

TQM/ISO 9001 Implementation in Northern and Central Luzon State Universities

¹PATRICK C. DE LEON

ABSTRACT. This case study was conducted to investigate why and how the TQM/ISO 9001 programs were adopted in state universities in the Philippines such as Pangasinan State University, Nueva Ecija University of Science and Technology, and Central Luzon State University; what TQM and ISO 9001 meant to them; and what factors affected TQM/ISO 9001 implementation in their universities. The study found that TQM/ISO 9001 programs were intended to streamline work processes and improve the quality of services. Implementation involved the hiring of a consultant, conducting trainings, preparing and using a QMS manual, organizing internal and external audits, and receiving ISO 9001 certification from an international body. TQM was regarded as a holistic approach to the continuous improvement of work processes while ISO 9001 was perceived as an international QMS standard and a quality assessment instrument. The factors that positively affected TQM/ISO 9001 implementation were senior management commitment and/or the presence of a TQM driver; funds to operate; employee understanding and internalization; conduct of control procedures; and implementation reinforcement or complementation by the citizen's charter. Factors with negative effect were the employees' lack of commitment and discipline, and their resistance or inability to adapt to change. The study recommends programs that minimize resistance to and promote internalization of TQM/ISO 9001 adoption; and the creation of a government certifying body that can serve as an alternative to the private international certifying bodies.

Keywords: *ISO 9001, quality management system standard, Total Quality Management*

¹*Extension Programs in Pampanga and Olongapo,
University of the Philippines Diliman, Philippines
(045) 499-9970 locals 203 and 211
deleonpatrick2@gmail.com, pcdeleon1@up.edu.ph*

INTRODUCTION

In 2006, two executive issuances by the then Philippine President Gloria Macapagal-Arroyo have made the adoption of Total Quality Management (TQM) and ISO 9001 Quality Management System (QMS) standard imperative for governmental or public sector organizations. These executive issuances were Administrative Order (AO) No. 161 and Executive Order (EO) No. 605. AO No. 161 required national government agencies (NGAs), government-owned and controlled corporations (GOCCs), government financial institutions (GFIs), and local government units (LGUs) to have an ISO-aligned QMS. EO No. 605, meanwhile, mandated the adoption of ISO 9001 in NGAs, GOCCs, GFIs, LGUs, and state universities and colleges (SUCs).

A more compelling reason for TQM and ISO 9001 adoption in government has come through the issuance of Government Quality Management Committee (GQMC) Memorandum Circular (MC) Nos. 2016-1 and 2017-1. These MCs have made ISO 9001 certification or ISO-aligned QMS a requirement for the grant of a performance-based bonus (PBB) among government employees.

Viewed from a broader perspective, AO No. 161, EO No. 605, and GQMC MC Nos. 2016-1 and 2017-1 have become significant parts of the history of productivity and performance measurement and/or quality improvement programs of the Philippine Government. Arguably, this history started with the implementation of the Local Productivity and Performance Measurement System (LPPMS) in 1984 by the then Ministry of Local Government. It continued with the implementation of the Sort, Systematize, Sweep, Standardize, and Self-Discipline (5S) program of the Development Academy of the Philippines (DAP) in 1986; the Citizen's Satisfaction Index System (CSIS); the Local Development Watch (LDW); and the Local Governance Performance Management System (LGPMS) of the Department of the Interior and Local Government (DILG) in 2000, 2001, and 2004 respectively. These programs were followed by the passage and implementation of the Anti-Red Tape Act (ARTA) of 2007 (otherwise known as RA No. 9485), the Report Card Survey (RCS) and the ARTA Watch of the Civil Service Commission in 2008, and the Seal of Good Housekeeping (SGH) and the Seal of Good Local Governance (SGLG) of the DILG in 2011 and 2013, respectively. The latest addition to this history of productivity and performance measurement and/or quality improvement programs is the passage of the Ease of Doing Business and Efficient Government Service Delivery Act of 2018 (otherwise known as

RA No. 11032). These programs were used by NGAs, GOCCs, GFIs, LGUs, and SUCs in pursuing efficiency, effectiveness, and economy (3Es) in public service delivery (De Leon, 2017a, 2017b, 2018).

The objectives of this study were as follows: 1) to investigate why and how TQM and ISO 9001 were adopted in Northern and Central Luzon state universities; 2) to determine what TQM and ISO 9001 meant to them; and 3) to identify the factors that affected their TQM and ISO 9001 implementation.

This study would demonstrate that TQM and ISO 9001, despite their industrial origins, can be implemented in state universities. Thus, it can motivate SUCs and other public sector organizations to adopt TQM and ISO 9001. By documenting the experiences of three Northern and Central Luzon state universities, the study can guide other SUCs in the country in implementing TQM and ISO 9001, in complying with executive issuances and government policies on productivity and performance measurement and/or quality improvement programs, and in attaining the 3Es in public service delivery.

In the literature, TQM is defined as a comprehensive management methodology for ensuring that jobs and processes are carried out correctly, first time and every time (Morgan & Murgatroyd, 1994; Andres, 1996). It has been applied successfully by Japanese companies (Asao, 1992; Gemba Research, 2002), Indian and Iranian hospitals (Gorji & Farooque, 2011), and Philippine manufacturing firms (Perez, 1992; Zamora, 1993; Andres, 1996; Talavera, 2003, 2004, 2005, 2006), banks (Bank of the Philippine Islands, 1994), and schools (Calabon, 2000; Azanza, 2003). It has also been applied successfully by a Japanese prefectural government (Shizuoka Prefectural Government, 2013); by American school boards, police organizations, and state governments (Hunt, 1993); and by Philippine LGUs (Mariano, 1998), NGAs (Mangahas & Leyesa, 1998), GOCCs (Constantino, 2004), and educational institutions (Botuyan et al., 1993; Legaspi II, 2005).

Despite the documented successes of TQM adoption in foreign and local governmental organizations, some scholars remained skeptical about TQM's applicability in the public sector (Swiss, 1992; Morgan & Murgatroyd, 1994) and its staying power (Holzer, 1997). Some scholars saw the need to manage change in organizations (Hrebiniak, 2013; Diamante, 2014; De Guia, 2000), and to overcome resistance to changes such as those brought about by TQM implementation (Crosby, 1979; Deming, 1988; Juran, 1988; Carr & Littman, 1990; Cohen & Brand, 1993),

while some suggested that cultural change is required for a successful or sustained TQM implementation (Unson, 1992; Borja, 1993; Valdea, 1993; Prieto, 1993; Silva, 1993; Mirasol, 2004; Andres, 1996).

Standardization, a method for reducing system variance (Gitlow, Oppenheim, Oppenheim, & Levine, 2005), is another concept related to TQM. The International Organization for Standardization (ISO) is the primary international organization involved with standardization. ISO 9000 and ISO 14000 are two of the most important families of standards. ISO 9001 is used when an organization seeks to establish a QMS that provides confidence in the organization's ability to provide products that fulfill customer needs and expectations. ISO 14001, on the other hand, helps organizations to manage better the impact of their activities on the environment (ISO, 2009).

ISO certifications are usually issued by private ISO certifying bodies such as the Anglo Japanese American (AJA) Registrars Limited, Certification Europe (EC), Certification International Philippines, Incorporated (CIPI), Technischer Überwachungsverein (TUV SUD), and Business Requirement Specification (BRS). As of September 2017, a total of 52 Philippine public agencies have been certified by these ISO certifying bodies. Among them are 12 SUCs (DBM, 2017).

Perhaps one of the most important TQM scholars is Andres (1996). He gave the five phases of TQM implementation in an organization, namely: preparation, planning, assessment, implementation, and diversification. He discussed each of these phases in pages 93-327 of his book titled "Total Quality Management in the Philippine Industrial Setting," which was published in 1996. In the same book, he discussed the need to "positivize" negative Filipino values that could hinder TQM implementation such as *gaya-gaya* (copying from others) and *pagtatakip sa kakulangan* (hiding the shortcoming of others).

The United Nations (2001), meanwhile, discussed the nine implementation steps and the 20 elements of ISO 9001. The implementation steps are the following: 1) identifying goals, 2) identifying expectations, 3) identifying core activities, 4) assessing current status, 5) collecting information on ISO 9001, 6) applying ISO 9001, 7) demonstrating conformance, 8) independent audit and certification or registration, and 9) continuous review and improvement. The elements, on the other hand, are the following: 1) management

responsibility; 2) quality system; 3) contract review; 4) design control; 5) document and data control; 6) purchasing; 7) customer-supplied product; 8) identification and traceability; 9) process control; 10) inspection; 11) control of inspection, measuring, and test equipment; 12) test status; 13) control of non-conforming products; 14) corrective and preventive actions; 15) handling, storage, maintenance, and delivery of products; 16) quality records; 17) internal quality audit; 18) training; 19) servicing; and 20) statistical techniques.

Besterfield, Besterfield-Michna, Besterfield, & Besterfield-Sacre (2003), on the other hand, discussed the following key elements for TQM implementation in an organization: 1) senior management commitment and/or the presence of a TQM driver or champion; 2) quality council; 3) role of middle managers or supervisors; 4) communication; 5) training; and 6) customer, employee, and supplier surveys.

Finally, Morgan & Murgatroyd (1994) raised these objections and issues on TQM adoption in the public sector: 1) the nature of TQM being inimical to the public sector, 2) the nature of the public sector being inimical to TQM, 3) the work cultures of professional groups in the public sector being protective of their turf, 4) the more problematic customer concept in the public sector, and 5) the more complicated public service provisions. They discussed each of these objections and issues in pages 168-190 of their book titled "Total Quality Management in the Public Sector: An International Perspective," which was published in 1994.

This study's framework integrated the works of Andres (1996), Besterfield et al. (2003), and De Leon (2017a, 2017b, 2018). Andres (1996) was included in the framework because he enumerated and described the five phases of TQM implementation and argued that Filipino cultural values must be considered when implementing TQM. Besterfield et al. (2003), meanwhile, was included in the framework because they identified the six key elements for TQM implementation in an organization. Finally, De Leon (2017a, 2017b, 2018) was included in the framework because he found that the frequency and nature of leadership change affect TQM and ISO 9001 implementation, particularly in LGUs

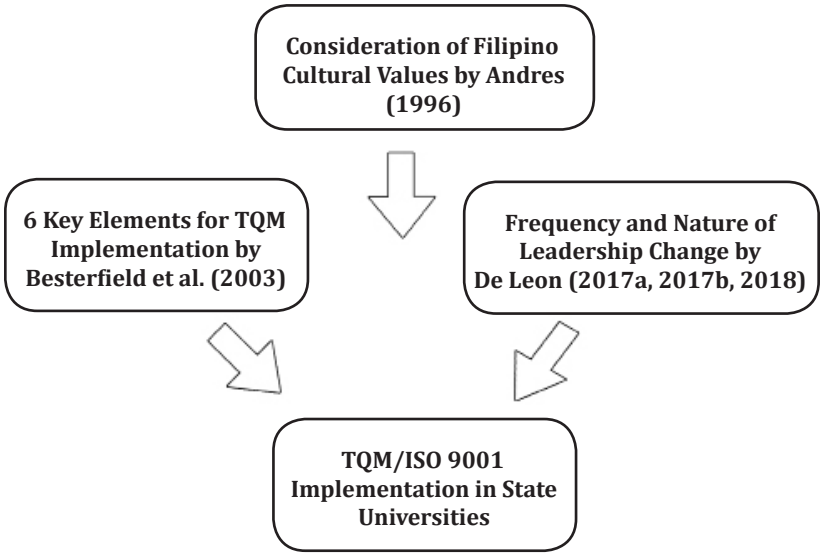


Figure 1. The framework for TQM/ISO 9001 implementation in state universities

METHODOLOGY

This research employed a case study design. The case study approach was considered because it allows an in-depth analysis of a program, event, activity, or process such as TQM/ISO 9001 implementation. A case study normally focuses on a particular organization or specific individuals (Bautista, 1998).

The unit of analysis was the state university. Three out of the 12 ISO 9001-certified SUCs in the country as of September 2017 (which were cited in the October 11, 2017 DBM report) were chosen as cases. They were the Pangasinan State University, the Nueva Ecija University of Science and Technology, and the Central Luzon State University.

Mixed methods of data collection were used in this study. Primary data on TQM/ISO 9001 implementation in the three state university cases were obtained through interviews, surveys, and field observations. Permission to conduct these data collection methods were sought from the university officials. These officials were asked to identify

the persons who can serve as interviewees or respondents (e.g., ISO Core Team members, Quality Circle members, or the officials and employees who were directly involved in the TQM/ISO 9001 implementation). The interviews and surveys were conducted with the use of a questionnaire. The checklist of the 20 ISO 9001 elements (Table 4) was used as a guide in constructing the questionnaire. Secondary data such as mission and vision statements and citizen's charters were also requested from the university officials.

Interviews and survey responses as well as field notes were encoded into a spreadsheet. Thereafter, descriptions and general themes were generated based on the reading of the qualitative data collected. These descriptions and general themes, in turn, were used in discussing the results of the study.

RESULTS AND DISCUSSION

Nueva Ecija University of Science and Technology

The Nueva Ecija University of Science and Technology (NEUST) originated from the Wright Institute in San Isidro, Nueva Ecija. The said institute offered vocational courses in woodwork and telegraphy from 1908 to 1928. The institute was renamed the Nueva Ecija Trade School in 1920, and transferred to Cabanatuan City in 1931. It was renamed the Central Luzon School of Arts and Trades in 1953 by virtue of Republic Act (RA) No. 845, and then Central Luzon Polytechnic College in 1964 by virtue of RA No. 3998. Finally, in 1998, it was renamed the Nueva Ecija University of Science and Technology by virtue of RA No. 8612 (NEUST, 2018). The main campus of the university is located in Sumacab, while the other five campuses are in General Tinio, San Isidro, Gabaldon, Atate, and Fort Magsaysay.

At the NEUST, two officials granted interviews and 11 people served as survey respondents. The two interviewees and nine of the 11 respondents are members of the TQM/ISO Core Team of the Extension Services Department and of the entire university, while the other two survey respondents are staff members of the said department. The interviews and surveys were conducted in July 2018.

The TQM/ISO 9001 program of NEUST was initiated by Dr. Rachel R. Moral. The TQM/ISO 9001 program of the NEUST was initiated

by Dr. Rachel R. Moralde, vice president for Research, Extension, and Training and formerly the Extension Services Department director. Her undergraduate, master's, and doctoral degrees are in community development, development communication, and rural development, respectively. She is considered by the study respondents as their TQM/ISO 9001 champion because she had written the operations manual for extension services long before University President Dr. Feliciano P. Jacoba ordered the adoption of TQM/ISO 9001 in her department.

The institution of NEUST's TQM/ISO 9001 program was ordered by Dr. Jacoba in 2015 to: 1) streamline the process of providing extension services to partner institutions such as LGUs and Catholic parishes, and 2) ensure the quality of their training, technical assistance, and consultancy services. Attainment of these objectives is a step closer to realizing the university's vision, mission, and core values.

The NEUST's vision is to become "a locally responsive and internationally relevant and recognized university of science and technology." Its mission is "to develop new knowledge and technologies and transform human resources into productive citizenry to bring about development impact to local and international communities." Its core values are nationalism, excellence, unity, spirituality, and transparency. The first letters of these values form the acronym of the university – NEUST. These vision and mission statements and core values are displayed on the walls of various offices and halls of the university.

According to the study respondents, their TQM/ISO 9001 implementation took six steps (Table 1) to complete and one year to acquire their ISO 9001:2015 certification from the W3 Solutionz Inc. Ltd. The certificate was issued on September 12, 2016, and it is valid for three years. The NEUST spent approximately PhP1 million to implement the program and get the certification (R. R. Moralde, personal communication, September 10, 2018).

The TQM/ISO implementation steps taken by the NEUST corresponded to Andres' phases of TQM implementation as well as the United Nation's implementation steps. Specifically, Step 1, commitment building among top university officials, corresponded to the first three TQM implementation phases (preparation, planning, and assessment) of Andres (1996). Meanwhile, Step 2, which refers to the capacity building of faculty and staff through briefings and trainings on TQM and ISO 9001, corresponded to Andres' implementation phase. They have not

Table 1. TQM/ISO 9001 implementation steps taken by the NEUST

STEP NO.	TASK
1	Commitment building among university officials (Board of Regents and Administrative Council)
2	Faculty and staff capacity building through briefings and trainings on TQM and ISO 9001
3	Preparation of forms and quality management system (QMS) manual
4	Use of forms and QMS manual
5	Conduct of internal and external audits
6	Receipt of ISO 9001:2015 certification from W3 Solutionz Inc. Ltd.

reached Andres' diversification phase yet because their TQM/ISO 9001 implementation was limited only to the Extension Services Department.

Likewise, their commitment building (Step 1) also corresponded to the steps on goals and expectations identification of the United Nations (2001). Their capacity building (Step 2) corresponded to the United Nations' step on the collection of information on ISO 9001. The preparation and use of forms and QMS manual (Steps 3 and 4) corresponded to the ISO 9001 application step of the United Nations. Finally, their conduct of internal and external audits (Step 5) and receipt of certification (Step 6) corresponded to the demonstrating conformance and independent audit and certification steps of the United Nations, respectively.

According to one of the two interviewees and nine survey respondents, utmost care was observed in the preparation and use of their QMS manual. Their QMS manual entitled "Extension Services Manual of Operations" was issued on November 22, 2016.

Aside from the manual, they also carefully designed and implemented forms for: 1) requesting extension services, 2) practical skills evaluation, 3) listing of trainees or participants, 4) terminal reporting, 5) conducting registration, 6) post activity reporting, 7) issuing certificate of appearance, 8) checking attendance, and 9) recording of an expert's profile.

For the two interviewees and 10 respondents, TQM is a holistic approach for improving the quality of services in the university. It

covers all teaching and non-teaching personnel. One survey respondent, however, did not really know what TQM means. He just knew that the acronym TQM stands for Total Quality Management.

Their concept of TQM as a holistic approach for improving service quality somewhat differs but is still consistent with Morgan and Murgatroyd's (1994) definition. For the said authors, TQM is a comprehensive management methodology for ensuring that jobs and processes are carried out correctly, first time and every time.

For the 11 respondents and one interviewee, meanwhile, ISO 9001 simply means an international QMS standard. It was Dr. Moralde – one of the two interviewees – who gave an ample explanation of ISO 9001. She said:

"ISO 9001 focuses on customer satisfaction. In our context, external customers are students and extension service beneficiaries. Internal customers, on the other hand, are the faculty and staff of the university. When implementing ISO 9001, all possible sources of complaints must be resolved. ISO 9001 is also a way to comply with all legal and statutory regulations affecting the operations of our department."

The said explanation dealt only with the NEUST Extension Services Department's contextualization and operationalization of ISO 9001. This study, however, considered ISO 9001 both as an international QMS standard and a quality assessment instrument. It was Löffler (2001) who classified ISO 9001, along with the Quality Excellence model and the citizen's charter, as a commonly used quality assessment instrument in the public sector.

Two interviewees and 11 respondents cited 1) top management commitment and 2) the understanding and internalization of all stakeholders of the university as the factors that positively affected their TQM/ISO 9001 implementation.

Besterfield et al. (2003) considered top or senior management commitment as one of the six key elements for TQM implementation in an organization. The other five were the presence of a TQM driver or champion; quality council; the role of middle managers or supervisors; communication; training; and customer, employee, and supplier surveys. Through site observations, this study found that the TQM/ISO 9001 program implementation of the NEUST's Extension Services Department

has the said six elements. Their TQM/ISO 9001 driver was Dr. Moralde. Their ISO Core Team members were the top two officials and the other nine officials and staff members of the Extension Services Department. The middle manager's role was performed primarily by Extension Services Director Marivic N. Villegas. The supervisory position was held by Consultancy Services Division Head Kenneth L. Armas.

They usually have face-to-face communication within their department. They communicate with the other departments of the university and their clients through electronic mails, letters, and memoranda. Their TQM/ISO 9001 trainings were provided by the consultant from W3 Solutionz Inc. Ltd.

They monitored the quality of their services by making their clients fill up a customer feedback form, and through the conduct of internal and external audits and management reviews. However, the study respondents did not provide data showing improvement in service quality from the time they implemented their TQM/ISO 9001 program in 2015.

Since 2015, they were able to benchmark with only one SUC – the Tarlac State University (TSU). The purpose of the said benchmarking activity was to compare their established processes with those of TSU and adopt some of TSU's best practices. Although ISO 9001 is an international QMS standard, they have not yet benchmarked with any other international QMS standard.

Respondents of the study identified lack of commitment and inability to adapt to change as the factors that negatively affected their TQM/ISO 9001 implementation. One of the two interviewees expounded:

"Some faculty and staff are neither receptive nor committed to the TQM/ISO 9001 implementation of the Extension Services Department. Some are also not adaptive to change. These things make TQM/ISO 9001 adoption difficult."

Despite the above hindrances, the respondents considered their TQM/ISO 9001 implementation successful. They attributed the success to the financial and human resources allocated by the university officials to the program. Funds for the program were appropriated yearly. These funds were augmented by LGUs and Catholic parishes that regularly availed of the NEUST's extension services. Most consistent among them is the Municipal Government of Bongabon (R. R. Moralde, personal

communication, July 2, 2018). From 2008 (seven years before its TQM/ISO 9001 adoption), the university has already been helping Bongabon in development planning, capability building, development of community associations, and management of community development.

Site observations at the Sumacab and General Tinio campuses of the NEUST showed that their TQM/ISO 9001 implementation was reinforced or complemented by their observance of the citizen's charter provisions. Their citizen's charter is posted on the wall nearest to the main gate or entrance of the school in compliance with the provisions of RA No. 9485, otherwise known as the Anti-Red Tape Act of 2007. Said law was superseded by RA No. 11032 or the Ease of Doing Business and Efficient Government Service Delivery Act of 2018. This finding indicates that citizen's charter implementation can contribute to the success of TQM/ISO 9001 implementation.

To ensure the continued success of their TQM/ISO 9001 program, one of the 11 respondents said that they would strictly monitor compliance with their established processes. They would also render further advocacy on the benefits of TQM/ISO 9001 in the hope that they can go beyond compliance and attain positive changes through its implementation.

Pangasinan State University

The Pangasinan State University (PSU) was established by virtue of Presidential Decree (PD) No. 1497 dated June 11, 1978. The PSU was formed by integrating the college-level courses of five educational institutions under the supervision of the then Department of Education Culture and Sports (DECS), and the programs of the Central Luzon Teachers College and the Western Pangasinan College of Agriculture. The five DECS-supervised institutions that became part of the PSU were the following: Asingan School of Arts and Trades, Eastern Pangasinan Agricultural College, Pangasinan College of Fisheries, Pangasinan School of Arts and Trades, and Speaker Eugenio Perez National Agricultural School (Pangasinan State University, 2018). The main campus of the PSU is located in Lingayen, while the other eight campuses are in Alaminos, Asingan, Bayambang, Binmaley, Infanta, San Carlos, Sta. Maria, and Urdaneta.

One official and three staff members of the Quality Assurance Office of the PSU Lingayen Campus granted interviews. In addition, at

least one person from the Office of the Campus Executive Director of each of the nine campuses of the university served as survey respondents. The interviews and surveys were conducted in September 2018.

The TQM/ISO 9001 program of the PSU was initiated by Dr. Dexter R. Buted. He holds a doctoral degree in business administration and is currently the University President. He is a former management executive of the Lyceum of the Philippines University (LPU) Batangas. He is considered by the study respondents as their TQM/ISO 9001 champion because he committed financial and human resources to the TQM/ISO 9001 program of the entire PSU System.

The PSU's TQM/ISO 9001 program started at the Lingayen campus in July 2016. The program's adoption was part of the implementation of their 5-year development plan. The objective of the program was to streamline the work processes in the said campus. Once the said objective is achieved, the university is expected to realize its vision, mission, and core values.

The PSU's vision is "to become an ASEAN premier state university in 2020." Its mission is "to develop highly principled, morally upright, innovative, and globally competent individuals capable of meeting the needs of industry, public service, and civil society." Its core values are as follows: accountability and transparency, credibility and integrity, competence and commitment to achieve, excellence in service delivery, social and environmental responsiveness, and spirituality. These core values are summarized by the acronym "access." These vision and mission statements and core values are displayed on the walls of various offices of the university.

According to the four interviewees and nine respondents, their TQM/ISO 9001 implementation took five steps to complete (Table 2). It took them only seven months to get their ISO 9001:2015 certification from the Anglo Japanese American (AJA) Registrars Ltd. The certification was issued on February 16, 2017 with a validity of three years. They spent around Php1 million to implement the program at the PSU Lingayen and to get the said campus ISO 9001:2015-certified. They spent Php300,000 more to cascade the program to the other eight campuses of the university and have them covered by the certification (E. M. Galas, personal communication, September 10, 2018).

The scope of their ISO 9001:2015 certification included the following: 1) tertiary education services in instruction, research,

Table 2. TQM/ISO 9001 implementation steps taken by the PSU

STEP NO.	TASK
1	Hiring of a consultant
2	Preparation
3	Implementation
4	Conduct of internal and external audits
5	Receipt of ISO 9001:2015 certification from AJA Registrars Ltd.

extension, and production; 2) university level management processes; 3) performance evaluation and improvement processes; and 4) campus support services.

Their steps 1 and 2 – hiring of a consultant and preparation – corresponded to the preparation, planning, and assessment phases of Andres (1996). Their steps 4 and 5, on the other hand, corresponded to Andres' implementation phase. According to the four interviewees and nine respondents, they had extended the program and certification to the other eight campuses of the PSU System. This implies that they followed Andres' diversification phase as well.

Likewise, their steps 1 and 2 corresponded to the first five ISO 9001 implementation steps of the United Nations (2001), namely: 1) identifying goals; 2) identifying expectations; 3) identifying core activities; 4) assessing current status; and 5) collecting information on ISO 9001. Their step 3, on the other hand, corresponded to the sixth and seventh steps of the United Nations, namely: applying ISO 9001 and demonstrating conformance, respectively. Their steps 4 and 5, meanwhile, corresponded to the United Nations' eighth step which is independent audit and certification or registration.

For all respondents, TQM pertains to the continuous improvement of processes. For them, ISO 9001 is a basic and integral part of TQM. One of the four interviewees, Quality Assurance Director Elbert M. Galas, explained further the difference between TQM and ISO 9001. He said:

“TQM is all about continuous improvement. ISO 9001 is a basic and an integral part of TQM. ISO 9001 is the initial step towards continuous improvement and covers the documentation of

all work processes. The next step is the attainment of quality excellence. That is why the PSU is now exerting efforts to qualify for the Philippine Quality Awards."

The four interviewees and nine respondents identified "the convincing power of University President Dexter R. Buted" and the funds he sought from the national government as the factors that positively affected their TQM/ISO 9001 implementation. Besterfield et al. (2003) referred to these factors as senior management commitment and/or the presence of a TQM driver. The latter is just one of Besterfield et al.'s six key elements of TQM implementation in an organization.

Site observations confirmed that the PSU's TQM/ISO 9001 program also possess Besterfield et al.'s other five key elements of TQM implementation, namely: quality council, role of middle managers or supervisors, communication, training, and surveys on internal and external customers.

Their quality council consists of the University President, the Vice President for Academic Affairs, the Vice President for Administration, the Vice President for Research and Extension, the Executive Directors of the nine campuses, the Quality Assurance Director, and the staff of the Quality Assurance Office. The middle manager or supervisor's role is performed by the Executive Directors of the nine campuses and the Quality Assurance Director.

Face-to-face communication is common within the same campus. Between and among the campuses of the PSU System, electronic mails, phone calls, text messaging, and memoranda are the usual modes of communication. The first training they had at the Lingayen campus on TQM/ISO 9001 was provided by the consultant from Rosehall Management Consultants, Inc. Subsequent trainings in the other eight campuses, meanwhile, were conducted by the Quality Assurance Office.

They were able to monitor and evaluate their performance through the conduct of internal quality audits and management reviews every end of the semester. Then, they drew and implemented action plans to correct nonconformities. Aside from internal audits and management reviews, they were also able to monitor and evaluate their performance by giving out and gathering customer feedback forms plus the conduct of external audits. The summary of the customer feedback forms, management reviews, and the audit reports, however, were not shown because these are controlled documents.

Four interviewees and six survey respondents claimed that the quality of their services improved from the time they implemented TQM/ISO 9001 in 2016. Among the tangible proofs presented are the following: 1) reduction of the time needed to complete the enrollment process from half a day to only 10 to 15 minutes per student; 2) inclusion in the list of top 10 performing SUCs of the Philippine Accrediting Association of Schools, Colleges, and Universities (PAASCU); 3) receipt of the Investors in People Award in 2017; and 4) increase in the number of institutions conducting benchmarking activities with the PSU from only two in 2015 and 2016 (before receipt of ISO 9001:2015 certification) to 25 in 2017 and 2018 (after receipt of ISO 9001:2015 certification).

In 2017, they benchmarked with the LPU Batangas because it had been ISO 9001-certified much earlier than the PSU. In 2017 and 2018, they also benchmarked with Vietnamese, Malaysian, and Thai universities.

Four interviewees and seven respondents identified culture, particularly, initial resistance, as a negative factor that affected TQM/ISO 9001 implementation. A staff of the Quality Assurance Office explained:

"When TQM/ISO 9001 was first implemented in our university, we resisted it because we knew it would entail a lot of work and adjustment on our part. Eventually, however, we have gotten used to it. I guess, we have internalized TQM/ISO 9001."

All respondents of the study considered their TQM/ISO 9001 implementation successful. They attributed the success to strong senior management commitment. They said that since 2016, the University President has not stopped committing funds and personnel to the program.

Site observations at the Lingayen campus showed that their TQM/ISO 9001 implementation is being reinforced or complemented by the compliance to their citizen's charter. Furthermore, this finding implies that citizen's charter implementation can contribute to the success of TQM/ISO 9001 implementation.

Central Luzon State University

The Central Luzon State University (CLSU) started on April 12, 1907 as a farm school named the Central Luzon Agricultural

School (CLSU, 2016). Farming methods, agricultural mechanics, and homemaking arts were taught in this farm school. On December 31, 1950, it reached college status and offered a four-year curriculum on vocational agriculture. Finally, by virtue of Republic Act No. 4067 dated June 18, 1964, it attained university status.

At the CLSU's Internal Quality Audit (IQA) Office, one official and one staff granted interviews. Four officials and 26 staff members, meanwhile, served as survey respondents. The interviews and surveys were held in October 2018.

The TQM/ISO 9001 program of CLSU was initiated in 2015 by University President Dr. Tereso A. Abella through the four vice presidents and the Internal Quality Audit (IQA) Team. Among the four vice presidents, it was Vice President for Administration Dr. Cheryl G. Ramos who did the ground work for the TQM/ISO 9001 program. Dr. Ramos obtained her BS in Biology degree from the University of Santo Tomas. She wanted to be a medical doctor but an illness prevented her from pursuing medical studies. Upon recovery from illness, she worked for the Human Resources Management Office of the Municipality of Sto. Domingo, Nueva Ecija. After a few years, she felt stagnation in her career and decided to transfer to the CLSU. At the CLSU, she has performed administrative, internal audit, planning, and teaching functions. She pursued Master's and PhD degrees in Management at the NEUST. She taught TQM to undergraduate students of the CLSU.

TQM/ISO 9001 was implemented at CLSU in order to continuously improve customer service and management, and comply with one of the requirements of the Commission on Higher Education (CHED). The requirement is to obtain ISO 9001 certification or to adopt an ISO-aligned QMS before the grant of the performance-based bonus (PBB), which is pursuant to the QMC MC Nos. 2016-1 and 2017-1.

It was relatively easy for Dr. Abella and Dr. Ramos to convince their fellow top management officials and middle managers to adopt TQM/ISO 9001. They, however, had difficulty convincing the faculty and staff to support the program. The initial resistance from these people stemmed from their fear of the required changes in work processes. They associated TQM/ISO 9001 to a lot of adjustments and departure from their established work routines (C. G. Ramos, personal communication, October 9, 2018).

Through TQM/ISO 9001 implementation, CLSU hopes to realize its vision and fulfill its mission. Its vision is to become a world-class research university for science and technology in agriculture and allied fields. Its mission is two-fold: 1) to develop globally competitive, work-ready, socially responsible, and empowered human resources who value life-long learning; and 2) to generate, disseminate, and apply knowledge and technologies for poverty alleviation, environmental protection, and sustainable development. These vision and mission statements, together with quality policy statements, are posted on bulletin boards at the main entrance gate of the university campus and on the walls and flat screen monitor of the CLSU Administration Building.

According to the study-respondents, their TQM/ISO 9001 program took five steps to implement (Table 3), two years to get their ISO 9001:2008 certification, and another year to obtain their ISO 9001:2015 certification. They spent about PhP1 million for the program, PhP700,000 of which were paid to the consultant/trainer.

Step 1 or the creation of their QMS Core Team and IQA Office was part of Andres’ (1996) preparation, planning, and assessment phases of TQM implementation. On the other hand, steps 2-5 such as training of IQAs by the consultant/trainer from the AJA Registrars Ltd., conduct of internal and external audits, and receipt of ISO 9001 certification corresponded to Andres’ implementation phase.

Table 3. TQM/ISO 9001 implementation steps taken by CLSU

STEP NO.	TASK
1	Creation of a Quality Management System (QMS) Core Team and an Internal Quality Audit (IQA) Office
2	Training of internal quality auditors (IQAs) by a consultant/trainer from the Development Academy of the Philippines (DAP)
3	Conduct of internal audit by IQAs
4	Conduct of external audit by the auditors of the Anglo Japanese American (AJA) Registrars Ltd.
5	Receipt of ISO 9001:2008 certification on May 19, 2017 and ISO 9001:2015 certification on May 19, 2018 from the AJA Registrars Ltd.

Furthermore, the creation of their QMS Core Team and IQA Office was immediately followed by the setting of their vision, mission, and quality policy statements. The latter corresponded to the United Nations' (2001) ISO 9001 implementation steps 1-4 (identification of goals, expectations, and core activities, and the assessment of current status).

The conduct of training by the consultant/trainer from the Development Academy of the Philippines corresponded to step 5 of the United Nations (2001) – collecting information on ISO 9001. The conduct of internal and external audits as well as the receipt of ISO 9001 certification from the AJA Registrars Ltd, meanwhile, corresponded to United Nations' steps 6-9 – applying ISO 9001, demonstrating conformance, independent audit and certification, and continuous review and improvement.

For the two interviewees and 30 respondents from CLSU, TQM means "continuous and sustainable improvement of the QMS, which is based on customer feedback." This TQM definition slightly differs but is still consistent with Morgan and Murgatroyd's (1994) TQM concept of a "comprehensive management methodology for ensuring that jobs and processes are carried out correctly, first time and every time."

For the 32 participants from CLSU, ISO 9001 means "an international accreditation to elevate globally an organization's standard." In this study, however, ISO 9001 is both an international QMS standard and a quality assessment instrument.

Control of documents, standardized procedures, and assessment of risks were identified by the 32 CLSU participants as the factors that positively affected TQM/ISO 9001 implementation. All three factors are the function of middle managers or supervisors. This role of middle managers or supervisors, in turn, is one of the six key elements of TQM implementation which were identified by Besterfield et al. (2003). The other five elements are senior management commitment and/or the presence of a TQM driver; quality council; communication; training; and the conduct of customer, employee, and supplier surveys.

Site observations showed that CLSU also possesses the other five elements of TQM implementation. Senior management commitment is provided by the University President, Dr. Tereso A. Abella, as well as by Vice President for Research, Extension, and Training, Dr. Fe L. Porciuncula; Vice President for Academic Affairs, Dr. Melissa E. Agulto; Vice President for Business Affairs, Dr. Edgar A. Orden; and Vice President

for Administration, Dr. Cheryl G. Ramos. It was mentioned earlier that Dr. Ramos was responsible for much of the ground work for CLSU's TQM/ISO 9001 implementation. Because of her initiatives, she was considered by 31 participants as their TQM/ISO 9001 champion.

Communication among the members of the QMS Core Team and the IQA Office was mainly in written form disseminated through electronic mails and office memoranda. Training has been continuous. Every year, the IQA Office spent about PhP 45,000.00 on training (A. F. Domingo, personal communication, October 9, 2018). Service quality was monitored through the use of customer feedback forms and the conduct of internal and external audits and management reviews. Due to their confidential nature, the summary of the customer feedback forms, management reviews, and audit reports were not shown to this study's author.

The 32 CLSU study participants, meanwhile, identified 1) the enormous time and effort that the TQM/ISO 9001 program requires and 2) the lack of discipline among the staff as the factors that can negatively affect TQM/ISO 9001 implementation. They explained that the enormous time and effort devoted to TQM/ISO 9001 implementation may hinder the normal service functions of the university. They cited violation of ISO 9001 clauses by some offices as an example of lack of discipline.

The respondents consider their TQM/ISO 9001 program successful because of the support of top management and the IQAs who assessed the status of their implementation. All 32 respondents are internal customers of the university. They regularly avail of financial support for infrastructure development and job-related trainings and seminars. Because of the use of standards, which are contained in ISO 9001 clauses, the respondents perceived that their service quality has improved from the time they had implemented TQM/ISO 9001 in 2015.

The CLSU conducted benchmarking activities with local or national institutions such as the Philippine Carabao Center in Muñoz, Nueva Ecija and the Southern Luzon State University in Lucban, Quezon. It also benchmarked with universities in Southeast Asia.

During the visits to CLSU in October 2018, observations indicated that TQM/ISO 9001 implementation was reinforced or complemented by the implementation of the citizen's charter. The University Health Service, the University Library, and the Office of Admissions are just three of the offices that exhibited their citizen's charters prominently.

CONCLUSIONS AND RECOMMENDATIONS

In Northern and Central Luzon state universities, TQM/ISO 9001 programs were initiated by university presidents or vice presidents in order to streamline work processes and improve the quality of services. Implementation of the program involved the hiring of a consultant who also served as trainer; training; preparation and use of a QMS manual; conduct of internal and external audits; and receipt of ISO 9001 certification from an international body. These implementation steps generally corresponded to Andres' (1996) five phases of TQM implementation and the United Nations' (2001) nine steps of ISO 9001 implementation. TQM/ISO 9001 adoption was costly. They spent around PHP1 million to implement the program and get an ISO 9001 certification.

TQM is defined by the state university cases in Northern and Central Luzon as a holistic approach to the continuous improvement of work processes. The definition somewhat differs but is still consistent with Morgan and Murgatroyd's (1994) TQM definition which is "a comprehensive management methodology for ensuring that jobs and processes are carried out correctly, first time and every time."

ISO 9001, on the other hand, was conceptualized in the Northern and Central Luzon state universities either as an international QMS standard or a documentation of work processes. ISO 9001, however, is not only an international QMS standard. Just like the Quality Excellence model and the citizen's charter, it is also one of the three commonly used quality assessment instruments in the public sector (Löffler, 2001).

Among the six key elements for TQM implementation given by Besterfield et al. (2003), senior management commitment and/or the presence of a TQM driver was primarily identified as a factor that positively affected TQM/ISO 9001 implementation. Commitment of funds, employee understanding and internalization of TQM/ISO 9001, conduct of control procedures and risk assessment, and reinforcement or complementation by citizen's charter implementation were the other positive factors identified in the study. Among these additional positive factors, commitment of funds was identified as the most crucial. In the case of Northern and Central Luzon state universities, funds were appropriated for the program every year. National appropriations were augmented by LGUs, parishes, and other external customers of the universities.

Lack of commitment, inability to adapt to change, resistance, and lack of discipline among the staff were identified as the factors having negative effect on TQM/ISO 9001 implementation. All four factors are related to culture which supports Andres' (1996) assertion that Filipino cultural values have to be considered when implementing TQM/ISO 9001.

In Philippine local government units, the frequency and nature of leadership change was found by De Leon (2017a, 2017b, 2018) to be a significant factor affecting TQM/ISO 9001 implementation. The same could not be said about state universities in Northern and Central Luzon. This is because their TQM/ISO 9001 drivers – the university presidents and vice presidents – have much longer and more stable tenures of office than local chief executives.

Lack of commitment, inability to adapt to change, resistance, and lack of discipline among the staff were identified in this study as negative factors affecting TQM/ISO 9001 implementation; thus, university officials should work for the elimination of these adverse factors. For instance, they should implement programs that seek to minimize faculty and staff resistance to TQM/ISO 9001 and promote its adoption and/or internalization. The essence of these programs are as follows: 1) giving autonomy to quality circle members in identifying and solving their workplace problems; 2) encouraging them to express their concerns; 3) giving them the time they need to realize the value of their participation in TQM/ISO 9001 implementation; and 4) recognizing their efforts and contributions to their organizations. It has been proven by the Shizuoka Prefectural Government (2013) that giving awards or recognition is an effective tool in making employees internalize the concepts and the value of TQM/ISO 9001. ISO 9001:2008-certified LGUs (De Leon, 2017a, 2017b, 2018) have also shown that as long as autonomy, opportunity to express problems and concerns, time to realize the value of participation, and recognition are given to employees, they would go beyond compliance and begin to internalize TQM/ISO 9001.

Finally, state universities were found to be spending about a million pesos for TQM/ISO 9001 implementation and ISO 9001 certification. This huge cost can be reduced substantially if only Section 2 of EO No. 605 was enforced. The said executive issuance calls for the development of an institutional infrastructure that shall provide an internationally accredited certification. Hence, this study recommends the creation of a government certifying body that will serve as an alternative to the private certifying bodies. This government certifying

body would function well given the mandate and resources that it needs as demonstrated by the Philippine Quality Award (PQA) Program. The PQA Program was institutionalized through RA No. 9013 and has the Department of Trade and Industry and the Development Academy of the Philippines as its lead agencies (Philippine Quality Award, 2012). The PQA Program, however, caters to public and private organizations that use the Quality Excellence TQM Model. The government certifying body that this study is proposing would exclusively cater to organizations that have adopted the ISO family of standards.

ACKNOWLEDGMENT

The author acknowledges the Office of the Chancellor and the Office of the Vice Chancellor for Research and Development of the University of the Philippines Diliman for the funding support through the PhD Incentive Award.

LITERATURE CITED

- Andres, T. Q. D. (1996). *Total quality management in the Philippine industrial setting*. Quezon City, Philippines: Giraffe Books, pp. 93-327.
- Asao, M. (1992). CWQC – Philosophy and implementation. In *Selected Papers and Proceedings, National Quality Fora, 1989-1992*. Manila: Philippine Society for Quality Control.
- Azanza, P. A. (2003). *Determinants of quality plan implementation in Maritime School Administration*. Quezon City, Philippines: College of Education, University of the Philippines Diliman.
- Bautista, V. A. (1998). *Research and public management*. Quezon City, Philippines: Office of Academic Support and Instructional Services, UP Open University. pp. 144-145.
- Besterfield, D. H., Besterfield-Michna, C., Besterfield, G. & Besterfield-Sacre, M. (2003). *Total quality management (3rd Edition)*. Columbus, Ohio and Upper Saddle River, New Jersey: Prentice Hall, pp. 32-34.
- Bank of the Philippine Islands. (1994). *Time and motion studies of OTP Batch No. 28 Trainees*. Makati City, Philippines: Training and Development Center, Bank of the Philippine Islands.

-
- Borja, M. L. Z. (1993). *Management by Filipino values*. Makati City, Philippines: Ateneo Graduate School of Business.
- Botuyan, M. J. E. et al. (1993). *A Total Quality Management study at the University of the Philippines Institute for Small Scale Industries*. Quezon City, Philippines: Department of Industrial Engineering and Operations Research, College of Engineering, University of the Philippines Diliman.
- Calabon, U. C. (2000). *Service quality and client satisfaction in selected University Libraries in Metro Manila*. Quezon City, Philippines: Institute of Library Science, University of the Philippines Diliman.
- Carr, D. K. & Littman, I. D. (1990). *Excellence in government: Total Quality Management in the 1990s*. Arlington, VA: Coopers and Lybrand.
- CLSU. (2016). About the Central Luzon State University. Retrieved from <https://clsu.edu.ph/about/index.php> on 6 October 2018.
- Cohen, S. & Brand, R. (1993). *Total Quality Management in government: A practical guide for the real world*. San Francisco, California: Jossey-Bass Publishers.
- Constantino, V. M. (2004). *An evaluation of the impact of moving customer service online: The e-GSIS experience*. Quezon City, Philippines: Technology Management Center, University of the Philippines Diliman.
- Crosby, P. B. (1979). *Quality is free*. New York, US: McGraw-Hill.
- DBM. (2017). GQMC honors ISO-certified government organizations today. Retrieved from http://www.dbm.gov.ph/?page_id=22096 on 27 October 2017.
- De Guia, F. (2000). *Culture change: Key to organizational development*. Makati City, Philippines: Florence De Guia and Associates.
- De Leon, P. C. (2017a). Sustaining Total Quality Management (TQM) in the Philippine public sector: The cases of ISO 9001:2008-certified local government units. Quezon City, Philippines: Doctoral Dissertation, National College of Public Administration and Governance, University of the Philippines Diliman.
- De Leon, P. C. (2017b). Sustaining TQM in an ISO 9001:2008-certified Philippine LGU: The Case of Calapan City. *Journal of Management and Development Studies*, 6(1), 23-42.
- De Leon, P. C. (2018). Sustaining TQM in an ISO 9001:2008-certified Philippine local government unit: The case of San Fernando City, La Union. *The Antoninus Journal: A Multidisciplinary Journal of the UST Graduate School*, March 2018, 1-20.
- Deming, W. E. (1988). *Out of crisis*. Cambridge, United Kingdom: Cambridge University Press.

- Diamante, M. M. (2014). Organizational Culture. In M. R. M. Hechanova, M. Teng-Calleja, & V. C. Villaluz. (Eds.). *Understanding the Filipino Worker and Organization*. Quezon City, Philippines: Ateneo de Manila University Press.
- Department of the Interior and Local Government. (2011). Memorandum Circular No. 2011-95. Seal of Good Housekeeping for Local Governments, CY 2011 Implementation. Quezon City, Philippines: Department of the Interior and Local Government.
- Gemba Research. (2002). *The seven wastes of production*. Tokyo, Japan: Gemba Research.
- Gitlow, H. S., Oppenheim, A. J., Oppenheim, R., & Levine, D. M. (2005). *Quality management* (3rd ed). New York, United States: McGraw-Hill Co., Inc., p. 400.
- Gorji, A. M. H. & Farooque, J. A. (2011). A comparative study of total quality management of health care system in India and Iran. Retrieved from <http://www.biomedcentral.com> on 22 August 2015.
- Holzer, M. (1997). Productivity and quality management. In J. M. Shafritz & A. C. Hyde. *Classics of public administration* (4th ed). Fort Worth, Texas: Harcourt Brace College Publishers, pp. 558-566.
- Hrebiniak, L. G. (2013). *Making strategy work: Leading effective execution and change* (2nd ed). Upper Saddle, New Jersey: Pearson Education, Inc.
- Hunt, V. D. (1993). *Quality management for government: A guide to federal, state, and local implementation*. Milwaukee, Wisconsin: ASQC Quality Press.
- ISO. (2009). Environmental management: The ISO 14000 family of international standards. Geneva: ISO. Retrieved from www.iso.org and theiso14000family_2009 on 2 October 2015.
- Juran, J. M. (1988). *Juran on planning for quality*. New York: Free Press.
- Legaspi II, J. B. (2005). An Organizational Audit of Philippine Science High School Diliman Campus using the Baldrige Education Criteria for Performance Excellence. Quezon City: Technology Management Center, University of the Philippines.
- Löffler, E. (2001). Defining quality in public administration. Riga: NISPAcee Conference (May 10-13). Retrieved from <http://upan1.un.org> on 22 August 2015.
- Mangahas, J. V. & Leyesa, M. D. L. (1998). Improving government administration through TQM. In V. A. Bautista. *Introduction to public administration in the Philippines: A reader*. Quezon City, Philippines: National College of Public Administration and Governance, University of the Philippines Diliman.

-
- Mariano, V. D. (1998). Total Quality Management and Philippine Local Government Units. In Bautista, V.A. et al. 2003. Introduction to Public Administration in the Philippines: A Reader. Quezon City: National College of Public Administration and Governance, University of the Philippines Diliman.
- Mirasol, R. M. (2004). Quality Matters: Creating a Culture of Quality. Manila: De La Salle University Press, Inc.
- Morgan, C. & Murgatroyd, S. (1994). *Total Quality Management in the Public Sector: An International Perspective*. Buckingham and Philadelphia: Open University Press, pp. 168-190.
- NEUST. (2018). Nueva Ecija University of Science and Technology Historical Background. Retrieved from <https://neust.edu.ph/index.php/administration/about-neust> on 3 July 2018.
- Office of the President of the Philippines. (2018). Republic Act No. 11032 or the Ease of Doing Business and Efficient Government Service Delivery Act of 2018. Manila: Malacañang Records Office, Office of the President of the Philippines (May 28).
- Pangasinan State University. (2018). History of the Pangasinan State University. Retrieved from <https://psu.edu.ph/history/> on 9 September 2018.
- Perez, E. V. (1992). Profitability and the cost of quality. In *Selected Papers and Proceedings, National Quality Fora, 1989-1992*. Manila, Philippines: Philippine Society for Quality Control.
- Philippine Quality Award. (2012). Philippine Quality Award brochure. Retrieved from <http://www.pqa.org.ph> on 31 August 2015.
- Prieto, M. L. J. (1993). *Management of TQM by Filipino values*. Makati City, Philippines: Ateneo Graduate School of Business.
- Shizuoka Prefectural Government. (2013). *One-for-one reform action*. Shizuoka City, Japan: Administrative Reform Division, Shizuoka Prefectural Government.
- Silva, J. A. L. (1993). *Management by Filipino values*. Makati City, Philippines: Ateneo Graduate School of Business.
- Swiss, J. E. (1992). Adapting Total Quality Management to government. *Public Administration Review*, 52(4), 356-362. Retrieved from <http://www.jstor.org> on 22 August 2015.
- Talavera, M. G. V. (2003). *Development and validation of TQM constructs: The Philippine experience*. Quezon City, Philippines: College of Business Administration, University of the Philippines Diliman.
- Talavera, M. G. V. (2004). *TQM adoption and firm performance: An empirical evaluation of selected Philippine companies*. Quezon City, Philippines: College of Business Administration, University of the Philippines Diliman.

- Talavera, M. G. V. (2005). *The TQM – Performance Link: An Exploratory Study of Selected Philippine Manufacturing Companies*. Quezon City, Philippines: College of Business Administration, University of the Philippines Diliman.
- Talavera, M. G. V. (2006). *The impact of TQM practices on the quality performance of selected Philippine manufacturing companies*. Quezon City, Philippines: College of Business Administration, University of the Philippines Diliman.
- United Nations. (2001). *Application of ISO 9000 Standards in Local Governments and Other Public Sector Organizations*. New York, United States: United Nations, pp. 34-39.
- Unson, M. R. (1992). Total Quality Management in the Philippines. In *Selected Papers and Proceedings, National Quality Fora, 1989-1992*. Manila, Philippines: Philippine Society for Quality Control.
- Valdea, M. R. E. (1993). Filipinizing a foreign management system. Makati City, Philippines: Ateneo Graduate School of Business.
- Zamora, E. A. (1993). Quality management in practice. *The Philippine Management Review*, 4(1), 21-31.