

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY: APPLIED BUSINESS AND EDUCATION RESEARCH

2023, Vol. 4, No. 3, 995 – 1006

<http://dx.doi.org/10.11594/ijmaber.04.03.29>

Research Article

Impact of Quality Management System Practices on the Business Performance of a Government Corporation in Clark Freeport Zone, Philippines

Jherson L. Quiambao*, Karlo Nicolas G. Alvaro

Don Honorio Ventura State University, Bacolor, Pampanga, Philippines

Article history:

Submission March 2023

Revised March 2023

Accepted March 2023

*Corresponding author:

E-mail:

jhersonquiambao@gmail.com

ABSTRACT

Quality Management System [QMS] is an emerging management philosophy that takes its course amid today's competitive and dynamic global markets where quality becomes a critical factor of business excellence. Discovering its value as a success factor, many studies were conducted to determine the level of influence of QMS practices on the business performance. Invested from the non-consensus findings from these studies and the scarcity of published papers about QMS in Philippine government corporations, the researchers conducted quantitative research in a government corporation in Clark Freeport Zone, Philippines, designed with descriptive, cross-sectional, causal-comparative framework to determine the impact of the QMS practices on its business performance. A 40-item close-ended survey instrument, tested for validity and reliability, was developed to measure the QMS practices in the context of the ISO 9001:2015 QMS, and the Business Performance in the perspectives of the Balanced Scorecard. This was accommodated by 125 respondents, representing 88% of its target population. Results revealed that the QMS practices dimensions top management leadership, customer orientation, process control and improvement, and employee engagement each had significant positive impact on each business performance perspectives financial, customer, internal business processes, and innovation and learning of the subject government corporation. Determining the influence of quality practices on business performance is significantly relevant in government corporations since these entities act as both a public sector and a business entity. It creates an opportunity for the Philippine leaders to justify the national thrust of delivering quality-oriented government service to the Filipino people.

Keywords: *Quality Management System, ISO 9001:2015, Business Performance, Balanced Scorecard, Government Corporation*

How to cite:

Quiambao, J. L. & Alvaro, K. N. G. (2023). Impact of Quality Management System Practices on the Business Performance of a Government Corporation in Clark Freeport Zone, Philippines. *International Journal of Multidisciplinary: Applied Business and Education Research*. 4(3), 995 – 1006. doi: 10.11594/ijmaber.04.03.29

Introduction

Quality is the great divider in global competition. With the steady rise of consumer consciousness on quality triggered by the expansion of the global markets, institutions are left with no other option but to integrate quality improvement in their products, services and processes, in order to meet the global demand for high quality commodity and service, and rise above the competition.

As quality is a critical determinant of excellence in the operations of any industry, having it as the standard that maintains competitive advantage (Al-Najjar & Jawad, 2011, as cited in Nurcahyo & Habiburrahman, 2021), organizations tend to conduct activities to incorporate the concept of quality in the working atmosphere—be it with the product and service, or the internal controls of the organization.

And because of this, the management of quality has become one of the most vital management practices to date.

Driven by the demand for better business performance brought about by globalization, the activities attempting to achieve a quality-oriented ways of working enforced the emergence of the concept of Quality Management System [QMS] among organizations, which according to Andreeva et al. (2019) is one path to business excellence. Theofilos and Evangelia (2020) defined QMS as the set of policies, processes and procedures required for planning and delivering in the core business area of an organization, regardless of its kind and size, be it in the production, development or service.

The application of QMS is expressed in standards. And the one that gets the global consensus in establishing the guidelines of QMS is the ISO 9001:2015 QMS standards (Ahmudi et al., 2018). It is a general notion that quality is the universal language in which a consumer assesses a product or a service (Isharyadi & Kristiningrum, 2021). Because of this, the need for a guarantor, such as the ISO, to vouch for the quality offered is sought. As a consequence, being a tangible attestation of having passed quality audits, many organizations across the world have applied in the roster of ISO-certified businesses. In the 2021 latest survey published by the ISO, it showed that there were already 1,077,884 valid certifications worldwide, and

3,481 of these were found in the Philippines (ISO, 2022).

Generally, the QMS certification is a voluntary undertaking (Bravi et al., 2019). In the Philippines, while it is generally an optional requirement, the Philippine Government enforces the virtues of the QMS standards when it required its government agencies, owned or controlled corporations, and government financial institutions attached to the executive branch to establish their own QMS and get certified (Exec. Ord. No. 605, s. 2007).

The subject of this study, for instance, is a government corporation in the Philippines, with an active ISO 9001:2015 QMS. It has a mandate of operating and managing a 2,200-hectare of government lands in the Clark Freeport Zone in the province of Pampanga, Philippines.

Initially, the subject organization had two distinct business operations: aeronautical and the non-aeronautical operations. The former refers to its mandate of operating and maintaining an airport within its area of jurisdiction while the latter is the mandate of developing the idle lands within its jurisdiction that is surrounding this airport.

However, in August 2019, the national government privatized the operation and maintenance of the airport within its jurisdiction, thus, leaving the development of the area around it as its main line of business. Hence, to date, the subject organization solely generates revenue through its real estate management function.

With this reorganization came the reclassification of the scope of its QMS. Beginning 2010 until the year 2019, the scopes of the ISO 9001 certification covered the international passenger facilitation process and the internal operating process. Then post-privatization of its airport, the scope of its ISO 9001 certification was changed into estate management and processing of lease of lands, building and structures under its jurisdiction. Its certification is valid until January 2024, subject to an annual surveillance audit conducted by an external auditing body which confers it.

Similar with the comprehensive literature review of Mahmood et al. (2014, as cited in Sweis et al., 2019), this study synthesized the quality practices of the subject organization

into four QMS practices dimensions, namely: Top Management Leadership [TML], Customer Orientation [CO], Process Control and Improvement [PCI], and Employee Engagement [EE].

The intention of keeping the organization ISO-certified is anchored on the notion that it improves business performance. Measured by the concept of Balanced Scorecard [BSC] (Mafini & Pooe, 2013; Parso et al., 2021), it seeks to improve not only the financial aspects of the operations, but rather, even the non-financial attributes that define its overall performance. Collectively, these are performance indicators are seen in four perspectives, namely: Financial Perspective [FP], Customer Perspective [CP], Internal Business Processes Perspective [IBPP], and Innovation and Learning perspective [ILP].

The findings of Kharub and Sharma (2018) supported this notion of causality as they conclude in their study that QMS serves as a factor on improving business performance. Donald et al. (2015) also weighed in as they state that when the QMS standards are implemented well, it can bring out radical change in the institutional performance. And while several studies had already established a significant connection between the implementation of the QMS and its impact in the performance of various organizations, there were also research papers which significantly concluded otherwise (Bakator & Čočkaló, 2018; Willar et al., 2016).

The non-consensus claims made by several authors inspired the researchers to dwell further on the causal relationship of the QMS

practices and business performance. Besides, conducting the research in the subject organization is a significant initiative considering that there are still only few studies choosing service industries as their subject, and a quasi-government at that. More so, the novelty of the study is also backed up by the fact that among the 105 government corporations across the Philippines (DAP, 2020), no published study on QMS on them is available to date. Moreover, the scarcity of published papers focusing on quasi-government such as the subject organization even encouraged the researchers to pursue this unexplored field. And most importantly, to relate the concepts of QMS with business performance through the perspectives of the BSC is beneficial in assisting the agency and similar government arms on their continuous quality improvement programs and future policy making on the standardization of government service processes.

Research Framework

The researchers anchored this study on the IV-DV framework adapted from previous research studies that examined the impact of quality practices on business performance (Anggadini et al., 2021; Maqsood et al., 2019), as illustrated in Figure 1.

Dimensions of QMS practices were used as independent variables, namely: TML, CO, PCI, and EE. The dimensions of BSC were used as the dependent variables, namely: FP, CP, IBPP, and ILP.

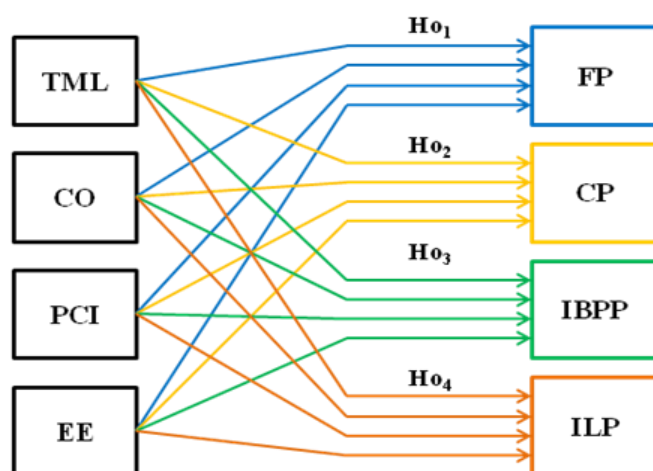


Figure 1. Research Framework

Hypotheses

Ho₁: Each QMS practices dimension has no significant impact on Financial Perspective.

Ho₂: Each QMS practices dimension has no significant impact on Customer Perspective.

Ho₃: Each QMS practices dimension has no significant impact on Internal Business Processes Perspective.

Ho₄: Each QMS practices dimension has no significant impact on Innovation and Learning Perspective.

Methods

Designs

This study utilized quantitative research that is a combination of a descriptive, causal-comparative and action research designs. It was carried out by obtaining information from the respondents on their discernment of the QMS practices and their assessment of the business performance of the subject organization.

Instrument

The researchers initially developed the instrument to measure the dimensions of the QMS practices and the dimensions of the Business Performance. It underwent and passed content validity test and reliability test Content Validity test was performed with the three quality and academic experts from the Don Honorio Ventura State University, while the Reliability test was performed through a pilot study conducted in a government agency in the province of La Union, Philippines.

All dimensions yielded acceptable Cronbach's alphas which were the bases of the reliability of the developed instrument. Nunnally and Bernstein (1994, as cited in Sousa et al., 2009) recommended that for a tool to be reliable, the Cronbach's Alpha should have a 0.70 minimum value. The computed Cronbach's Alpha coefficients of the eight dimensions used in this study were: TML – 0.73; CO – 0.81; PCI – 0.81; EE – 0.88; FP – 0.84; CP – 0.92; IBPP – 0.95; and ILP – 0.95, respectively.

The instrument was finalized into a 40-item close-ended survey instrument with a four-point Likert Scale where each variable is measured with five questions or indicators.

Respondents

Using convenience and purposive sampling methods, the researchers involved the population of the subject organization as its respondents. The study was conducted among its employees located at the Clark Freeport Zone in the Province of Pampanga, Philippines with employee-employer relationship. The basis of the delimitation of the job level was determined based on the level of involvement of said personnel in the QMS practices.

Scopes and Limitations

The scope of the study covered only the employees working in subject organization, located at the Clark Freeport Zone in the province of Pampanga in June 2022.

Also, the instrument developed was specifically designed to solicit the insights of internal stakeholders of the subject organization on the following constructs: TML, CO, PCI, EE, FP, CP, IBPP, and ILP.

The context of each statement or indicator in the instruments suggests that only those respondents with access to information exclusively available within the organization can answer them. This means that the instrument cannot be used to measure the opinion of the external stakeholders such as regulators and customers.

And last, the data obtained in this study satisfied the following set criteria: 1) they were consistent with the research designs utilized; and 2) the data were processed through the statistical software program Statistical Package for the Social Sciences [SPSS].

Response Rate

The researchers collected 100% of the 142 survey forms disseminated and achieved an 88% response rate (125 out of 142) which is an acceptable value when compared to the prescribed rate in general management research papers suggested by Mellahi and Harris (2016) which is above 50%.

Eleven respondents answered the survey questionnaire via online while the rest responded through printed questionnaires.

Table 1 shows the overwhelming support of the respondents coming from the employees with permanent designations accounting for

the 94% average response rate (103 out of 110) among the target population where casual project employees are excluded.

Sixty nine percent (22 out of 32) response rate from the project employees was also accounted for.

The researchers also noted that the 17 (12%) excluded survey forms consisted of three spoiled forms due to incompleteness and 14 survey forms which were returned blank.

Table 1. Response Rate

Employment Type	Administered Forms	Completed Forms	Response Rate
Executive	5	4	80%
Middle Management	18	18	100%
Supervisory	16	16	100%
Rank and File	69	63	91%
Project Employees	32	22	69%
Co-terminus	2	2	100%
Total	142	125	88%

Source: Researchers' collected data

Ethical Consideration

The researchers acknowledge the importance of data privacy, copyright, and freedom of access to information for government reports, and therefore, facilitated all communications necessary to secure permission before advancing further to any stage of the research process.

The researchers also adhered with the scope of the access to documents pursuant to the Philippines' prevailing policies on access to information, data privacy and government disclosures.

Statistical Treatment

First, descriptive analyses were performed by computing the population mean and the population standard deviation of each variable used in this study.

Second, to determine the individual strength of causality of each QMS dimension on the perspectives of the BSC, as a basis of the inferential analyses, the researchers performed individual regressions using the statistical program SPSS version 26 of the IBM.

It was the most applicable model since the researchers compared each of the four independent variables against each of the four dependent variables.

As a rule of thumb, a direct causality is established if p-value is less than 0.05 and t-value is greater than 1.96, using a 95% confidence interval.

Results and Discussion

Descriptive Analyses of the Variables Used

The researchers sought to analyze the scores obtained from the respondents about the QMS practices of the subject organization in view of the principles of the ISO 9001:2015 QMS.

Table 2 summarizes the computed mean and standard deviation where results show that the respondents assess the quality practices of the subject organization to be totally sufficient when it comes to the standards of the ISO QMS, revealing an overall mean of 3.44 favoring a strong agreement to the indicators, and an overall standard deviation of 0.52 which indicates that the data were only slightly dispersed while leaning toward the affirmative side of the scale.

Table 2. Mean and Standard Deviation of the QMS Practices Dimensions

QMS	Population Mean	Adjectival Equivalent	Population Standard Deviation
TML	3.45	Totally Sufficient	0.50
CO	3.41	Totally Sufficient	0.52
PCI	3.41	Totally Sufficient	0.54
EE	3.47	Totally Sufficient	0.53

Note. N=125 (n=125 for each dimension); Source: Researcher’s collected data; Likert Scale: Chang, 1994 and Jones & Linderman, 2014.

The researchers also analyzed the scores obtained from the respondents on how they assessed its business performance in view of the perspectives of the BSC.

Table 3 collectively shows the computed mean and standard deviation where the results denote that the respondents consider the subject organization to be excellent in all of the

performance indicator aspects used in this study, even revealing an overall mean of 3.34 favoring a strong agreement in the indicators, and an overall standard deviation of 0.58 which indicates that the data were only slightly dispersed while leaning toward the affirmative side of the scale.

Table 3. Mean and Standard Deviation of the BSC Perspective Dimensions

BSC	Population Mean	Adjectival Equivalent	Population Standard Deviation
FP	3.40	Excellent	0.59
CP	3.35	Excellent	0.57
IBPP	3.32	Excellent	0.58
ILP	3.28	Excellent	0.59

Note. N=125 (n=125 for each dimension); Source: Researchers’ collected data; Likert Scale: Chang, 1994 and Mousavi et al., 2019.

Inferential Analyses of the Effect of QMS Practices on Financial Perspective

The researchers tested if the QMS Practices have significant impacts on the financial perspective of business performance of the subject organization. Table 4 collectively shows the results of individual regressions performed to the variables where it was determined that each QMS practices dimension has significant effect on financial perspective.

First, on the regression of TML on FP, it was observed that there is very strong evidence of causality where a change of one standard deviation in the TML corresponds to a 0.673 standard deviation change on the FP (t = 10.088, p = 0.000). On the other hand, FP equals to 0.950 when the value of TML is zero. This result is consistent with the study Psomas and Jaca (2016) who explored the causality of both variables.

Second, on the regression of CO on FP, it was observed that there is very strong evidence

of causality where a change of one standard deviation in the CO creates a 0.639 standard deviation change on the FP (t = 9.214, p = 0.000). On the other hand, FP is valued at 0.950 when the CO is zero. This is similar with the result observed by Chege and Bett (2019) on the role of CO in improving finances.

Third, on the regression of PCI on FP, it was observed that there is very strong evidence of causality where a change of one standard deviation in the PCI corresponds to a 0.739 standard deviation change on the FP (t = 12.176, p = 0.000). On the other hand, FP equals to 0.601 when the value of PCI is zero. Opposite to the result, the literature review of Dieste et al. (2021) disclosed that there were opposing results on the account of PCI having a stand-alone impact on the financial metrics of the organizations reviewed.

And last, on the regression of EE on FP, it was observed that there is very strong evidence of causality where a change of one standard

deviation in the CO creates a 0.710 standard deviation change on the FP ($t = 11.196, p = 0.000$). On the other hand, FP is valued at 0.724 when the EE is zero.

This result is similar with the study of Mui-ruri (2016) among the public sector organizations where it was concluded that the implementation of the QMS results to improved employee participate which had later on positive effect on organization performance had measured in financial indicators.

In an overall assessment, the researchers also observed that out of the four independent variables examined, the PCI had the highest level of influence ($\beta = 0.739, t = 12.176, p\text{-value} = 0.000$) while the CO had the lowest level of influence on FP ($\beta = 0.639, t = 9.214, p\text{-value} = 0.000$).

This gives emphasis to the importance of process-focused quality improvements as a way to improve financial performance.

Table 4. Regression Coefficient of QMS Practices and Financial Perspective

	Unstandardized Coefficient		Standardized Coefficient	T value	P value
	B	S.E.	Beta		
(Const.)	0.950				
TML	0.710	0.070	0.673	10.088	0.000
(Const.)	0.852				
CO	0.748	0.081	0.639	9.214	0.000
(Const.)	0.601				
PCI	0.822	0.068	0.739	12.176	0.000
(Const.)	0.724				
EE	0.772	0.069	0.710	11.196	0.000

Note. Dependent Variable: Financial Perspective. Significant if: $p < 0.05; t > 1.96$

Inferential Analyses of the Effect of QMS Practices on Customer Perspective

The researchers examined if the QMS Practices have significant impacts on the financial perspective of the business performance of the subject organization. Table 5 collectively shows the results of individual regressions performed to the variables revealing that each QMS practices dimension has significant effect on customer perspective.

First, on the regression of TML on CP, it was observed that there is very strong evidence of causality where a change of one standard deviation in the TML corresponds to a 0.692 standard deviation change on the CP ($t = 10.640, p = 0.000$). On the other hand, CP equals to 0.791 when the value of TML is zero. A strong association between TML and CP was also determined by past study of Psomas and Jaca (2016).

Second, on the regression of CO on CP, it was observed that there is very strong evidence of causality where a change of one standard deviation in the CO creates a 0.645 standard

deviation change on the CP ($t = 9.360, p = 0.000$). Meanwhile, in a study in Korea, the role of customer data management in the QMS was observed to significantly affect customer satisfaction (Kim, 2020).

Third, on the regression of PCI on CP, it was observed that there is very strong evidence of causality where a change of one standard deviation in the PCI corresponds to a 0.681 standard deviation change on the CP ($t = 10.314, p = 0.000$). On the other hand, CP equals to 0.732 when the value of PCI is zero. The study of Gębczyńska and Wolniak (2018), however, revealed that process maturity doesn't drive customer satisfaction.

And last, on the regression of EE on CP, it was observed that there is very strong evidence of causality where a change of one standard deviation in the CO creates a 0.646 standard deviation change on the CP ($t = 9.388, p = 0.000$). On the other hand, CP is valued at 0.879 when the EE is zero. This result is similar with the study of Joannes (2020) where it was determined

that employee involvement significantly influenced customer satisfaction.

In an overall assessment, it was observed that the strongest level of influence on CP was determined to be the practices that relate to TML ($\beta = 0.692$, $t = 10.640$, $p\text{-value} = 0.000$)

while the weakest was the CO ($\beta = 0.645$, $t = 9.360$, $p\text{-value} = 0.000$). As the subject organization mostly serves foreign and domestic locators it being a real estate agency, investment considerations are always entailed in customer assessments.

Table 5. Regression Coefficient of QMS Practices and Customer Perspective

	Unstandardized Coefficient		Standardized Coefficient	T value	P value
	B	S.E.	Beta		
(Const.)	0.791				
TML	0.742	0.070	0.692	10.640	0.000
(Const.)	0.739				
CO	0.767	0.082	0.645	9.360	0.000
(Const.)	0.732				
PCI	0.769	0.075	0.681	10.314	0.000
(Const.)	0.879				
EE	0.713	0.076	0.646	9.388	0.000

Note. Dependent Variable: Customer Perspective. Significant if: $p < 0.05$; $t > 1.96$

Inferential Analyses of the Effect of QMS Practices on Internal Business Processes Perspective

The researchers tested if the QMS Practices have significant impacts on the internal business processes perspective of business performance of the subject organization.

Table 6 collectively shows the results of individual regressions performed to the variables revealing that each QMS practices dimension has significant effect on internal business processes perspective.

First, on the regression of TML on IBPP, it was observed that there is very strong evidence of causality where a change of one standard deviation in the TML corresponds to a 0.660 standard deviation change on the IBPP ($t = 9.745$, $p = 0.000$). On the other hand, IBPP equals to 0.747 when the value of TML is zero.

Previous study of Fitriyani et al. (2021) aligns with this result as they determined causal relationship between TQM practices and the four perspectives of the BSC where TML had the highest level of influence.

Second, on the regression of CO on IBPP, it was observed that there is very strong evidence of causality where a change of one standard deviation in the CO creates a 0.644 standard deviation change on the IBPP ($t = 9.346$, $p = 0.000$).

On the other hand, IBPP is valued at 0.747 when the CO is zero. Similar to this finding, the importance of customer-centric business process was also the focus of the study of Trkman et al. (2015).

Third, on the regression of PCI on IBPP, it was observed that there is very strong evidence of causality where a change of one standard deviation in the PCI corresponds to a 0.691 standard deviation change on the IBPP ($t = 10.606$, $p = 0.000$). On the other hand, IBPP equals to 0.520 when the value of PCI is zero.

The results of this study were backed up by the study of Sanjaya and Mayola (2019) among state-owned enterprises as they determined positive causal relationship between the employment of TQM and business performance.

And last, on the regression of EE on IBPP, it was observed that there is a very strong evidence of causality where a change of one standard deviation in the CO creates a 0.646 standard deviation change on the IBPP ($t = 9.387$, $p = 0.000$).

On the other hand, IBPP is valued at 0.715 when the EE is zero.

Empirical studies showed that there is direct causality between employee engagement and improvement of internal business processes (Muller et al., 2018; Kasim et al., 2018).

In an overall assessment, of the four dimensions of the QMS practices, the researchers observed that the PCI has the highest level of influence in IBPP ($\beta = 0.691$, $t = 10.606$, $p\text{-value} = 0.000$) while CO has the lowest level of influence ($\beta = 0.644$, $t = 9.346$, $p\text{-value} = 0.000$).

This infers that its efficiency in the business processes is greatly related to the standardization of its procedures and the constant evaluation of these to facilitate with effective business decisions.

Table 6. Regression Coefficient of QMS Practices and Internal Business Processes

	Unstandardized Coefficient		Standardized Coefficient	T value	P value
	B	S.E.	Beta		
(Const.)	0.747				
TML	0.744	0.076	0.660	9.745	0.000
(Const.)	0.569				
CO	0.805	0.086	0.644	9.346	0.000
(Const.)	0.520				
PCI	0.821	0.077	0.691	10.606	0.000
(Const.)	0.715				
EE	0.749	0.080	0.646	9.387	0.000

Note. Dependent Variable: Internal Business Processes Perspective. Significant if: $p < 0.05$; $t > 1.96$

Inferential Analyses of the Effect of QMS Practices on Innovation and Learning Perspective

The researchers tested if the QMS Practices have significant impacts on the innovation and learning perspective of business performance of the subject organization. Table 7 collectively shows the results of individual regressions performed to the variables revealing that each QMS practices dimension has significant effect on ILP.

First, on the regression of TML on ILP, it was observed that there is very strong evidence of causality where a change of one standard deviation in the TML corresponds to a 0.651 standard deviation change on the ILP ($t = 9.509$, $p = 0.000$). On the other hand, ILP equals to 0.671 when the value of TML is zero.

The study of and Fitriyani et al. (2021) align with the result of this study as they determined that TQM practices measured in leadership affected the ILP of the BSC.

Second, on the regression of CO on ILP, it was observed that there is very strong evidence of causality where a change of one standard deviation in the CO creates a 0.620 standard deviation change on the ILP ($t = 8.757$, $p = 0.000$). On the other hand, ILP is valued at 0.559 when the CO is zero.

Completely disputing this result was found out in the research of Sadikoglu and Olcay (2014) where they did not establish any significant causality between CO and ILP.

Third, on the regression of PCI on ILP, it was observed that there is very strong evidence of causality where a change of one standard deviation in the PCI corresponds to a 0.669 standard deviation change on the ILP ($t = 9.986$, $p = 0.000$). On the other hand, ILP equals to 0.491 when the value of PCI is zero.

Related to this result, the study of Sehlin et al. (2019) revealed that a higher level of process maturity acquired through continuous improvement had higher tendency to facilitate the innovative initiative of the subject.

And last, on the regression of EE on ILP, it was observed that there is very strong evidence of causality where a change of one standard deviation in the CO creates a 0.610 standard deviation change on the ILP ($t = 8.542$, $p = 0.000$). On the other hand, ILP is valued at 0.749 when the EE is zero.

Knox and Marin-Cadavid (2022) concurs with this outcome as they established the significance of EE in innovative initiatives of public service organizations

In an overall assessment, it is observed from the regression administered that PCI has

the highest level of influence on ILP ($\beta = 0.669$, $t = 9.986$, $p\text{-value} = 0.000$) while EE has the lowest level of influence ($\beta = 0.610$, $t = 8.542$, $p\text{-value} = 0.000$).

This means that the innovation performance of the subject organization is leaning more on the development of its process management.

Table 7. Regression Coefficient of QMS Practices and Innovation and Learning Perspective

	Unstandardized Coefficient		Standardized Coefficient	T value	P value
	B	S.E.	Beta		
(Const.)	0.671				
TML	0.754	0.079	0.651	9.509	0.000
(Const.)	0.559				
CO	0.797	0.091	0.620	8.757	0.000
(Const.)	0.491				
PCI	0.817	0.082	0.669	9.986	0.000
(Const.)	0.749				
EE	0.728	0.085	0.610	8.542	0.000

Note. Dependent Variable: Innovation and Learning Perspective. Significant if: $p < 0.05$; $t > 1.96$

Conclusion

The result of the multiple individual regressions performed revealed that each QMS practices dimension is a predictor of each business performance perspective. This means that the null hypotheses which state that each QMS practices dimension has no impact on financial perspective (H_{01}), on customer perspective (H_{02}), on internal business processes perspective (H_{03}), and on innovation and learning perspective (H_{04}), are all rejected.

The descriptive assessment of the respondents collectively implies that while the subject organization performs quality practices as a requirement of the ISO standard, it essentially receive intrinsic gains clearly displayed by the improvement in the many aspects of its operations.

In other words, by keeping a functional quality management system, an organization may improve its financial condition because QMS standardizes financial control systems, it may improve its customer satisfaction rating as QMS sets systematic ways of acquiring and processing customer information, it may improve internal processes because QMS specializes in process management, and it may trigger innovation and learning initiatives because its purpose is aiming for the continuous improvement of the operations.

Establishing the causality between the QMS and the business performance is an open opportunity for government corporations in the Philippines to keep on strengthening their existing quality management systems since they are statistically proven in this study to facilitate business excellence.

Acknowledgement

The researchers recognize the valuable contributions of the members of the Graduate School Thesis Committee in the development of this research, particularly to Dr. Joan Reyes, Dr. Alma Dela Cruz, and Dr. Yuri Akiate.

Also, special regards to Dr. Enrique Baking, the President of Don Honorio Ventura University, and Dr. Dolores Quiambao, the Dean of the Graduate School, for fully supporting the researchers in this endeavor.

References

- Ahmudi, Bambang P., & Naniek, U. H. (2018). Effectiveness analysis of ISO 9001:2015 implementation at manufacturing industry. *SHS Web of Conferences*, 49(1008), 1-8. <https://doi.org/10.1051/shsconf/20184901008>
- Andreeva, T., Popova, L., Yashina, M., Babynina, L., Yaksanova, N., & Natsypaeva, E. (2019). Integration of the quality management and strategic management systems into unified management system of enterprises. *Quality Access to Success*, 20(171), 3-

8. https://pro-quest.com/open-view/b06ab419c7c6cd1465df7274bf6e0ab5/1?p_qorigsite=gscholar&cbl=1046413
- Anggadini, S. D., Surtikanti, S., Saepudin, A., & Saleh, D. S. (2021). Business performance and implementation of total quality management: A case study in Indonesia. *The Journal of Asian Finance, Economics and Business*, 8(5), 1039-1046. <https://doi.org/10.13106/jafeb.2021.vol8.no5.1039>
- Bakator, M., & Ćockalo, D. (2018). Improving business performance with ISO 9001: A review of literature and business practice. *The European Journal of Applied Economics*, 15(1), 83-93. <https://doi.org/10.5937/EJAE15-16145>
- Bravi, L., Murmura, F., & Santos, G. (2019). The ISO 9001:2015 Quality Management System standard: Companies' drivers, benefits and barriers to its implementation. *Quality Innovation Prosperity*, 23(2), 64-82. <https://doi.org/10.12776/QIP.V23I2.1277>
- Chege, S. W., & Bett, S. (2019). Total Quality Management Practices and Performance of Organizations in the Real Estate Industry, Case of Property Developers in Nairobi City County, Kenya. *International Journal of Current Aspects*, 3(IV), 14-31. <https://doi.org/10.35942/ijcab.v3iIV.44>
- Development Academy of the Philippines. (2020). *PDC 2020 Annual Report* [PDF]. <https://drive.google.com/file/d/1rGkDAE2gK1P2PY-BDOVV9CxnEYqW4BCsJ/view>
- Dieste, M., Panizzolo, R., & Garza-Reyes, J. A. (2021). A systematic literature review regarding the influence of lean manufacturing on firms' financial performance. *Journal of Manufacturing Technology Management*, 32(9), 101-121. <https://doi.org/10.1108/JMTM-08-2020-0304>
- Donald, G. I., Otieno, O. C., Obura, J., Abong'o, B., & Ondoro, C. (2015). Effect of implementing quality management system on the performance of public universities in Kenya: A case of Maseno University, Kenya. *American Journal of Business, Economics and Management*, 3(3), 145-151. <http://openscience-online.com/journal/archive?journalId=709&issueId=7090303>
- Fitriyani, Y., Aziz, Y., Rivani, R., Kaltum, U., & Sihotang, J. (2021). The Role of TQM Practice in Improving Business Performance's Pharmaceutical Industry in Indonesia. *Jurnal Manajemen Indonesia*, 21(3), 303-313. <https://doi.org/10.25124/jmi.v21i3.2791>
- Gębczyńska, A., & Wolniak, R. (2018). The impact of quality management systems on the effects of the process approach implementation. *Economic and Environmental Studies*, 18(4 (48)), 1235-1260. <https://doi.org/10.25167/ees.2018.48.4>
- International Organization for Standardization (2022). *ISO Survey 2021* [Excel]. <https://isotc.iso.org/livelink/livelink?func=ll&objId=18808772&objAction=browse&viewType=1>
- Isharyadi, F. & Kristiningrum, E. (2021). Profile of system and product certification as quality infrastructure in Indonesia. *Open Engineering*, 11(1), 556-569. <https://doi.org/10.1515/eng-2021-0054>
- Joannes, M. (2020). *The influence of Quality Management System on Customer satisfaction in Public sector: A Case Study of Government Procurement Services Agency*. Doctoral dissertation: Mzumbe University. <http://hdl.handle.net/11192/3829>
- Kasim, T., Haračić, M., & Haračić, M. (2018). The improvement of business efficiency through business process management. *Journal of Economics and Business*, 16 (1), 31-43. <https://ideas.repec.org/a/tuz/journal/v16y2018i1p31-43.html>
- Kharub, M., & Sharma, R. K. (2018). An integrated structural model of QMPs, QMS and firm's performance for competitive positioning in MSMEs. *Total Quality Management & Business Excellence*, 31(1), 1-30. <https://doi.org/10.1080/14783363.2018.1427500>
- Kim, G. S. (2020). The effect of quality management and Big Data management on customer satisfaction in Korea's public sector. *Sustainability*, 12(13), 5474. <http://dx.doi.org/10.3390/su12135474>
- Knox, S., & Marin-Cadavid, C. (2022). A practice approach to fostering employee engagement in innovation initiatives in public service organisations. *Public Management Review*, 1-26. <https://doi.org/10.1080/14719037.2022.2055775>
- Mafini, C., & Poee, D. R. (2013). Performance measurement in a South African government social services department: A balanced scorecard approach. *Mediterranean Journal of Social Sciences*, 4(4), 23-36. <https://doi.org/10.5901/mjss.2013.v4n14p23>
- Maqsood, M. B., Hussain, B., & Al Arab, M. (2019). TQM practices and their effect on non-financial performance: An empirical study of Pakistani Hospitals. *International Journal of Medical Research and Health Sciences*, 8(4), 147-162. <https://www.ijmrhs.com/medical-research/tqm->

- [practices-and-their-effect-on-nonfinancial-performance-an-empirical-study-of-pakistani-hospitals.pdf](#)
- Mellahi, K., & Harris, L. C. (2016). Response rates in business and management research: An overview of current practice and suggestions for future direction. *British Journal of Management*, 27(2), 426-437. <http://dx.doi.org/10.1111/1467-8551.12154>
- Muiruri, Z.K. (2016). Quality Management Systems and Organizational Performance: A Theoretical Review in Kenya's Public Sector Organizations. *Science Journal of Business and Management*. 4(5), 150-155. <https://dx.doi.org/10.11648/j.sjbm.20160405.12>
- Muller, R., Smith, E. & Lillah, R. (2018). The impact of employee engagement on organizational performance: A balanced scorecard approach. *International Journal of Economics and Finance Studies*, 10(2), 22-38. <https://dergipark.org.tr/en/pub/ijefs/issue/44961/558072>
- Nurchahyo, R. & Habiburrahman, Z. (2021). Relationship between ISO 9001:2015 and operational and business performance of manufacturing industries in a developing country (Indonesia). *Heliyon*, 7(1), 1-9. <https://doi.org/10.1016/j.heliyon.2020.e05537>
- Office of the President, Institutionalizing the Structure, Mechanism and Standards to Implement the Government Quality Management Program, Amending for the Purpose Administrative Order No. 161, s. 2006, Exec. Ord. No 605, s. 2007 (February 23, 2007) (Phil.). *Philippine Official Gazette*. <https://www.officialgazette.gov.ph/2007/02/23/executive-order-no-605-s-2007/>
- Parso, Pujiati, H., Bagaskoro, Sunarsi, D., Yusnaldi, Nurjaya, Affandi, A. & Anggraeni, N. (2021). Effect of ISO 9001:2015 quality management implementation in education on school performance. *Journal of Contemporary Issues in Business and Government*, 27(1), 1848-1855. https://cibg.org.au/article/8421_e4ae30c0a1a739ebb65f8c99e3818535.pdf
- Psomas, E.L. and Jaca, C. (2016), "The impact of total quality management on service company performance: evidence from Spain", *International Journal of Quality & Reliability Management*, Vol. 33 No. 3, pp. 380-398. <https://doi.org/10.1108/IJQRM-07-2014-0090>
- Sadikoglu, E., & Olcay, H. (2014). The effects of total quality management practices on performance and the reasons of and the barriers to TQM practices in Turkey. *Advances in Decision Sciences*, 2014. <http://dx.doi.org/10.1155/2014/537605>
- Sanjaya, S., & Mayola, L. (2019). The Effect of Internal Control and Total Quality Management on Organizational Performance. *Advances in Social Science, Education and Humanities Research*, 377, 61-63. <https://doi.org/10.2991/icaess-19.2019.12>
- Sehlin, D., Truedsson, M., & Cronemyr, P. (2019). A conceptual cooperative model designed for processes, digitalisation and innovation. *International Journal of Quality and Service Sciences*. <https://doi.org/10.1108/IJQSS-02-2019-0028>
- Sousa, V., Zauszniewski, J., Bergquist-Berlinger, S., Musil, C., Neese, J., and Jaber, A. (2009). Reliability, validity and factor structure of the Appraisal Self-Care Agency Scale – Revised (ASAS-R). *Journal of Evaluation in Clinical Practice*, 16, 1031-1040. <https://doi.org/10.1111/j.13652753.2009.01242>
- Sweis, R. J., Asma'a, S. I., Amayreh, I., & Al-Sayyed, N. (2019). The relationship Between Total Quality Management (TQM) implementation and organisation performance: evidence from the airlines companies in UAE. *International Journal of Information, Business and Management*, 11(1), 58. <https://www.proquest.com/open-view/dec0a8c5c6490748d61897ac340d442e/1?q-origsite=gscholar&cbl=2032142>
- Theofilos, M., & Evangelia, D. (2020). What is quality all about? In F.A. Al-Rub, P. Shihbhab & S.A. Al-Rub (Eds.), *Quality Management Systems: ISO 9001:2015*. GAVIN eBooks. P.1. <https://doi.org/10.29011/978-1-951814-01-4-002>
- Trkman, P., Mertens, W., Viaene, S., & Gemmel, P. (2015). From business process management to customer process management. *Business process management journal*. <http://dx.doi.org/10.1108/BPMJ-02-2014-0010>
- Willar, D., Trigunarysah, B., & Coffey, V. (2016), Organisational culture and quality management system implementation in Indonesian construction companies. *Engineering, Construction and Architectural Management*, 23(2), 114-133. <https://doi.org/10.1108/ECAM-02-2015-0026>