05	1.081	Average
2	3	The Board of Directors \ Head of the Unit \ Senior Management of the institution is briefed on the results of the evaluation and audit of operations on a regular basis and work to issue the necessary recommendations in this regard.	2.85	1.004	Average
3	2	The organization works to address the root causes of non-conformities in operations and ensure that they do not recur	2.34	1.219	Average
		Testing	2.747	1.101	Average

Source: Prepared by the authors (2023).

Table (6) shows the arithmetic means and standard deviations. The arithmetic means ranged between (3.05-2.34). Item No. (1), stating “The organization works periodically and within a special program to apply quality audit / internal evaluation to monitor the commitment of employees to implement operations and to identify opportunities for improvement”, ranked first, with an arithmetic mean of (3.05) and an average degree. In contrast, item (2) “The organization works to address the root causes of non-conformities in operations and ensure that they do not recur” came last, with an arithmetic means of (2.34) and an average degree.

Results Related to Continuous Improvement Dimension

Table No. (7) The arithmetic means and standard deviations of the items related to the continuous improvement dimension, arranged in descending order according to the arithmetic means.

Rank	No	Items	Arithmetic means	Standard deviations	Degree
1	1	The organization works on reviewing the process's outputs / feedback / results and using them in defining improvement plans.	2.82	1.053	Average
2	2	The organization reviews / updates the documented procedures on a regular basis, including performance and risk indicators for each process.	2.71	1.089	Average
3	3	The institution monitors the change of operations in accordance with the approved procedures, and there are special and approved standards for making any change in operations.	2.7	1.109	Average
		Continuous improvement	2.743	1.084	Average

Source: Prepared by the authors (2023).

Table (7) shows the arithmetic means and standard deviations. Means ranged between (2.7-2.82), where item No. (1), which states, “The organization works on reviewing the outputs/feedback/results of the process and using them in defining improvement plans,” came in the first rank, with an arithmetic mean of (2.82) and an average degree. Item No (3) - “The institution monitors operations change operations in accordance with the approved procedure, and there are special and approved standards for making any change in operations” - came in the last place, with an arithmetic mean of (2.7) and an average degree.

Results of Testing the Study Hypothesis

The hypothesis states:

- There is a statistically significant effect at the level of significance ($\geq 00.05\%$) for the application of quality standards on the efficiency of internal operations in the public sector institutions in the Sultanate of Oman.

Table No. (8) Multiple regression for the application of quality standards on the efficiency of internal processes.

Statement	R correlation	R2 The coefficient of determination	T	DF degrees of freedom	Sig. Statistical significance
The application of quality standard on the efficiency of internal operations in public sector institutions in the Sultanate of Oman	0.637	0.406	3.520	100	0.00

Source: Prepared by the authors (2023).

The correlation is statistically significant at the level ($0.05 \geq \alpha$) and the tabular F value is 1.66.

Table (8) shows the impact of applying quality standards on the efficiency of internal operations in public sector institutions in the Sultanate of Oman. It turns out that the calculated value of T is (3.520) while its tabular value is (1.66). Comparing the values reached in testing this hypothesis, it can be noticed that the calculated value is greater than the tabular value. Moreover, the value of the significance level sig was (0.00), and the correlation coefficient R (0.637) at the level of significance ($0.05 \geq \alpha$). Further, the coefficient of determination R2 was (0.406), which means accepting the hypothesis that states, "there is a statistically significant effect at the level of significance ($\geq 00.05\%$) for the application of quality standards on the efficiency of internal operations in public sector institutions in the Sultanate of Oman."

DISCUSSION

By analyzing and testing the hypothesis of the study, the following results were reached:

There is a statistically significant effect at the significance level ($\geq 00.05\%$) for the application of quality standards on the efficiency of internal operations in public sector institutions in the Sultanate of Oman.

The results indicate that all the dimensions, planning, implementation, testing, and improving the operations came at an average level, and the following were noticed through the questionnaire:

The weakness of government institutions' readiness with the programs and services before launch, which violates the clause of the ISO specification: planning change.

The difference in confirming the monitoring of results among the targeted sample indicates weakness in the monitoring, measurement, tracking processes, and the participation of staff in the results and impact.

The results focused on the low level of corrective action and the failure to search for the root causes of non-conformity, which indicates the recurrence of errors and the failure of management and auditors to take the necessary action in this regard due to poor qualification and appropriate training.

Failure to benefit from the results of operations performed for improvement and failure to monitor change, which means not adjusting the degree of application of specifications and limiting it to compliance without focusing on impact.

CONCLUSION

After considering the issues discussed in the literature and evaluating the data and making conclusion, the following set of findings was reached :

This thesis has demonstrated that the implementation of quality standards in the public sector can have a positive impact on the internal operations of the organization and Quality standards can help to improve the efficiency and effectiveness of the organization, as well as the quality of services provided. Quality standards can also help to reduce costs, improve customer satisfaction,. Quality standards can also help to ensure that the organization is meeting its goals and objectives.

Quality must be integrated into institutions' policies and strategic plans and be one of the pillars of planning, with increased interest of public sector institutions senior management in quality to lead transformation processes towards institutional excellence.

Operations must be improved according to the Voice of Action (VOC) analysis of needs and expectations to ensure they are met and exceeded.

The need to train the staff to use quality tools in the analysis of the results of operations, such as Pareto analysis, cause-and-effect diagram, and control to enable them to search for the root causes of non-conformity and the quality gap in operations and raise their levels of participation in the application of specifications.

The need to create specialized departments in public sector institutions to manage work procedures and readiness to be responsible for ensuring the readiness of employees to apply new processes and provide appropriate training and required skills before the official application of the process. This reduces errors and resistance to change, in addition to monitoring change processes with procedures, forms, and systems.

Monitoring the risks of operations and identifying appropriate responses, which contributes to reducing the effects resulting from poor monitoring of operations and improving the ability to measure efficiency and effectiveness with it.

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