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The role of quality management system principles in developing quality culture of the Philippine maritime education and training institutions

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THE ROLE OF QUALITY MANAGEMENT SYSTEM PRINCIPLES IN DEVELOPING QUALITY CULTURE OF THE PHILIPPINE MARITIME EDUCATION AND TRAINING INSTITUTIONS

By

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Declaration

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

(Signature):.....

(Date):21st September 2021.....

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Abstract

Title of Dissertation: **Role of Quality Management System Principles in Developing Quality Culture of the Philippine Maritime Education and Training Institutions**

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This dissertation is an exploratory study of how the Quality Management System (QMS) principles help develop Quality Culture (QC) in maritime education and training institutions (METIs) under the Philippine jurisdiction. Maritime education and training (MET) governance has quality, quality assurance, and management challenges. Fostering institution-specific QC has received much attention, but practical tools or approaches to capture this essential component are lacking despite the increased interest in QC. The study identified the principles of the QMS, different understanding of quality in MET, constructs of quality assurance approaches, and styles of QC. The researcher conducted a qualitative research method and utilized online survey questionnaires to garner data on the research topic. Online survey questionnaires were disseminated to METIs' Quality Champions and MARAD Evaluators to gather their viewpoints about quality, QMS, quality assurance and QC. Examination of the data exposed that QMS principles motivate and stimulate QC practices and that these conceptions significantly impact organisational performance. The research also unfolds METIs' standpoint that quality in MET can be classified under the *fitness for purpose* category. Further, the study revealed that the Philippine METIs portray a *Regenerative* type of QC. The findings of this study indicate that when a QC is well-established within an organisation, it will improve organisational efficiency while also impacting core functions. As a result, it is necessary to advocate that both of these principles are mutually advantageous.

KEYWORDS: Quality Management System, QMS Principles, Quality Culture, Quality Assurance, METIs

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List of Abbreviations

CHED	-	Commission on Higher Education
EQM	-	External Quality Monitoring
EUA	-	European University Association
ISO	-	International Organisation for Standardization
MARAD	-	Maritime Administration
MARINA	-	Maritime Industry Authority
MET	-	Maritime Education and Training
METIs	-	Maritime Education and Training Institutions
PSG	-	Policies, Standards and Guidelines
QA	-	Quality Assurance
QC	-	Quality Culture
QMP	-	Quality Management Principles
QMS	-	Quality Management System
STCW Convention	-	International Convention on Standards of Training Certification and Watchkeeping for Seafarers, 1978, as amended

CHAPTER 1. INTRODUCTION

1.1 Background and context

In maritime education and training (MET), quality is critical. It has always been crucial for contributors in the educational and training process, despite being recurrently taken for granted. Altered situations, increasing involvement, broader access, demand on people and physical resources, assessment, audit, and evaluation have all enhanced the profile of "quality" in higher education (Harvey & Green, 1993).

The relevance of quality management and quality in higher education continues to be a constant source of concern for field researchers. With ongoing social and economic developments and greater demands of educational systems, the quality of education is becoming increasingly tied to societal needs. This focus on the requirements and expectations of diverse stakeholders necessitates compliance with particular quality standards (Osoian et al., 2010).

One of the most contentious subjects in quality is whether external evaluations are conducted for accountability or improvement. It has been established that juggling both is challenging. Regardless of the merits of this view, the implementation of internal quality systems serves as a critical counterbalance to the external accountability requirements. Institutions can benefit from a strong culture of quality; external evaluation systems can give the necessary responsibility to the public (EUA, 2006).

This research aimed to scrutinize the principles, elements and concepts of Quality Management System (QMS) whether it contributes significantly and directly affects the development of MET Quality Culture (QC). Likewise, the research will discover the definition of quality in the context of MET from METIs' perspectives.

Congruently, this study shall explore Philippine MARAD's legal requirements and practices in effective supervision of METIs maritime programs and courses.

1.2 Problem statement

The governance of higher education institutions has significant issues in terms of quality, quality assurance, and quality management. The need to foster institution-specific QC has gotten a lot of attention in this situation. However, despite the growing discussion of quality culture, practical methods or approaches that capture this fundamental construct have not been established thoroughly (Sattler & Sonntag, 2018).

A lack of awareness of the idea of QC allows for procedures that are more dominated by ideology, faith and belief than by information, assessments, and empirical investigations of the principles necessary for a more accurate picture and understanding of such a culture to develop. Thus, the point of this study is to foster a sound understanding of how to make logic of the notion of QC and its connection to the fundamental processes of MET by means of QMS.

1.3 Justification of the research

This research is purposely done to contribute valuable insight into the relevance of the QMS in QC development. The researcher believes that the QC that forms part of the METIs processes and practices in transforming students into competent and certificated seafarers is worth exploring. Per Sattler and Sonntag (2018), there is a growing interest and discussion in QC, but systematic practical ways to capture this essential notion have not been created. The outcome of this study may be beneficial in influencing administration and stakeholders' discussions towards development, improvement and implementation of current and future maritime policies towards continuous enhancement of MET.

1.4 Aims and objectives of the research

The research aims to explore the role of QMS in developing QC. The following objectives are focused on exploring the elements, factors and concepts behind the QC development through QMS:

1. To explore the QMS principles and elements and how they influence the development of Quality Culture.
2. To determine how “quality” in MET is defined and contextualised by Philippine METIs.
3. To explore the concept of “Quality Culture” in the context of the Philippine METIs.
4. To investigate the impact of MARAD's policies, standards and procedures in the development and implementation of METIs QMS as well as the development of Quality Culture.

1.5 Research questions

This study was motivated by the following research questions:

1. How do QMS principles influence the development of Quality Culture?
2. What is "quality" in MET from the perspective of METIs in the Philippines?
3. What are the significant elements of quality in the context of MET?
4. What type of Quality Culture does Philippine METIs portray?
5. How do Maritime Administration policies, standards and guidelines influence the development and implementation of METIs’ QMS and Quality Culture?

1.6 Research methodology and sources of information

This exploratory study used the qualitative research method in collecting data. In exploring how QMS affects the Philippine METs' QC, the primary step was outlining the concepts and elements of quality, QC and QMS principles. This helps generate a clear understanding and appreciation of the different elements and factors before concluding the relationship between the two constructs. This was done by researching existing literature relevant to the topics. Resources from scholarly articles, credible websites, and journals, among others, were used in the literature part of this research. Because a lot of valuable readings can be found online, resources from reliable search engines such as Google Scholar, EBSCO, Scopus, Researchgate, Academia, and Mendeley, among others, were utilised.

Congruently, the researcher took advantage of the digital copy of several relevant dissertations from the WMU's "Maritime Commons" to serve as a guide. On the other hand, primary information is gathered from quality management champions of selected METIs and the administrative personnel responsible for the supervision and implementation of the requirements of the STCW Convention.

The research questions are addressed based on the following approaches:

Research questions	Data/Sources	Data/sources collection from:	Methods/ instruments	Justification of chosen methods
1. How do QMS principles influence the development of Quality Culture? 2. What is "quality" in MET from the perspective of METIs in the Philippines? 3. What are the significant elements of quality in the context of MET? 4. What type of Quality Culture does Philippine METIs portray?	Related papers METIs perspectives MARAD Evaluators perspectives	WMU's Maritime Commons, Google Scholar, EBSCO, Scopus, Researchgate, Academia, Mendeley, among others. Quality management representatives (QMR) or authorised representatives from METIs & MARAD Evaluators	Qualitative research Survey, online questionnaire	Comparing the survey results from related papers, and then, validate, confirm, and strengthen the qualitative findings To come up with concepts, understanding and ideas based on the qualitative data
5. How do Maritime Administration policies, standards and guidelines influence the development and implementation of METIs' QMS and Quality Culture?	Existing policies, standards and guidelines; MARINA personnel's duties and responsibilities and experiences in performing their mandates METIs perspectives	Quality management representatives (QMR) or authorised representatives from METIs & MARAD Evaluators	Survey, online questionnaire	Comparing the survey results from METIs and MARAD Evaluators, and then, validate, confirm, and strengthen the qualitative findings To come up with common responses based on the qualitative data

1.7 Significance of the research

This research is very timely as there has been a limited study done in this domain. The researcher found that it is worth studying since QC is a component of METI's processes and organisational practices in developing learners into competent and certificated seafarers. Further, understanding the concept and foundation of quality and QC is significant as it enhances quality products and services (Njiro, 2016). Furthermore, the findings of this study can be beneficial in influencing administration and stakeholders' discussions about existing and future MET policies' formulation, improvement, and implementation.

1.8 Structure of the dissertation

This dissertation comprises six chapters, including the herein introduction chapter. The second chapter (Literature Review) identifies various QMS principles and elements as well as different concepts about quality, quality assurance, and Quality Culture. The third chapter (Methodology) outlines the methodology and research approach that guided this study. Whereas Chapter 4 (Research Findings) presents the findings, including figures of the result of analyses. The fifth chapter (Discussions) elaborates on the statistics given in the previous chapter. Finally, Chapter 6 delivers conclusions, limitations and enumerates recommendations for future studies.

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

This chapter explores the literature and discourses on the foundation, connection and role of QMS in developing QC of METIs. The articles selected in discussing this study mostly came from the perspectives related to higher education institutions. The articles related to quality, QC and QMS are scrutinized and analysed regarding definitions, descriptions, concepts, similarities, differences and uniqueness. Finally, each topic is concluded based on this study's selected literature, analyses, and researcher understanding.

Conceptual frameworks related to quality and quality culture development shall be discussed in this study, emphasising its connection with the QMS. The purpose of exploring the idea of conceptual frameworks is to partake in a deep understanding of the characteristics of QC and identify various factors affecting the framework. After which, questions of the empirical instrument shall be formulated and disseminated to the target group of respondents.

2.2 Quality Management System

QMS is one of the most effective tools for organisations to enhance their competitiveness. This subject has been studied extensively for a long time, beginning with Dr. Edward Deming and Dr. Joseph Juran's research and pragmatic delivery of quality management and quality mindset in businesses 60 years ago. Because global competition is expanding and entrepreneurs are looking for more competitive tools to survive and continuously improve products and services, quality management is becoming increasingly critical. Therefore, one of the most effective strategies for firms to boost their competitiveness is QMS (Priede, 2012).

QMS is a codified system that documents procedures, processes and responsibilities to accomplish eminence goals and objectives. It helps an institution's operations be coordinated and directed to meet consumer and regulatory requirements while also improving efficiency and effectiveness. Adopting a QMS is a deliberate decision that can help an organisation progress its total performance and provide a solid foundation for long-term development plans (ISO 9000, 2020).

ISO 9001 is a global standard that defines the concepts of a QMS. Organisations use the standard to demonstrate their ability to consistently produce products and services that meet the criteria of customers, stakeholders, and regulators. The current ISO 9001:2015, an international standard that outlines standards for QMS, is the typical standard series used by the METIs in the Philippines. While some people use the term "quality management system" to refer to the ISO 9001 standard or a group of documents that define the QMS, it relates to the entire system (Excellence, n.d.).

2.2.1 Quality Management System Principles (QMP)

Quality Management Principles (QMP) are key principles, standards, regulations, and values that are used to govern quality. In one definition, a "principle" is a core belief, theory, or guideline that profoundly affects how something is done (Hoyle & Thompson, 2002). Thus, QMPs can help improve an organisation's performance. ISO 9000, 9001, and other standards of quality management are based on the following QMPs.

1. **Customer Focus.** Long-term success comes from gaining and maintaining consumer and stakeholder trust. Every customer engagement is a chance to add value. Understanding current and future consumer and stakeholder needs are critical to long-term success. Customers are vital to businesses. Therefore

they must understand current and prospective client wants, requests and expectations.

2. **Leadership.** An organisation's strategy, policies, processes, and resources can all be integrated to meet specific goals. They guarantee the organisation's mission and direction are aligned. To achieve the organisation's aims fully, they should create and sustain an internal atmosphere.

3. **Engagement of people.** To work effectively and efficiently, all people must be included and valued as individuals. People are more involved in achieving quality goals when they are recognized, empowered, and given the opportunity to advance. An organisation's lifeblood is its people who assist in the achievement of common goals, such as quality targets.

4. **Process approach.** The QMS is made up of interconnected procedures on how an organisation improves design and performance. The desired result is achieved faster when activities and resources are handled as a process. The process method incorporates the PDCA (Plan-Do-Check-Act) cycle and risk-based thinking.

5. **Improvement.** Improved performance, response to changing internal and external situations as well as new opportunities are required. Continually improving the organisation's overall performance should be a long-term goal.

6. **Evidence-based decision making**. Making decisions is a challenging and uncertain process. It usually involves diverse information and their subjective interpretation. It is vital to understand cause-and-effect relationships as well as unanticipated outcomes. Informed decisions are based on facts and data analysis. Effective decisions are based on data analysis. It's vital to make informed decisions, plan revisions, and evaluate their success.

7. **Relationship management**. Stakeholders have an impact on an organisation's performance. An organisation's long-term success is more likely when it manages relationships with all stakeholders. Relationship management with suppliers and partners is vital. In a mutually beneficial relationship, both parties (including suppliers) can create value. Maintaining and improving the QMS demands open and honest communication (Hoyle & Thompson, 2002).

2.2.2 Total Quality Management (TQM) and ISO-based QMS

TQM and ISO-based QMSs have been popular since the 1980s. It is essentially a way of coordinating and assuring the entire organisation's participation, including all departments, activities, and personnel. In addition to customer focus, TQM emphasizes process focus, a well-functioning QMS, and continuous improvement (Hellsten & Klefsjo, 2000; Dotchin & Oakland, 1992). The ISO-based QMS follows the same quality management concepts like the traditional QMS. Moreover, it gives organisations guidance on guaranteeing that their products/services continuously fulfil customers' needs and that the quality of their products/services improves over time (Chen et al., 2016).

TQM is a management concept that encompasses tools and methods for improving quality and productivity, according to Chen et al. (2016). TQM's fundamental concepts aim to achieve continual organisational growth by including all employees. TQM also tries to ensure that an organisation's resources are strategically allocated to meet the needs of its customers (internal and external) by tracking results and improving decision-making. Doing the correct thing the first time, on time, continuously improving, and always pleased customers is the TQM tenet. It involves all departments and staff working together to enhance procedures and meet or exceed customer expectations.

On the other hand, the ISO-based QMS is a management standard that sets out a series of actions to improve corporate competence and customer fulfilment, allowing businesses to fulfil better the requirements of consumers, stakeholders and the regulatory requirements for their products and services. The ISO-based QMS is a globally recognised standard that any firm may adopt. This strategy has recently gained traction among several service-based organisations.

2.3 Defining Quality

Edward (2002) describes quality as something we all recognise when we see it, but expressing and explaining it is a more difficult challenge. Nevertheless, education providers are acknowledging the importance of pursuing it and delivering it to learners. Quality is becoming increasingly important in determining success or failure for organisations, whether public or private.

There are several significant difficulties associated with defining quality in the context of higher education (Schindler et al., 2015). Researchers claimed that defining quality remains challenging as it can hardly be described or quantified accurately, while others claim it subjective and dependent on individual perspectives (Martin & Stella, 2007; Mishra, 2007; Westerheidjen, Stensaker & Rosa, 2007). Thus, Schindler et al. (2015) categorise the challenge in defining quality into three concepts: an elusive term, a multidimensional concept and dynamic pursuit of excellence.

Gibson (1986), referenced by Harvey & Green (1993), portrays quality as elusive, subject to interpretation by stakeholders. Stakeholders under the educational system involves the government, university officials, faculty, students, and employers (Hewitt & Clayton, 1999). McAdam and Welsh (2000) state that educational institutions must satisfy these stakeholders. The crucial question is whether the quality concept can accommodate the varied perspectives of stakeholders on higher education quality.

Thus, involving all stakeholders in the debate may ensure that varied viewpoints and needs are included when defining quality and building a quality culture in education. Another difficulty is that quality is multidimensional (Green, 1994). According to Sahney et al. (2008), quality in education is multi-faceted (conceptualisation, assessment, and measurement) and challenging to examine from a single perspective. To improve instruction quality, identify quality dimensions and measure existing quality levels. Furthermore, higher education institutions require more effective delivery mechanisms to address quality challenges. Lastly, since quality is dynamic, the desire for greatness must be viewed in the context of the larger educational, political, social, and economic landscape (Ewell, 2010; Harvey, 2005; Harvey & Williams, 2010; Singh, 2010). This quality's emotional and moral weight makes it difficult to define. Sallis (2002) argues against more detailed definitions. The excessive scholarly investigation may undermine the concept's vitality.

Regardless of the lack of consensus, knowing the existing literature definition is critical, especially when examining meaning in a specific context like MET. In the Practical Handbook on University Autonomy, Iwinska & Matei (2014) suggest that educational institutions must and may contribute to a country's overall change and improvement. In the marine industry, METIs contribute to the Philippines' economic development by training competent seafarers globally. METIs also help the Philippines assert its identity and image as one of the world's largest suppliers of seafarers. In summary, METIs could and must fulfill a vital function in the Philippines. The next item will explore the importance of quality.

2.3.1 Why quality is important

Mishra (2007) enumerated several reasons as to why educational providers should be concerned about the quality. Quality matters because of the following:

1. *Competition*. We are entering an era of high competition for students and resources among educational institutions. Additionally, globalisation enhances academic competition.

2. *Customer satisfaction.* As educational institution customers, parents, sponsoring agencies, and students are becoming increasingly conscious of their rights and the worth they receive for their money and time. Therefore, they are demanding high-quality instruction and the acquisition of employable skills. Thus, educational institutions should consider the relevance of the courses and programs they offer.

3. *Maintaining standards.* Providers of education are continuously concerned with establishing and maintaining their standards. To keep the standard, they work diligently to improve academic operations, educational programs, and facilities.

4. *Accountability.* Each institution is accountable to its stakeholders for the use of public and private funds. Concern for quality will ensure accountability for funds spent and educate stakeholders on making sound decisions. Thus, quality can be viewed as a form of monitoring.

5. *Improve employee morale and motivation.* The quality commitment of the educational institution will enhance the morality of the employees and encourage them to carry out their tasks and responsibilities. Moreover, when a quality system is in place, internal procedures become systematic, enhancing the morale and motivation of departments to complement one another's service areas and help to improve inner client satisfaction.

6. *Credibility, prestige and status.* Suppose you are constantly concerned with quality rather than occasionally; it will lend credibility to individuals and institutions through practice, status, and brand value.

7. *Image and visibility.* Quality institutions can garner increased stakeholder support in various ways, including increased enrolment of deserving students, increased donations and grants from funding agencies, and increased employer interest in graduates for easy placement (Mishra, 2007).

Quality in MET may be defined as educational operations meant to help students accomplish their goals, meet society demands, and contribute to national progress. The Philippine MET is committed to quality education, both local and international. Furthermore, the Philippines recognises the importance of producing and protecting high-quality MET for the global maritime sector (Joint MARINA and PCG, n.d.).

2.3.2 Defining quality based on themes and categories

Since quality is often challenging to articulate, Schindler et al. (2015) noted two strategies for defining quality. The first is to develop a broad description that focuses on a single central aim, such as achieving a declared purpose or vision. Alternatively, the second approach is selecting precise indicators that reflect the intended inputs and outcomes.

When Schindler et al. (2015) examined quality definitions, several themes emerged. First, they define quality in four broad terms: purposeful, exceptional, accountable, and transformative (Table 1). The conceptualisations are consistent with the findings of prominent quality researchers (e.g. Green, 1994; Harvey & Green, 1993; Harvey & Knight, 1996), who indicate that the meaning of quality in education has remained stable over the last two decades.

Table 1

Classification of Quality

Classifications	Definitions
Purposeful	Institutional products and services adhere to a declared mission and vision, set of criteria, requirements, or standards, including those established by accrediting and/or regulatory authorities.
Exceptional	Institutional products and services attain distinction and exclusivity by adhering to stringent standards;
Accountable	Institutions are accountable to stakeholders for making the best use of available resources and delivering high-quality educational products and services with zero defects;
Transformative	Institutional products and services influence positive changes in student learning (affective, cognitive, and psychomotor domains) and personal and professional potential. (Schindler et al., 2015)

The second strategy is to identify indicators of quality. For instance, Schindler et al. (2015) classified several quality indicators into four categories: administrative, student support, instructional, and student performance indicators (Table 2). The first three categories confront anticipated inputs, whereas the final category (student performance) is more concerned with outputs, reflecting current movements in assessing student outcomes to ensure quality (Tam, 2014).

Table 2

Categories of Quality Indicators

Categories	Definitions
Administrative indicators	Pertains to the administrative functions of an institution such as developing a relevant mission and vision, establishing institutional legitimacy, achieving internal and external standards and goals, and procuring resources for optimal institutional functioning;
Student support indicators	Pertains to the availability and responsiveness of student support services (i.e., the degree to which student complaints are addressed);
Instructional indicators	Pertains to the relevance of educational content and the competence of instructors (i.e., programs and courses that prepare students for employment);
Student performance indicators	Pertains to student engagement with curriculum, faculty and staff, and increases in knowledge, skills and abilities that lead to employment (Schindler et al., 2015)

2.3.3 Conceptual Model of Quality

The quality definition requires a comprehensive strategy for identifying essential goals and outcomes and a strategy for identifying quality indicators that are used to evaluate whether the defined goals and results have been met (Schindler et al., 2015). Simultaneously, it is critical to elicit stakeholders' perspectives on the definition of quality and the indicators used to measure quality (Cullen et al., 2003). Divergent viewpoints exist over who should be considered stakeholders in higher education, depending on how the term is used narrowly or flexibly. A stakeholder, by definition, is any group or individual that can affect or is influenced by the organisation's accomplishment of its objectives (Freeman, 1984). The definition has generated a lengthy list of potential stakeholders who are frequently classified as internal (e.g.,

university leaders, employees, and possibly also students) and external (e.g. employers, government, funding agencies, auditors, accreditors, assessors and validators, including professional bodies) (Burrows, 1999). Thus, a conceptual model of quality was developed by Schindler et al. (2015), which illustrates the interrelations between strategies (broad description and indicators) and eliciting stakeholder perspectives (Figure 1).

Figure 1

Strategies for Defining Quality

Note. Adapted from the Conceptual Model of Quality Showing Broad and Specific Strategies for Defining Quality (Schindler et al., 2015)

The model illustrates the importance of taking a multifaceted approach that involves gathering stakeholder perspectives to develop a broad definition of quality and accurately selecting specific indicators that measure the conceptualisation of quality. The core of the model reflects the significance of eliciting stakeholder perspectives. The subsequent portion of the model comprises the four broad conceptualisations of

quality. Finally, the outer part of the model encompasses instances of quality indicators that could measure each of the broad conceptualisations.

2.3.4 Five ways of thinking about quality in education

Several authors have sought to explain and systematise the notion of quality in education, even though there is no generally agreed definition (Pfeffer & Coote, 1991). Thus, Harvey & Green (1993) presented “five ways of thinking about quality," rather than definitions (Figure 2), based on an examination of numerous attempts to define quality in higher education. They grouped the concept of quality into five distinct but interconnected ways of thinking about quality. Quality can be viewed as *exceptional*, *perfection*, *fitness for purpose*, *value for money*, and *transformative*. According to Matei & Iwinska (2016), the classification is commonly used in the literature and by professionals in higher education. Thus, it provides a valuable framework for thinking about the subject.

Figure 2

Categories of Quality

Note. Adapted from the Five Ways of Thinking About Quality in Higher Education (Harvey & Green, 1993)

1. **Quality as exceptional/excellence.** Quality and excellence are commonly misconstrued (Ball, 1985). Quality has been associated with rarity, specialness, and “high class”. A high-quality product elevates the owner or users' status. Quality connotes exclusivity (Pfeffer & Coote, 1991). This elitist quality attitude underpins high quality. Excellence in 'high' standards defines quality (Reynolds, 1986). Like the previous idea, it describes the components of perfection while assuring that they are nearly impossible. It is elitist in that it believes quality is only possible in certain situations. To attain excellence, only the best will suffice (Harvey & Green, 1993). To put it in the context of MET, a subject matter specialist teaches you, and the institution offers a well-equipped laboratory with modern simulators and a well-stocked library; you are likely to succeed in MET. This viewpoint values intellectual brilliance and high academic standards. By nature, hardly everyone can achieve this level of excellence.

2. **Quality as perfection or consistency.** The quality considers consistency. It focuses on processes and specifications (Ingle, 1985). Two maxims summarize this: *zero defects and do it correctly the first time*. This approach distinguishes between quality and standards (Sallis & Hingley, 1991). Quality is defined as meeting specifications. The specification is not assessed against any standards. Instead, the requirement is utilized to evaluate product or service conformance (predefined and measurable). Conformance to specification replaces fulfilling external benchmark norms. Thus, perfection becomes zero flaws (Crosby, 1979). To be perfect, everything must be in order and free of defects.

   Moreover, perfection requires constant effort. Exceptional quality assumes reliability, which becomes the vehicle for declaring excellence. A good product or service meets all requirements and is defect-free. Rather of depending on final inspection, the focus is on preventing defects at each phase. A Quality Culture is inherently linked to zero defects. Quality is seen as a way to eliminate faults and achieve consistency. Therefore, by focusing on consistency, everyone may reach

quality (continuously refining and eliminating imperfections) (Harvey & Green, 1993).

3. **Quality as fitness for purpose.** Purpose is related to quality. This concept suggests that quality only matters in terms of intended application. Thus, a product's or service's quality is decided by its intended purpose. This is not the trait that is aristocratic, status-granting, or difficult to obtain. It is a functional quality, not an extraordinary one. A product or service is of high quality if it fulfils its intended purpose. However, unlike quality, which is by definition exclusive (even under the weaker standards checking technique), appropriateness for purpose is included (Harvey & Green, 1993).

   In higher education, defining quality as meeting customers' requirements does not always mean that the customer is in the best position to evaluate quality or whether it exists. As a result, this concept raises the question of who should define and quantify quality in higher education. Delighting clients rather than simply meeting customer criteria may be a better definition of excellence in a service industry like education. Undeniably, "delight" is hard to quantify (Sallis & Hingley, 1991).

   Quality is the ability of an institution to achieve its declared goals. A quality institution achieves its aims by clearly communicating its mission. This only partially fixes the customer requirements issue, t hus, the mission statement must be reviewed, which describes a QA function (Harvey & Green, 1993). Returning the focus to the institution can help solve the complex problem of defining who the higher education clients are and their needs.

4. **Quality as value for money**. According to a populist definition, quality is synonymous with value (Ball, 1985), particularly value for money. Even though it is frequently equated with value for money, quality is measured against other

criteria, such as standards, degree of specification, and reliability (Harvey & Green, 1993).

The concept of accountability lies at the foundation of the value-for-money strategy (European Commission, 1991). Public services are expected to be liable to funders (the taxpayer or, de facto, the Treasury) and the 'customers' (the users of the service, students or trainees) (Pollitt, 1990). The close linkages between quality and value for money in higher education are underpinned by economic individualism in the form of market pressures and competition. In a competitive environment, a market-determined goal unavoidably leads to the notion of quality as value for money. Thus, the administration intends to increase access to higher education while spending as little money as possible.

5. **Quality as transformation.** The concept of qualitative change, or a fundamental alteration of form, is at the heart of the transformational perspective of quality. However, it is challenging to apply product-based quality concepts to the service sector. This is especially true per Elton (1992, as cited by Harvey & Green, 1993) when it comes to education. Education is not a one-time service for a consumer but a continuous process of student change. This leads to two concepts of transformational quality in education: consumer enhancement and consumer empowerment.

   The amount to which the educational system transforms the student's conceptual abilities and self-awareness is considered a quality. It is a process that academics fear because "it reflects not simply a loss of control over the structural organisation or academic content of higher education, but also a loss of control over intellectual processes" (Harvey & Burrows, 1992). In higher education, empowering the learner entails empowering students and giving collaborators, such as employers, some autonomy. It involves the consumer in establishing standards, the

endorsement of practices, the specification of curriculum, and so forth. The term "quality" is used to describe how good something is.

Quality as transformation is linked to excellence. This brings back to excellence, or doing the right things well. An exceptional institute adds value to students' experiences or prepares them for future careers. Student-centered learning is the foundation of this method. Quality is seen as a value-add, and students are empowered by learning. Quality learning is described as having a transformative influence on the student.

2.4 Quality Assurance

“Quality assurance in higher education is an activity as much personal as systemic, as much moral as technical. Effective quality assurance in colleges and universities is built on thoughtfully crafted systems and on the caring and courage of those who hold those learning climates in trust” (Bogue, 1998, P.7). QA refers to the policies, attitudes, activities, and procedures needed to sustain and increase quality (OECD, 2005). It can also be defined as the structured and coordinated activities carried out within the quality system that can be demonstrated to infuse confidence in a product's or service's ability to meet specified quality requirements (Excellence, n.d.). Internally, QA instils trust in management, and externally, it inculcates confidence in customers, government entities, policymakers, certifiers, and external stakeholders.

As the demand for high-quality education grows in an increasingly competitive world, QA has long been recognised as a critical component of practical education, particularly in institutions with increased mobility of students, faculty, and programs, notably through global networks (Rahnuma, 2020). Although the concept of quality originated in educational institutions in the early 1980s from more familiar industrial and commercial settings (Newton, 2002), it subsequently came to be viewed as one

that could be defined and quantified. QA and enhancing a country's higher education are critical for its economic and social well-being and international standing (OECD, 2005). Indeed, one of the most prominent conceptualisations of internationalisation in higher education is enhancing quality (Maringe, 2010).

According to the European University Association (EUA, 2006), QA is an element of quality culture. While some have claimed that quality has always been a part of the academic culture (Newton, 2006), QA has historically depended on informal peer assessments and self-regulation (Van Damme, 2011). However, the situation has changed dramatically in recent years decades. Currently, QA or quality enhancement involves a wide range of national frameworks. The national frameworks include QA organisations, accreditation entities, structured quality standards with specific procedures and policies at the threshold of higher education institutions (Matei & Iwinska, 2016).

2.4.1 External Quality Monitoring (EQM)

Everyone in an educational institution is responsible for QA, though top management establishes policies and priorities. As a result, QA should be a continuous process. Therefore, it should not be viewed as a one-time activity for the purpose of accreditation. However, accreditation in the form of external quality monitoring (EQM) is found in all types of higher education systems (Harvey, 1998).

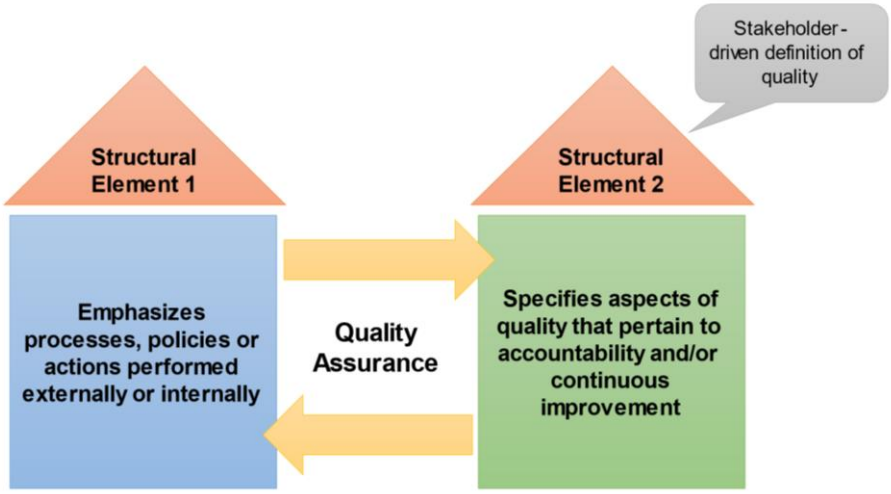
Regardless of the importance of EQM and the credibility associated with an impartial and objective system, each educational institution must develop an internal quality assurance mechanism. Indeed, it is this unit within the institution that will lay the groundwork for EQM. As a result, understanding the QA criteria and adhering to best practices becomes critical.

2.4.2 Structural Elements of Quality Assurance

According to Schindler et al. (2015), the quality definition is necessary for defining QA. Therefore, before determining how to ensure quality, one must first define it. While defining QA presents some difficulties due to the diversity of existing definitions, some structural elements are shared across definitions (Figure 3).

Figure 3

Structural Elements of Quality Assurance (Schindler et al., 2015)



First, numerous previous definitions stressed that QA is a collection of processes, policies, and actions carried out externally by QA agencies and accrediting bodies or internally by the institution. Second, many existing definitions of QA incorporate elements of quality related to accountability and/or continuous improvement (Singh, 2010). According to Schindler et al. (2015), developing more specific and multidimensional definitions of QA may be beneficial for increasing transparency and alignment with collaboratively developed quality definitions with stakeholders.

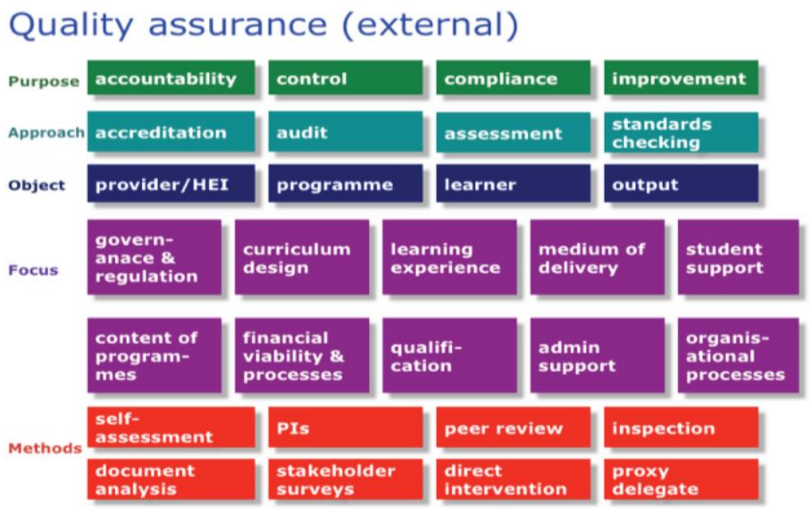
2.4.3 Categories of Quality Assurance

According to Harvey (2011), QA is classified into four broad categories: accreditation, audit, assessment, and external examination. QA used to have a specific scope, referring primarily to auditing processes rather than assessment, accreditation, or standards checking. However, because these processes use similar techniques in practice, the term *assurance* has become a catch-all term, although *monitoring* is occasionally used to encapsulate various procedures. Those were not distinct approaches, as they overlap significantly in practice. Assurance processes are concerned with everything from the institution to the subject and program to the service provision, the learner, and the learning outcomes. Various systems place a different emphasis on each of these components. The focus of quality evaluations can also be varied, ranging from governance and regulation to student learning experiences, curriculum design, course contents, and lecturer competence.

Although methods vary and include inspection, document analysis, direct observation of teaching, and consumer surveys, the process of self-evaluation followed by peer review is typical (Figure 4). There is no straightforward relationship between purpose, approach, object, focus, and method. Indeed, different approaches may have the same or distinct objectives, foci, and methods, depending on the evaluation/monitoring process's unique circumstances.

Figure 4

Methods of Quality Assurance



Note: Purpose, approach, object, focus and methods of quality assurance (Harvey, 2011)

2.4.4 Philippine MET System in the Conduct of EQM

The Maritime Industry Authority (MARINA) undertakes the prescription of procedures, policies and requirements in the inspection, accreditation and monitoring of training courses offered by the Maritime Training Institutions (MTIs). MARINA adopts the provisions of the 1978 STCW Convention concerning the training and assessment of seafarers. The agency ensures the delivery of quality maritime courses that fully comply with the STCW standards (Joint MARINA, n.d.).

On the other hand, MARINA and the Commission on Higher Education (CHED) collaborate to develop policies for inspecting and evaluating educational institutions seeking government approval to administer marine programs. Education is both a matter of national interest and a global commitment. MARINA and CHED recognize

that safeguarding and developing the country's maritime education quality is a matter of national interest and international responsibility, given the Philippines' membership in and signing the 1978 STCW Convention, as amended. As such, CHED is mandated to establish minimum requirements for programs and institutions of higher learning and monitor and assess their performance to determine appropriate incentives and sanctions. MARINA is delegated with the duty of ensuring that all maritime education, including curricula and training programs, is structured and delivered per written programs, methods and media of delivery, procedures, and course materials that comply with international standards prescribed by the STCW Convention. In collaboration with CHED, MARINA monitors and verifies compliance with maritime education rules, regulations, and guidelines in the conduct of MET programs. Additionally, they review and harmonize the procedures for evaluating and assessing all maritime education and training institutions under the standards established by the CHED and other internationally recognized organisations (Joint MARINA, n.d.).

2.5 Quality Culture

"A culture of quality is one in which everybody in the organisation, not just the quality controllers, is responsible for quality" (Crosby 1986, cited by Harvey and Green, 1993, p. 16). Culture may comprise all the institutionalised ways and the implicit ideas, norms, values, and premises which emphasise and effect behaviour, according to Ahmed et al. (1999, as referenced by Andhika & Latief, 2020). There are different definitions of culture, but they all refer to the *order*, *material*, *or behaviour patterns* established by a group as the standard ways of solving issues (Andhika & Latief, 2020). Sattler and Sonntag (2018) deliberate that culture is best understood as a *set of shared, implicit assumptions* that have come to be taken for granted and have shaped people's daily behaviour. Further explained that a quality culture is closely related to the well-known organisational culture concept with three distinct levels: artefacts,

advocated values of an organisation and shared basic assumptions (Sattler & Sonntag, 2018).

Gryna et al. (2007, as cited by Mahmood & Mohammed,2008), defined Quality Culture as "the pattern of habits, beliefs, and conduct concerning quality." They underlined the need to have a positive quality culture to achieve the company's quality objectives. On the other hand, quality culture is defined as "an environment in which personnel not only follow quality requirements but also see and hear others conducting quality-focused behaviours and feel the quality all around them". Therefore, it can be argued that any institution that wishes to implement or manage a quality program must first establish a quality culture (Mohammed & Mahmood, 2008).

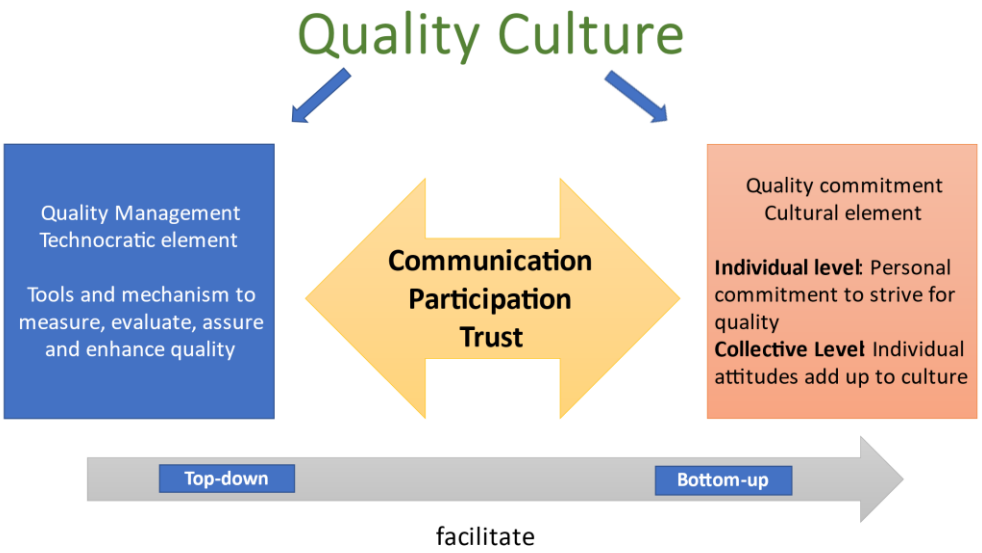
Mahmood and Mohammed (2008) identified thirteen essential dimensions of a quality culture that must exist in an organisation aiming to implement total quality management (TQM), based on numerous studies: leadership, customer focus, continuous improvement, education and training, teamwork, involvement, empowerment, supplier partnership, recognition and reward, communication, motivation, organisation structure. However, a successful TQM program requires a strong quality culture. An organisation with a quality culture has well-defined values and attitudes that promote overall quality behaviour (Linkow, 1989). One of the most important criteria for successful TQM deployment is a change in corporate culture or organisational culture (Hildebrandt et al., 1991). As a result, Dellana and Hauser (1999) suggested that organisations intending to establish or manage quality programs devote more time and effort to establishing appropriate quality culture.

EUA (2006) gave a comprehensive definition of QC relating still to the construct of organisational stating that quality culture is an organisational culture that aims to improve quality continuously and is defined by two distinct elements: on the one hand, a cultural/psychological element of shared values, beliefs, expectations, and

commitment to quality, and on the other hand, a structural/managerial element with defined processes that improve quality and aim to coordinate individual actions.

Figure 5

Development of Quality Culture (EUA, 2006)



EUA emphasized that quality should not be defined from the top-down; instead, each institution should determine quality independently. Hence, applying a shared definition of quality to institutions with disparate objectives and purposes (EUA, 2006, p. 9). EUA did maintain, however, that any culture of excellence was founded on two fundamental factors. First is a shared set of values, beliefs, expectations, and a dedication to quality (a psychological aspect that refers to understanding, flexibility, participation, hopes, and emotions). Second, a structural or management element with well-defined processes improves quality and facilitates coordination of efforts (including the tasks, standards, and responsibilities of individuals, units, and services) (EUA, 2006).

2.5.1 Four Ideal Types of Quality Culture

Four ideal quality cultures (Figure 6) use Mary Douglas's Grid-Group scheme (Spickard, 1989). This typology can help in determining an institution's organisational culture basic framework.

1. **Responsive quality culture**. External pressures drive the responsive mode, which is enthusiastic about seizing opportunities to examine procedures and develop forward-thinking agendas. It focuses on improvement and aims to get the most out of policy or requirement compliance. Quality assurance that is responsive tries to learn from others. It tends to regard quality culture as a solution to the evaluation challenge.

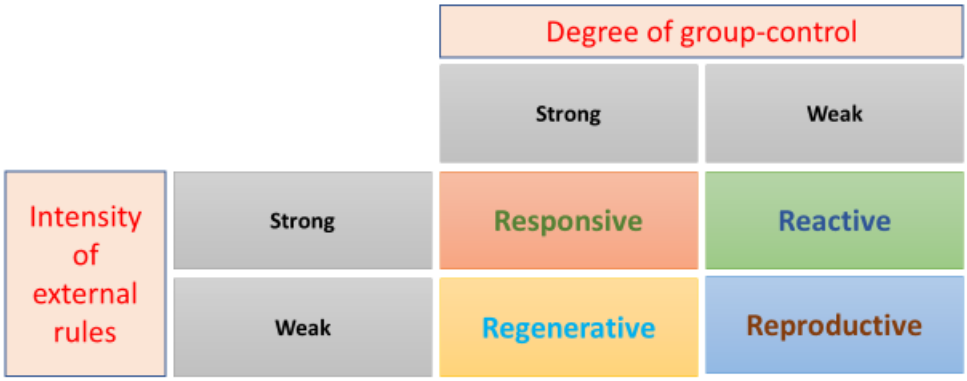
2. **Reactive quality culture**. The reactive mode is task-oriented and reward- or sanction-driven. It is hesitant to accept most forms of quality assessment because of concerns about the possible outcomes. This mode doubts that assessing quality would result in improvement. It has a cooperative personality and is often hesitant. It considers quality to be a "beast that must be fed" (Newton, 2002). The reactive mode has a fragmented approach to quality concerns and little or no ownership over quality processes.

3. **Regenerative quality culture**. Internally focused, the regenerative mode places a high value on people and established procedures. It makes use of outside chances that complement its internal goals. As a result, it isn't always adaptable to external demands. A regenerative quality culture is typically embedded and pervasive within the department, with clear, dynamic, and improvement-oriented overall goals. It is exploratory and risky. The regenerative mode actively seeks out opportunities for learning and benchmarking. The quality culture will be indistinguishable from daily work practices, and its ability to regenerate will be uncontested. However, a latent subversive potential exists.

4. **Reproductive quality culture**. The reproductive mode seeks to maintain the status quo by mitigating the effects of external factors. It accentuates sub-units and individual expertise, and the culture reflects the members' expertise and individual aspirations. It is indistinguishable from routine work practices but is opaque and encoded in various widely accepted or esoteric traditions. Any attempt to promote a more self-critical, open mindset will likely result in the emergence of an implacable resistance culture (Harvey, 2008; Harvey & Stensaker, 2008).

Figure 6

Types of Quality Culture (Harvey, 2011)



The central qualities of each type can be used as a starting point for figuring out how structure and culture might be matched in terms of quality assurance. This is essential since quality assurance systems are often constructed without considering existing social structures and implicit institutional ways of dealing with quality assurance concerns (Henkel 2000). Consequently, it should come as no surprise that a QA system (and quality cultures) in a reactive or regenerative cultural environment will seem significantly different from a responsive or reproductive cultural setting. However, regardless of the approach taken, it all hinges on empirical involvement in its culture, identity, and organisational climate. Thus, the concept of "quality culture"

adds a crucial component to the QA setting, demonstrating that structures alone are insufficient to improve quality.

2.5.2 Developing Quality Culture

Organisations must adopt a QC, not only a quality process or set of quality practices, as Cameron (2001) suggests. Embracing QC, according to Cameron, means that quality is reflected in fundamental principles, organisation's ideology, general work orientation and assumed assumptions and expectations. A QC, according to Saha and Hardie (2005), promotes leadership rather than supervision; inspires staff commitment to the chosen quality activities; uses teams as the primary management style; allows employees at all levels to participate in work-related decisions; promotes pride in workmanship; rejects fear and motivates employees to strive for constant improvement. This is not a culture that can be imposed by management. Instead, it must be an inherent element of how the organisation operates. Individuals and stakeholders are influenced by a variety of cultural factors that impact their expectations. National culture, vocational culture (industrial, institutional, and professional culture), and organisational culture are examples of frames of reference (Johnson & Scholes, 1997). As a result, these frames of reference impact the establishment of a quality culture in an organisation. National culture might change slowly and claimed that, while organisational culture is more adaptable, actual changes in national culture can take generations (Mahmood & Mohammed, 2008). Therefore, it can be argued, or further research may establish, that in shaping a quality culture in the MET industry, organisational culture appears to have a more significant influence than vocational and national culture.

According to Trought (1995), each organisation's culture is distinct. Thus, it is generally acknowledged that certain elements characterise QC. TQM practitioners and scholars agree that thirteen (13) critical characteristics of quality culture ought to be included in organisations whose culture complements TQM implementation. QC's

thirteen (13) essential characteristics are leadership and top management commitment, customer focus, education and training, worker involvement, teamwork, empowerment, communication, supplier partnership, motivation, rewards and recognition, organisation structure, continuous improvement, and strategic and quality policy (Mahmood & Mohammed, 2008).

A new perspective on quality has emerged as a result of shifts in perceptions about quality management. Quality is being emphasised more, and shifting attitudes and behaviour is challenging. Moreover, quality is not solely the manager's job; hence, everyone has a role to play. **Appendix C** demonstrates the whole individual to group responsibility that produces the total value of quality culture while also supporting organisational culture in developing QC.

Individuals and stakeholders are influenced by a variety of cultural factors that shape their expectations. National culture, vocational culture (industry, institutional, and professional culture), and organisational culture were all referred to as frames of reference (Johnson & Scholes 1997). As a result, these frames of reference affect the development of a quality culture within an organisation. While organisational culture is more adaptable to change, actual changes in national culture may take generations to evolve. Indeed, organisational culture appears to significantly influence developing a quality culture than vocational or national culture.

The conceptual framework describes that everyone must contribute to the organisational culture to understand the value of quality and influence attitudes and behaviours through intrinsic and extrinsic factors. All activities involving internal and external parts of the organisation will be instilled with organisational culture. This will then be passed on to every member of the organisation. Throughout developing a quality culture, both intrinsic and extrinsic factors will impact the organisation's culture. Accordingly, the concept of QC becomes more accepted, and more attention is demanded. It is not enough to say that the quality system is no longer significant

for practices; nonetheless, the system will work best when the organisation has established a QC.

2.5.3 Integrating ISO-based approach and TQM approach in Developing QC

The ISO-based strategy emphasises the creation of a quality management system. Conversely, TQM focuses on establishing a quality system and achieving continuous quality improvement. As a result, it can be argued or further study may prove that integrating the two strategies can assist any organisation in consistently and efficiently meeting customer requirements. Thus, introducing a new conceptual framework of quality culture development. In this framework, the thirteen (13) characteristics of quality culture based on TQM and the seven (7) principles of QMS are combined, as shown in **Appendix D**.

It can be argued, and additional research may confirm, that integrating the two methodologies may help every METI achieve its stakeholder needs. TQM demands a customer-focused culture that values improvement and collaboration. Organisations that prioritize customers, growth, and collaboration are more likely to achieve total quality. Because most organisations lack such a culture prior to TQM, cultural change is essential (Evans & Dean, 2003). The organisational foundations of quality orientation are established at the organisational level. Corporate QC is a value philosophy that encourages a quality-conscious workplace. It promotes quality and continuous improvement through values, traditions, and procedures (Goetsch & Davis 2006). Evans and Lindsay (1996) state that quality-conscious organisations utilize quality management systems to improve internal and external services. As a result, good QC can help an organisation improve customer satisfaction and preserve a competitive edge (Yasamis et al., 2002).

Finally, quality is a philosophical concept. Their definitions vary, reflecting individual and social beliefs. Currently, there is no commonly acknowledged definition of the

idea. There must be room for opposing viewpoints: quality and QA are not easily defined. We may shift from one point of view to another without even realizing it. Defining quality is futile, according to Vroeijenstijn (1991). This perspective of quality is stakeholder-centered. For example, students and lecturers may be more concerned with the educational process, whereas employers and related authorities may be more concerned with the educational outcomes. As a result, quality and QA cannot be represented as a single concept. To measure quality, we should at least try to clarify as clearly as possible the criteria used by each stakeholder. A QA system's overall design and meaning will be influenced by the definition or shared understanding of quality in the educational institution's context. QA does not set the standards or specifications for measuring and regulating quality. A QA program ensures that the desired quality is delivered, regardless of how it is defined and monitored.

CHAPTER 3. METHODOLOGY

3.1 Introduction

This study pursues to uncover the link between QMS principles and QC development. Aspects affecting the QC of Philippine METIs are also investigated. Thus, this study is exploratory, seeking to comprehend the phenomenon or get fresh perspectives (Kothari, 2004).

The key questions of this study are answered using qualitative research methods. Qualitative research is used to identify unknown and studied origins and attributes (Strauss & Corbin, 1998). An acceptable way in investigating the notion of the issues discussed herein. Qualitative research is crucial in educational research because it helps us comprehend experiences, events, and context. It will also allow researchers to ask challenging questions to grasp an idea (Clelan, 2017).

3.2 Selection of participants

The researcher sought comprehensive viewpoints on quality, QMS concepts, and their significance in building Quality Culture in METIs from two significant influencers in the MET system. MARAD evaluators and METI quality management champions. Purposive sampling was utilized to identify the respondents. It is a method of selecting study participants based on the researcher's judgment (Purposive, n.d.). This sampling approach is utilized when just a few primary data sources are available. Purposive sampling was also discovered as a cost-effective and time-efficient sampling strategy.

The Quality Management Representatives or Quality Champions of METIs could provide their understanding, perceptions, practices, and experiences on this study. Similarly, STCW evaluators from maritime administration were invited to contribute

to this study. Their expertise in implementing the STCW Convention would illuminate important aspects of this research.

3.3 Research Instruments

The research instrument specifies the researcher's measurement tool (Rudestam & Newton, 2007). This study collected and analyzed data quantitatively. Quantitative approaches emphasize objective measures and statistical, mathematical, or numerical analysis of data acquired through polls, surveys and questionnaires, or by changing existing statistical data using computational tools. In addition, quantitative research is involved with gathering numerical data and generalizing it across groups of people or explaining a single event (USC Libraries, 2021).

A web-based questionnaire was constructed using Google Forms and sent to the study's target respondents. The target categories for the questionnaire distribution were open in terms of age, gender, position, teaching and seagoing experience. Purposive sampling was employed to select participants because it was explicitly targeting MET actors. The major goal of data collection is to acquire as much information as possible from participants about their views on quality, QMS, and the establishment of Quality Culture. The impact of MARAD's PSGs on METI QMS and quality education and training was also assessed.

Most of the essential questions on the Google Form require narrative responses. According to Gillham (2000), open-ended questions can lead to greater levels of discovery. Importantly, answers to open-ended questions accurately express the respondent's perspective (Nunan, 1999). The researcher also used a Likert Scale Response Format to collect information from respondents. This response type uses fixed choice answer styles to assess attitudes or opinions (McLeod, 2008). As a result,

the questionnaire produced includes a Likert scale, multiple-choice, closed and open-ended items.

3.4 Research Ethics

This research adheres to the rules and guidelines implemented by the World Maritime University (WMU) Research Ethics Committee (REC), involving human participants to collect data. The REC authorized all relevant research instruments before use. Participants who agreed to participate in the research were provided with a research consent form before receiving the online survey questionnaires. The permission form also notes that individuals may withdraw or terminate participation at any time. The participant's specific online survey questionnaires were then sent.

The researcher's laptop was password-protected, and all data was processed with strict confidentiality. Upon completion of the research, all linked data shall be safely discarded.

3.5 Development of Questionnaires

After reviewing the available literature on quality in education, QMS, and QC development, questionnaires were created purposely to compare survey results with supporting materials to check, confirm, and reinforce qualitative findings and draw conclusions based on qualitative data. Two (2) sets of questionnaires (Appendices A and B) were made available in Google Forms. They were all designed to elicit quality responses.

3.5.1 Questionnaire for METIs

The METI online survey questionnaire has three sections. Section A asks for demographics. The respondents' and organisations' names were optional. Section B comprises questions about quality, QMS principles, and QC. This section addresses Research Questions 1-4. Multiple choice, closed and open-ended questions were used in Section B. Finally, Section C ponders the influence of MARAD directives. This section aims to clarify Research Question No. 5. It contains Likert Scale Response Format, multiple-choice, closed and open-ended questions.

3.5.2 Questionnaire for MARAD Evaluators

Three components comprise the MARAD Evaluator survey questionnaire. Section A of the survey includes demographic questions. Section B includes questions about quality, QMS, and QC. It discusses the first four Research Questions. These included a Likert Scale, multiple choice, closed and open-ended questions. Finally, Section C discusses the MARAD directives' impact. This section is intended to provide clarification on Research Question No. 5. It contains questions in the Likert Scale Response Format, as well as multiple-choice, closed-ended, and open-ended formats.

A pilot test with WMU MET students was undertaken to assess the instrument's validity and reliability. The pilot test provided valuable feedback, modifications, and ideas, which were implemented.

3.6 Data Collection

For this study, the researcher aimed to get responses from two groups of people considered the “Quality Champions” in the maritime industry: selected evaluators from the MARAD and quality management champions from METIs. The researcher aimed at getting fifteen (15) respondents from the MARAD and a minimum of thirty

(30) respondents from the METIs to get a total of forty-five (45) responses. In getting potential respondents for the research survey, the researcher sought assistance from the MARINA colleagues. Contact details then of METIs were provided to the researcher. After which, all completed questionnaires returned to the author were scrutinised, processed and analysed for presentation.

3.7 Data Analysis

The research questions were well addressed by the replies gathered from open-ended questions. Accordingly, quantitative analysis was limited to descriptive statistics using the figures, graphs, and other available statistics generated automatically by Google Forms and Google Spreadsheet. The answers were carefully scrutinised, evaluated and analysed per group of respondents. The author used Microsoft Excel sheets to tabulate and organise the responses. The responses were cautiously coded into themes according to the repetition and manifestations of particular notions. The researcher discussed and highlighted the research approaches in selecting participants or respondents, instrumentation, data collection methodology, and the analysis used in this chapter. The next chapter interprets the findings of the collected data. The information provided therein will shed light on the result of the study.

CHAPTER 4. RESEARCH FINDINGS

This chapter presents the result of the online survey questionnaires administered to target respondents. The outcomes comprise descriptive analysis, descriptive statistics and content analysis of data to answer all research questions under this study.

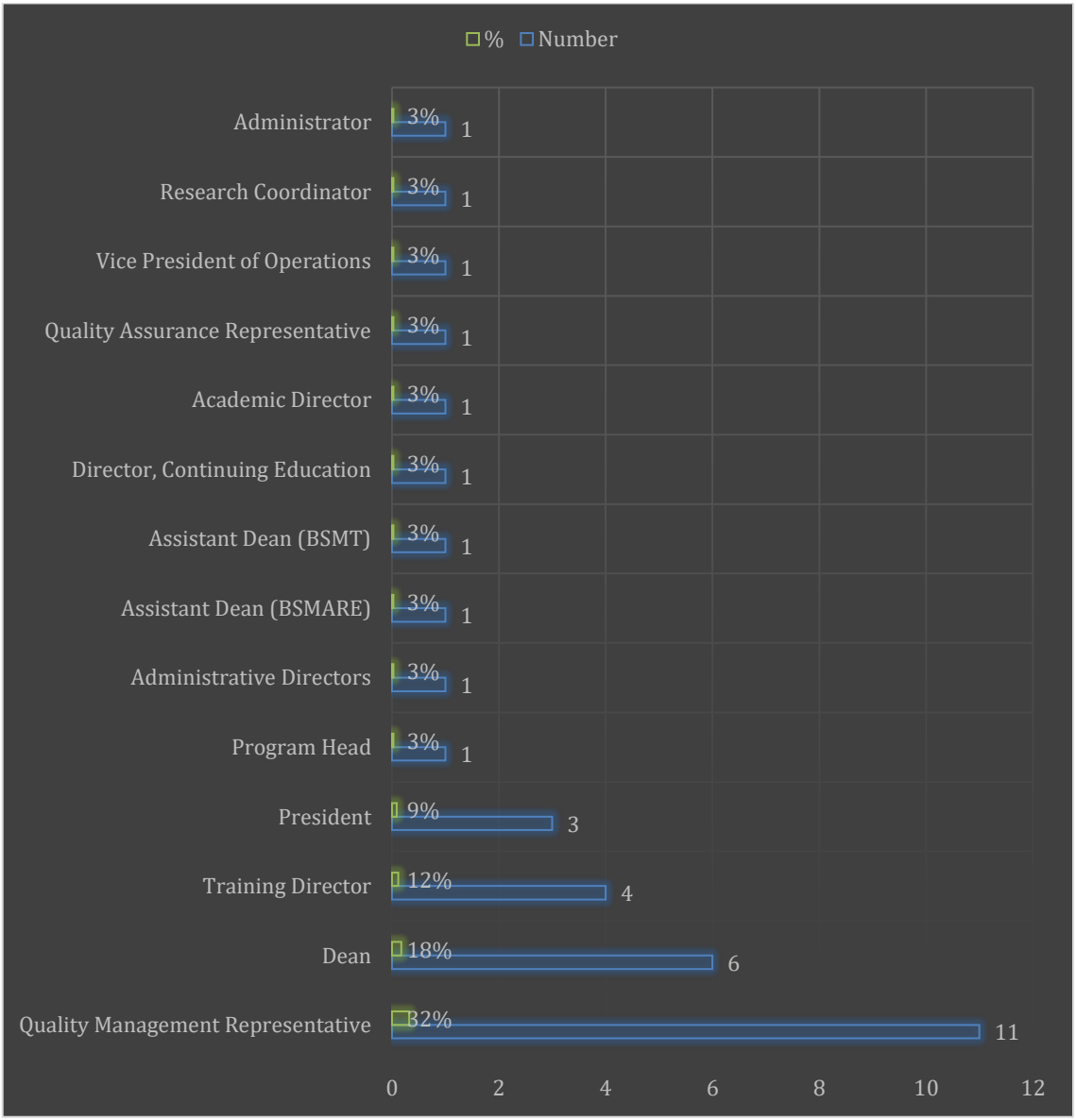
4.1 Socio-demographic information

The online survey questionnaires were responded to by a total of fifty-eight (58) participants (34 from METIs and 24 from MARAD evaluators). Section 1 (of 3) of the online survey questionnaires sought for the population analysis. To better visualize their socio-demographic information, data is presented in tables, bar graphs and pie charts.

For METIs, the designation of respondents (Figure 7) shows that Quality Champions are not limited to the Quality Management Representative (QMR) position as a new feature of ISO 9001:2015 standard. However, it is still the institution's prerogative to retain the QMR position to supervise the quality aspects of their operation, as 32% of respondents are QMRs.

Figure 7

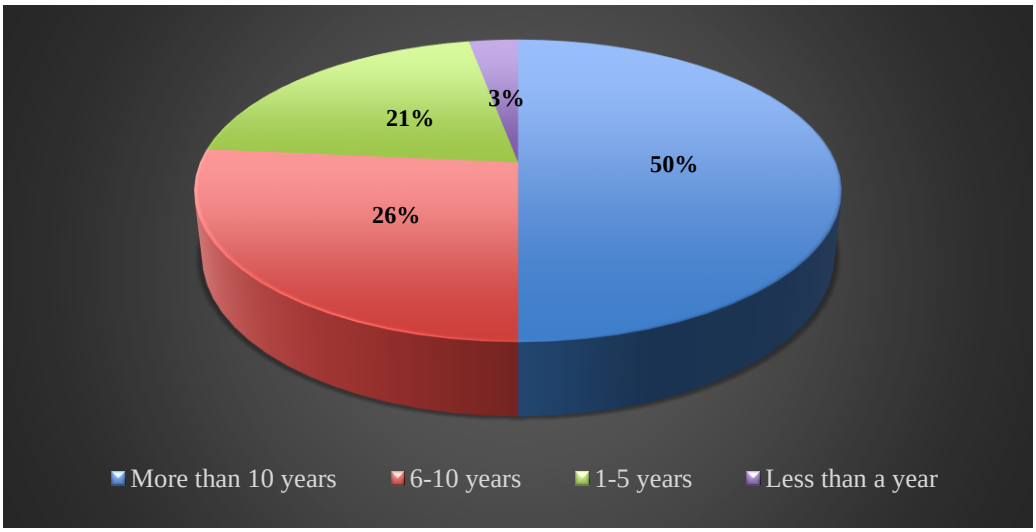
Designation of METI Participants



The pie chart (Figure 8) revealed that 50% of METIs' Quality Champions were involved with QMS-related activities for a significant number of years, giving them credibility to shed light on the concept of quality.

Figure 8

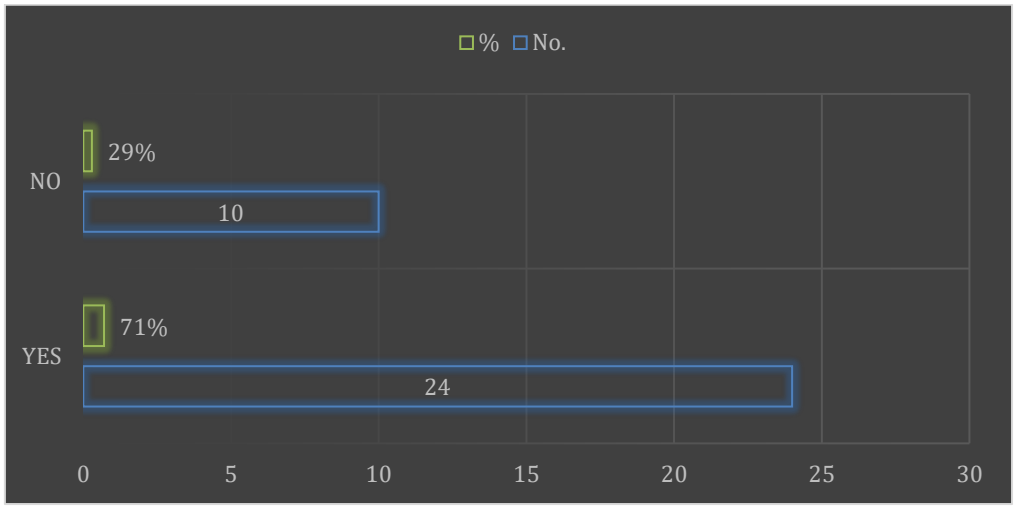
Years Involved with QMS-related Activities (METIs)



Lastly, Figure 9 displays that 71% or 24 out of 34 participants have teaching experience, which gives them a more profound understanding of the education and training construct.

Figure 9

METI Participants with Teaching experience



Consequently, participants from MARAD came from different Sections of their organisation (Figure 10). Furthermore, their competence as MARAD Evaluators is complemented by the years involved in QMS-related activities (Figure 11), teaching practices (Figure 12) and level of familiarity with QMS and its principles (Figure 13).

Figure 10

MARAD Evaluators' Office of Assignments

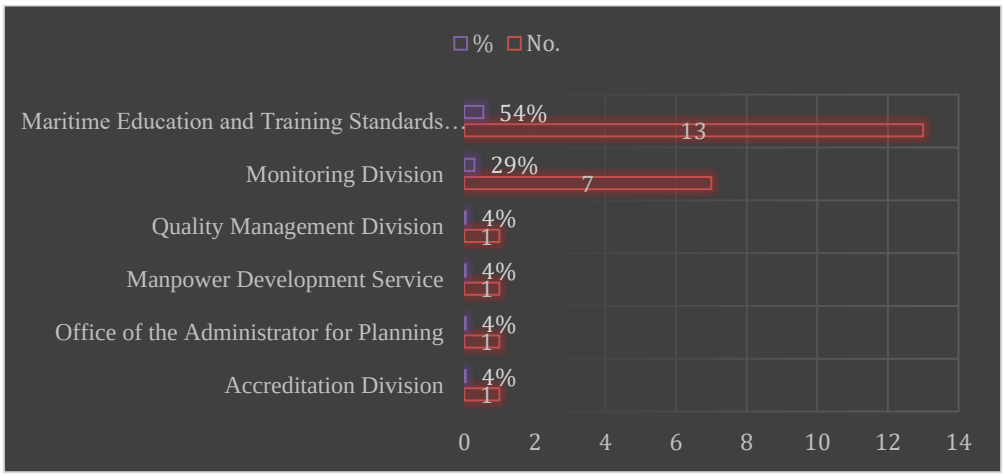


Figure 11

Years Involved in QMS-related Activities (MARAD Evaluators)

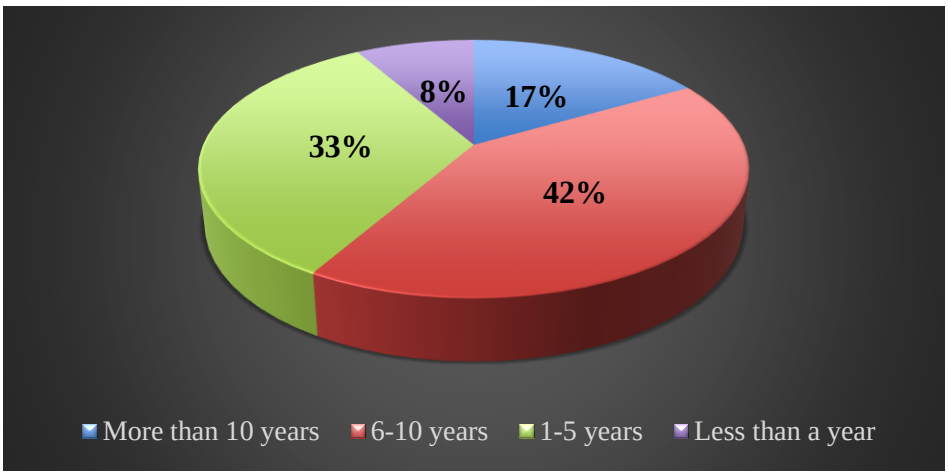
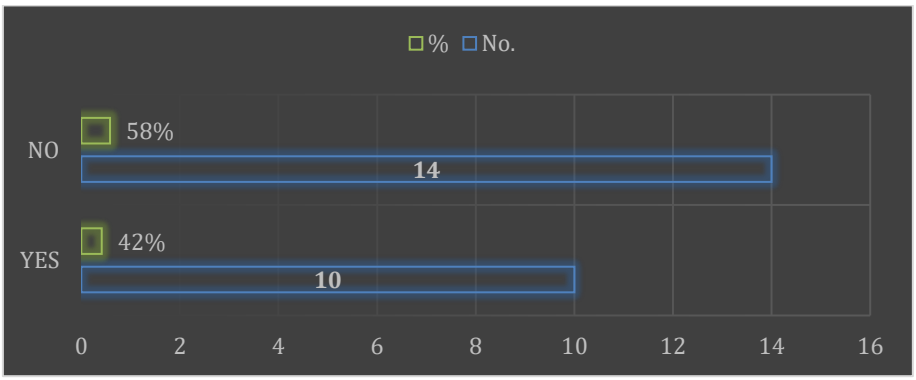


Figure 12

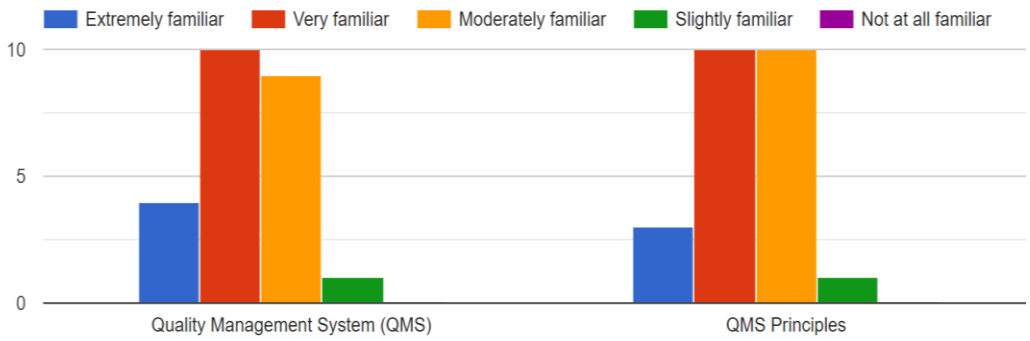
MARAD Evaluators with Teaching Experience



The above figure interprets that 14 out of 24 respondents or 58.3% of MARAD Evaluators have teaching experience. It further revealed that evaluators under the higher percentage hold a high position at MARINA (Figure 10) and are responsible for leading the Monitoring Team who audit/monitor METIs (MARINA, n.d.). Meaning they are competent to perform external quality monitoring, quality assurance functions and mandates of their organisation.

Figure 13

MARINA Evaluator's Level of Familiarity with QMS and its Principles



The demographics presented profoundly demonstrated that both respondents from METIs and MARAD are competent to give the primary data source for the research topics. Moreover, their years involved in QMS activities, experiences and level of knowledge to research topics could provide substantive and informative data for the successful realisation of the research.

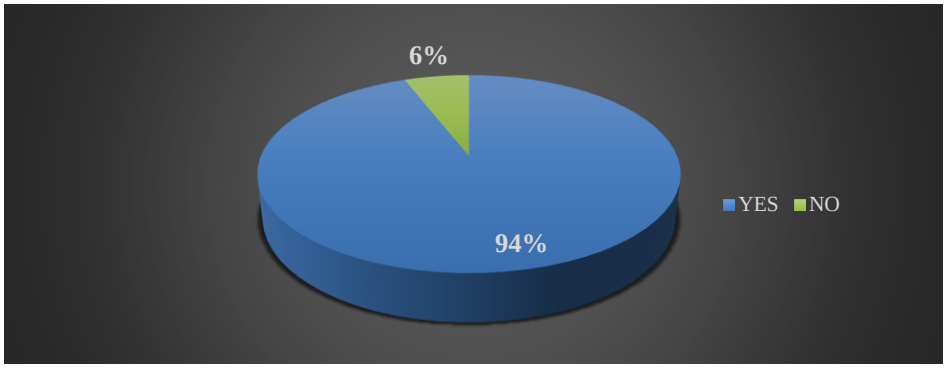
4.2 Analysis of responses

4.2.1 RQ1. How do Quality Management System principles influence the development of Quality Culture?

RQ1 aims to explore how QMS principles influence the development of Quality Culture. While the question is bold and ambitious, it would immediately determine the link between the two constructs out of METIs standpoints. To address the question, responses from Item Nos. 21, 22 and 23, Section 2 of Questionnaire for METIs (Appendix A) were analysed, complemented by Item Nos. 21 and 22, Section 2 of Questionnaire for MARAD Evaluators (Appendix B). Content analysis of the data from said Items discovered interesting results. Firstly, not all respondents from METIs agreed that QMS and its principles influence the development of Quality Culture (Figure 14).

Figure 14

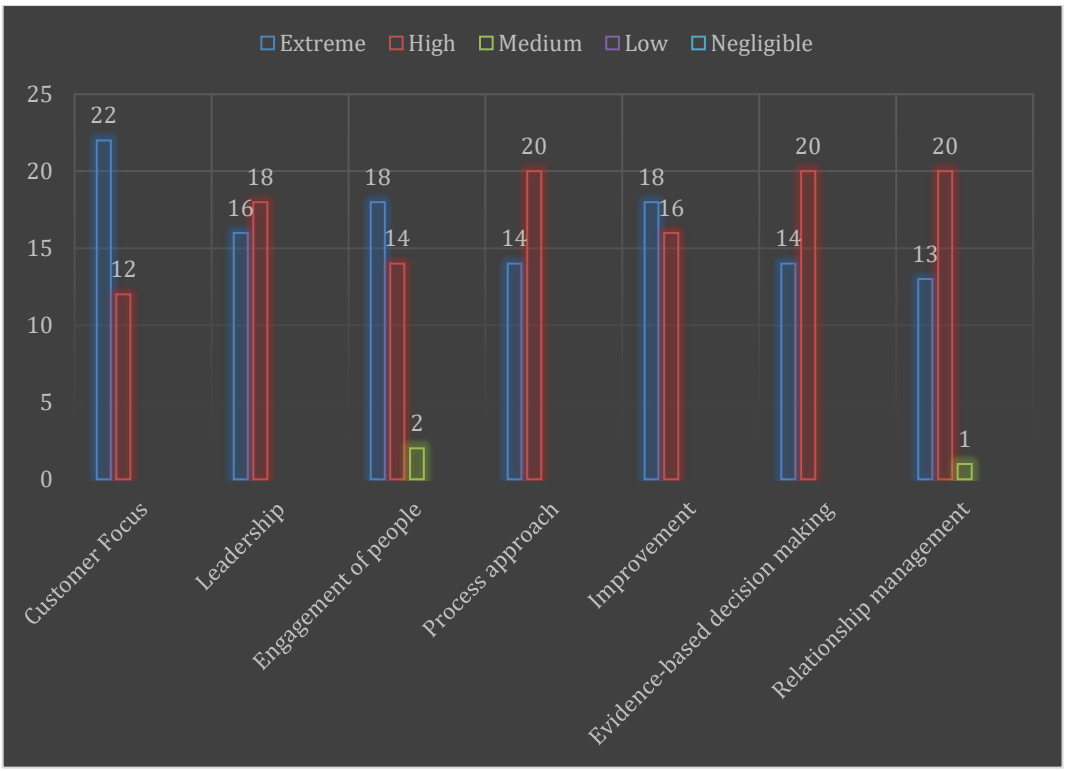
Influence of QMS in Quality Culture Development (METI)



However, when asked about the impact of QMS in their QC development, respondents provided extreme and high impact as shown in Figure 15.

Figure 15

Impact of QMS on Quality Culture Development



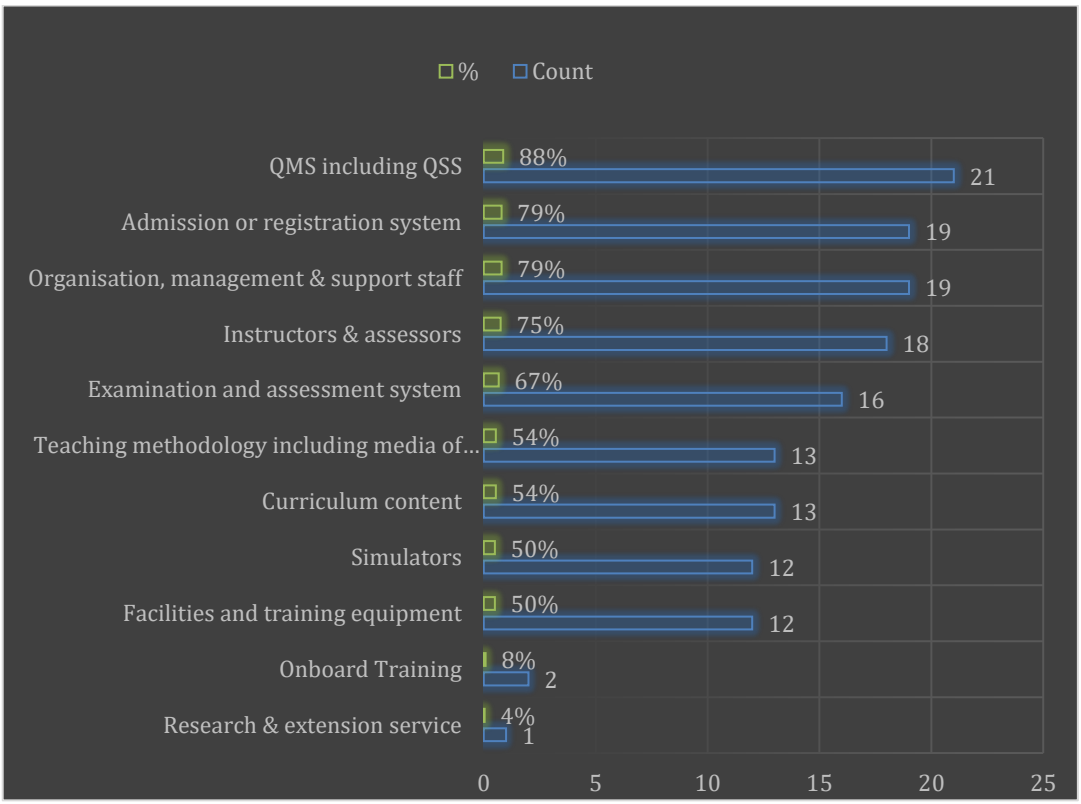
Accordingly, Item 21 of MARAD questionnaires associates that QMS principles form part of their checklist, standards and criteria (Figure 16), depicting those QMS principles as part of external quality monitoring or quality assurance tools of MARAD. Figure 17 confirms that QMS, including QSS, is a crucial area of evaluation that MARAD evaluators typically check and monitor.

Figure 16

QMS Principles in MARAD's Checklist, Standards and Criteria

Figure 17

Key Areas of Evaluation under MARAD Monitoring and Evaluation Instruments



4.2.2 RQ2. What is "quality" in MET from the perspective of METIs in the Philippines?

RQ2 explores METIs idea of "quality" in MET. Determining the concept of quality in the MET domain aids in understanding the background of METIs' policies and practices. Therefore, three questions are intended to answer RQ2 (Question Nos. 18, 19 and 20 of Questionnaire for METIs) to understand METIs' "quality" perspectives. The theme used to classify and determine METIs perspectives was derived from Harvey and Green "Five Ways of Thinking About Quality in Higher Education". Figures 18 and 19 show the corresponding results:

Figure 18

Level of Agreement to the Concept of Quality in MET

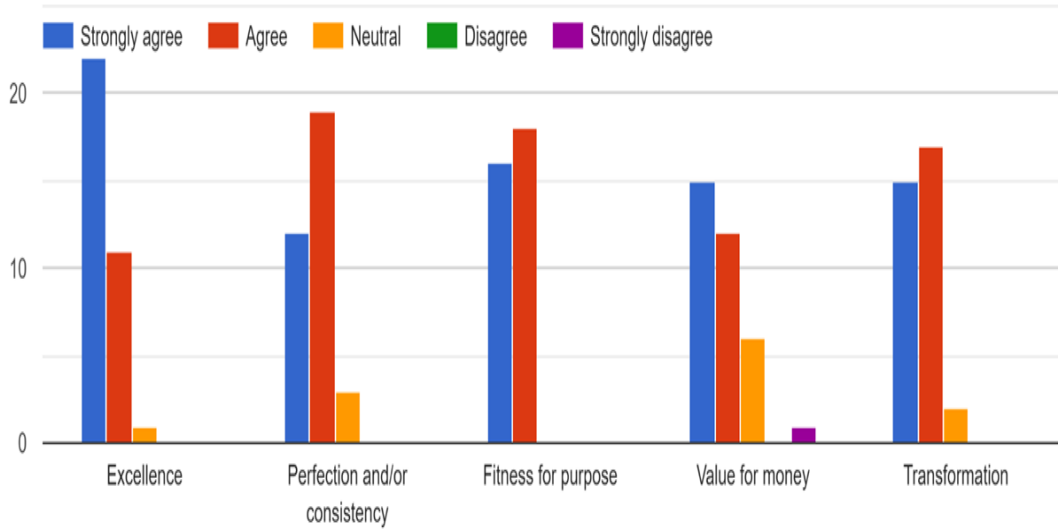
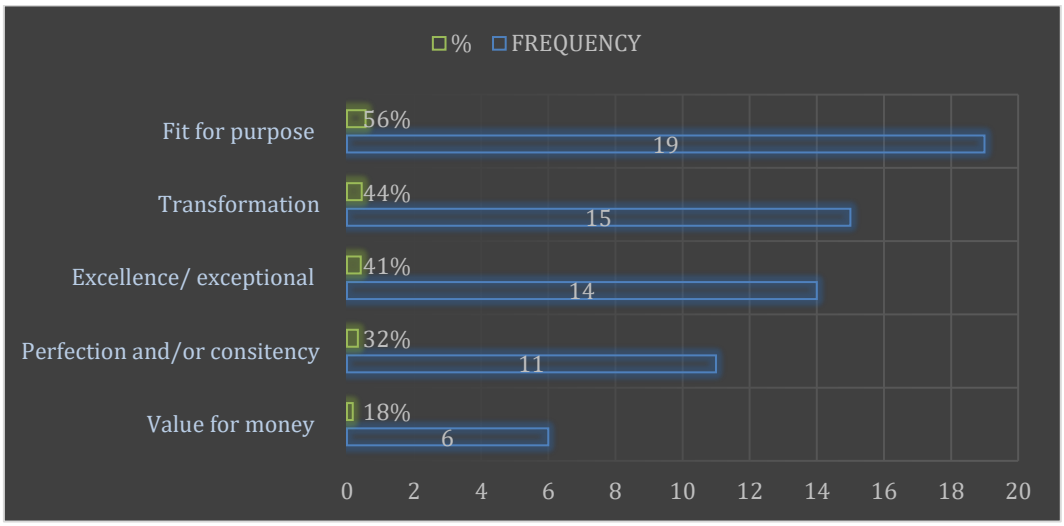


Figure 19

Definition of QUALITY per METIs Perspectives



Inversely, Question Nos. 13, 14 and 15, Section 2 of Questionnaire for MARAD Evaluators, are prepared to define quality in MET under the lens of MARAD Evaluators. Figures 20 and 21 show the result of which:

Figure 20

Level of Agreement to the Concept of Quality in MET (MARAD Evaluators)

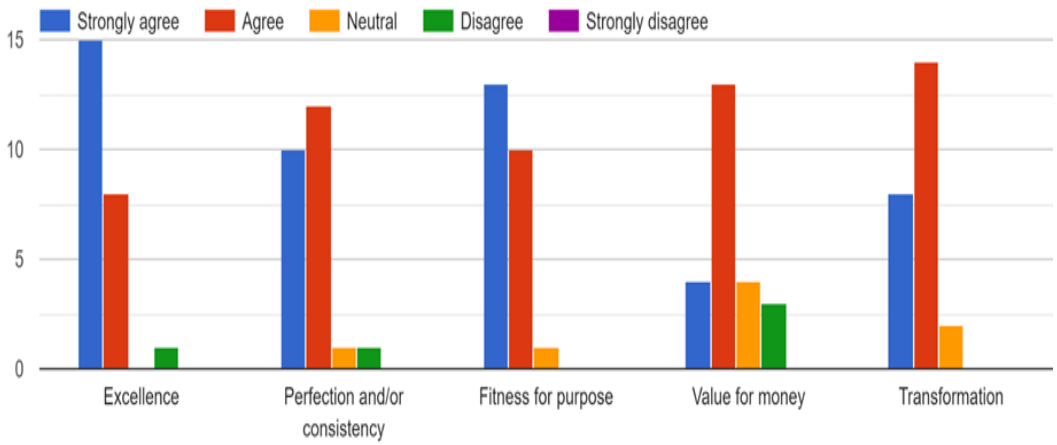
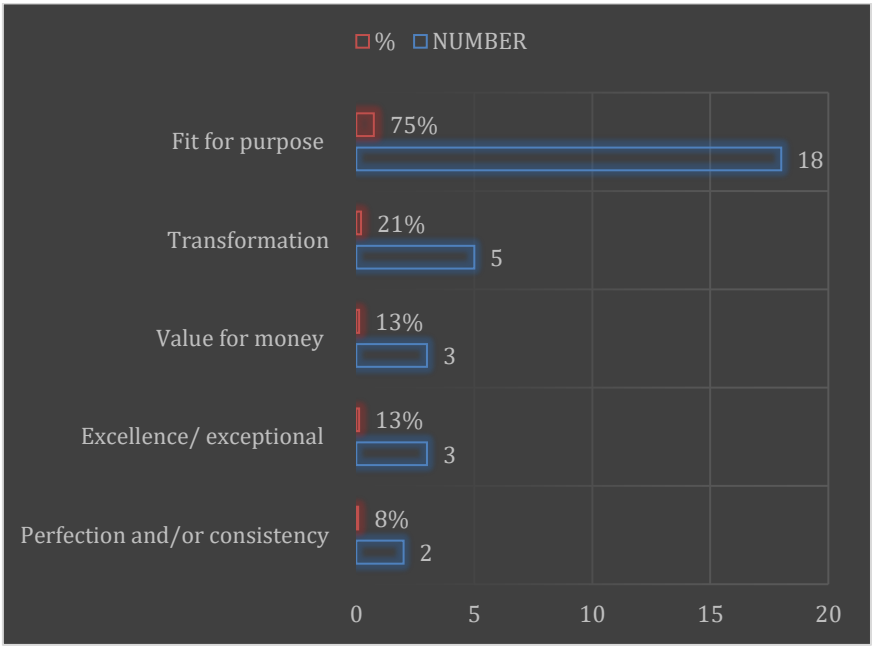


Figure 21

Definition of Quality in MET per MARAD Evaluators' Perspectives

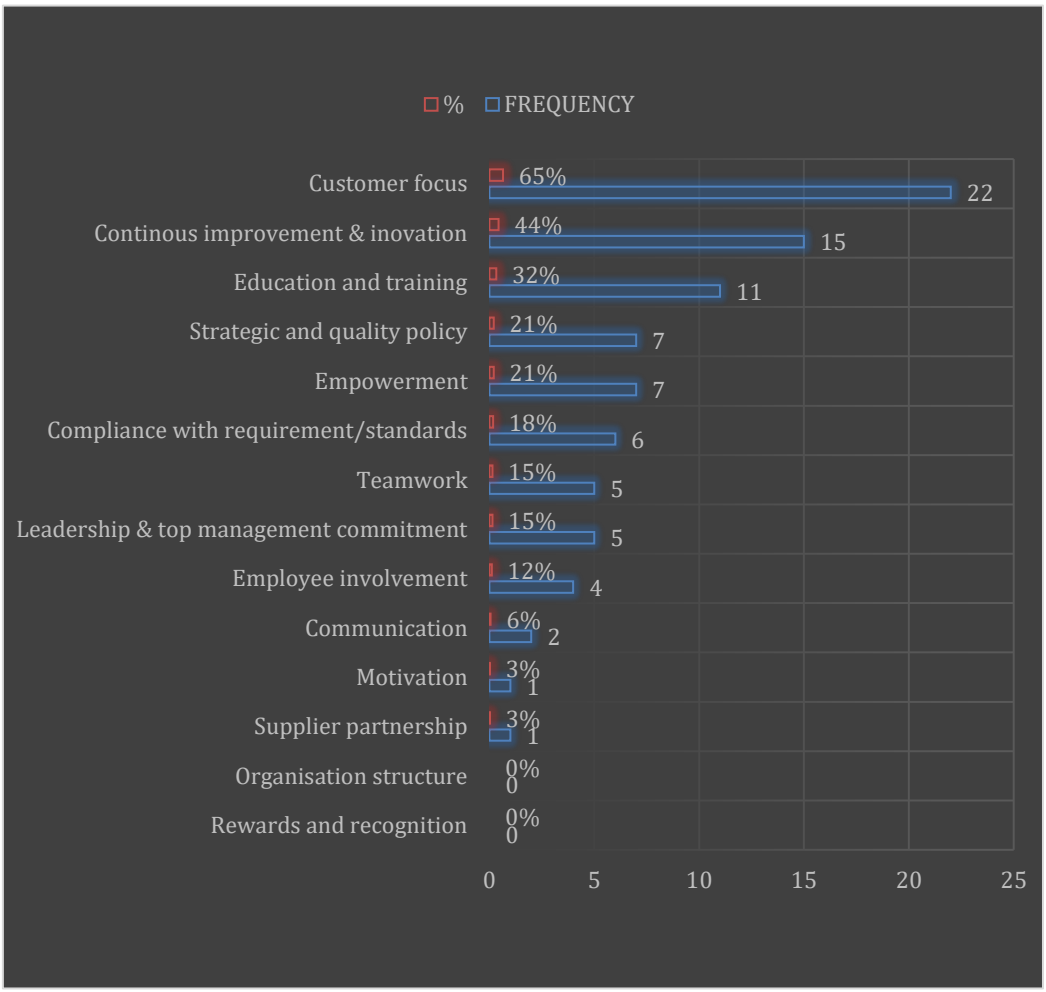


4.2.3 RQ3. What are the significant elements of quality in the context of MET?

RQ3 desires to confirm the significant elements of quality under the MET domain. An open-ended question was utilised to explore said elements. Upon conducting contextual analysis, aspects of the TQM approach (Figure 22), as explained by Mahmood and Mohammed (2008), emanated from METIs' replies. Thus, the researcher used aspects of the TQM approach to associate quality elements per METIs' perspectives.

Figure 22

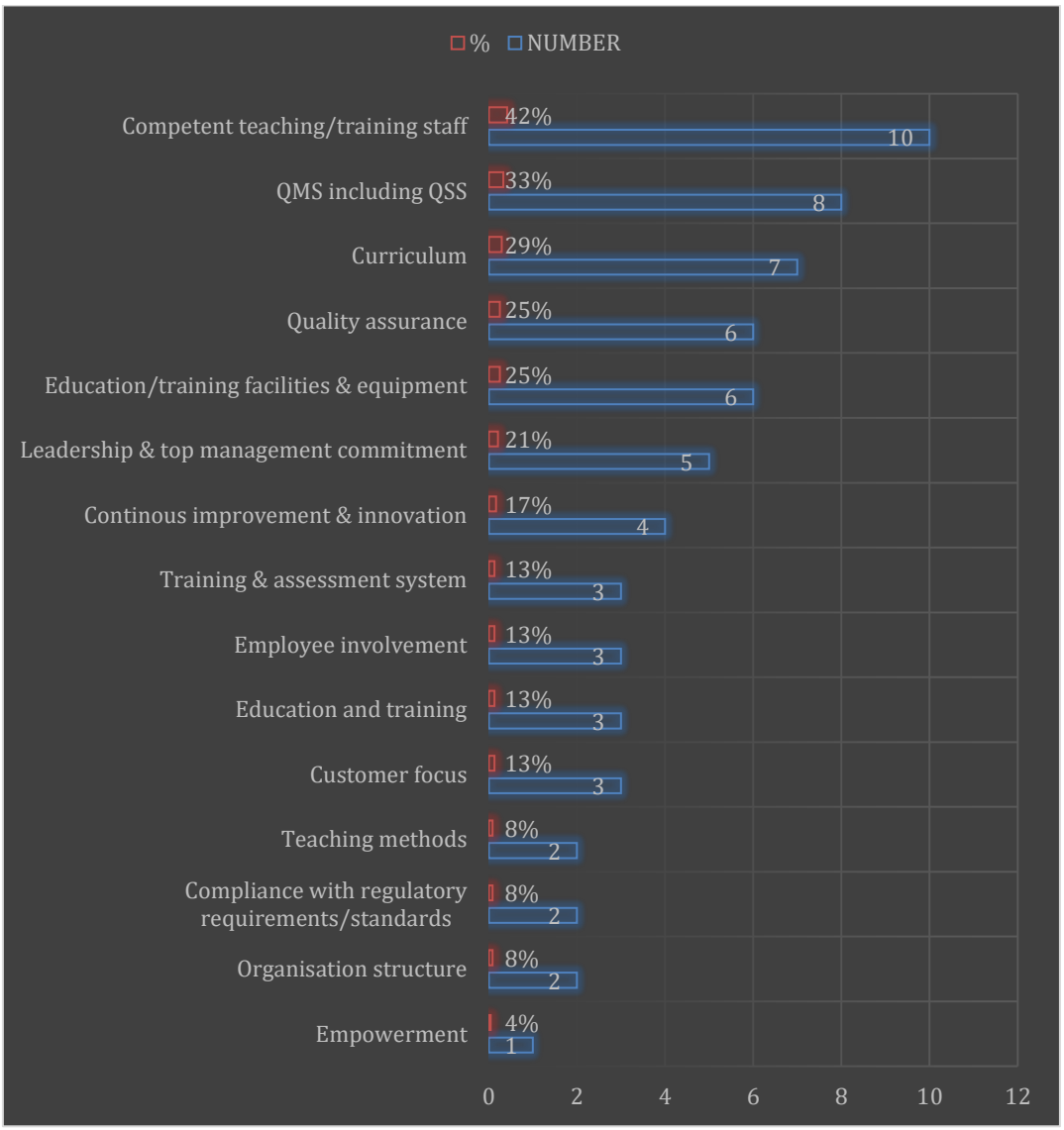
Elements of Quality per METIs' Perspectives



It is equally essential to solicit the perspective of maritime administration as to the elements comprising quality in MET. Figure 23 exposed that critical areas of evaluation enumerated in the graph are the significant elements under this study. The explanation shall be discussed in the next chapter.

Figure 23

Elements of Quality per MARINA Evaluators Perspectives



4.2.4 RQ4. What type of Quality Culture does Philippine METIs portray?

RQ4 reconnoitres to discover what Quality Cultures the Philippine METIs portray and attempts to classify them under the “Four Ideal Types of Quality Cultures” using Mary Douglas' Grid-Group scheme (Spickard, 1989, as cited in Harvey, 2008). Firstly, the

researcher simultaneously coded and identified indicators for each type of QC (Table 3). From there on, the researcher processed and analysed the figures arriving at the result, as shown in Figure 24, describing and classifying Philippine METIs' QC as *Regenerative*, garnering a frequency of 121% from responses. Congruently, the researcher also endeavoured to confirm the type of Quality Culture the Philippine METIs depicts based on MARINA evaluators observations. Figure 25 describes that Philippine QC can be categorised as *Regenerative*, having a frequency of 58%, followed by *Responsive* (54%).

Table 3

Indicators to the Type of Quality Culture

Types of Quality Culture	
Type	**Indicators**
Responsive	Continuous improvement Customer focus Compliance with requirements Strategic & quality policy Organisation & structure Right first time, every time Visionary/goal-oriented
Reactive	Customer focus Rewards & recognition Supplier partnership
Regenerative	Internally focused Continuous improvement Education & training Employee involvement Empowerment Motivation Family Culture Process approach Teamwork Leadership Communication Goal-oriented Exploratory & risk taker High value for people
Reproductive	Education & Training Reward & recognition

Figure 24

Classification of Philippine METIs' Quality Culture (METI Result)

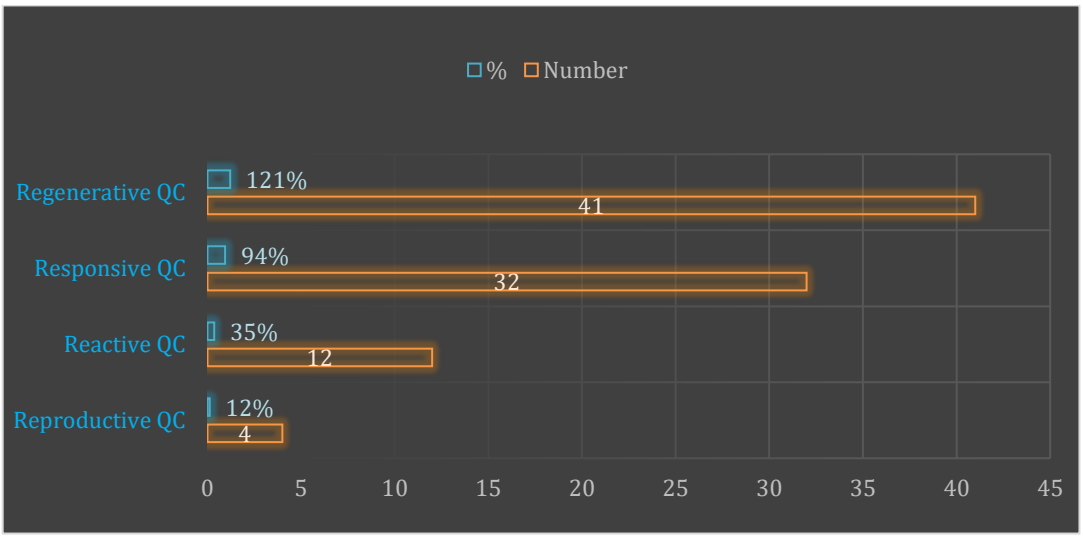
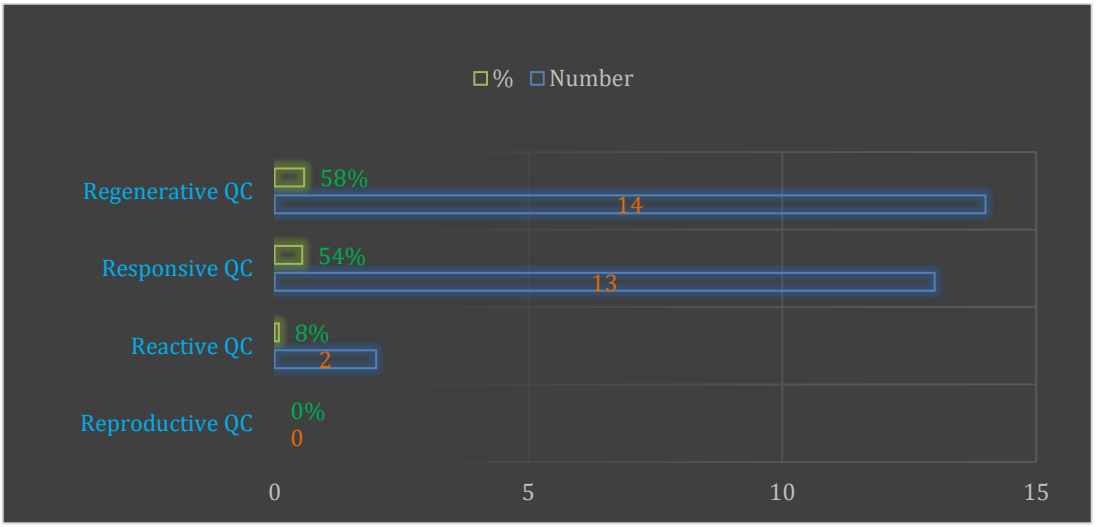


Figure 25

Classification of Philippine METIs' Quality Culture (MARAD Result)



4.2.5 RQ5. How do Maritime Administration policies, standards and guidelines (PSGs) influence the development and implementation of METIs QMS and Quality Culture?

Firstly, RQ5 requires to find out how MARAD's PSGs influence the development of METIs' QMS. Therefore, the researcher set an open-ended question under Item 29, Section 3 of Questionnaire for METIs to explore this research question. Information retrieved shows the variety of PSGs' impact on METIs QMS.

There were positive and negative impacts that emerged upon analysis (Figure 26). In addition, there were specific keywords that emerged from METIs responses. Accordingly, the researcher wishes to know how PSGs influence the development of METIs Quality Culture. Upon analysis of collected data, the researcher categorised them into positive and negative impacts (Figure 27), implying the tenor of their replies.

Figure 26

Effect of MARAD PSGs in QMS Development and Implementation

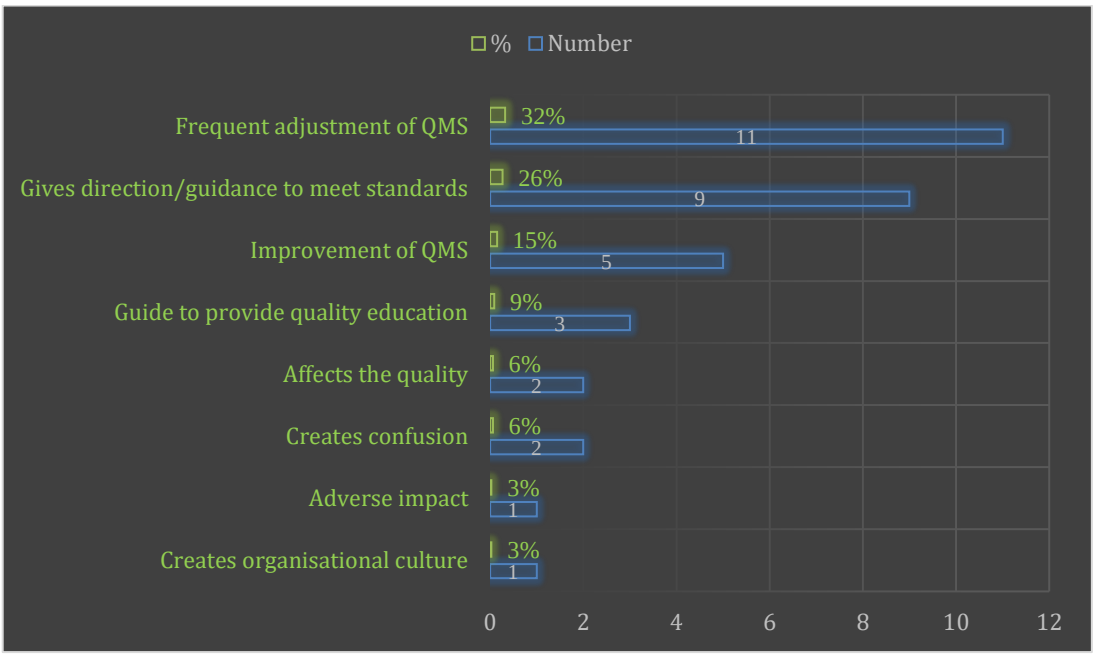
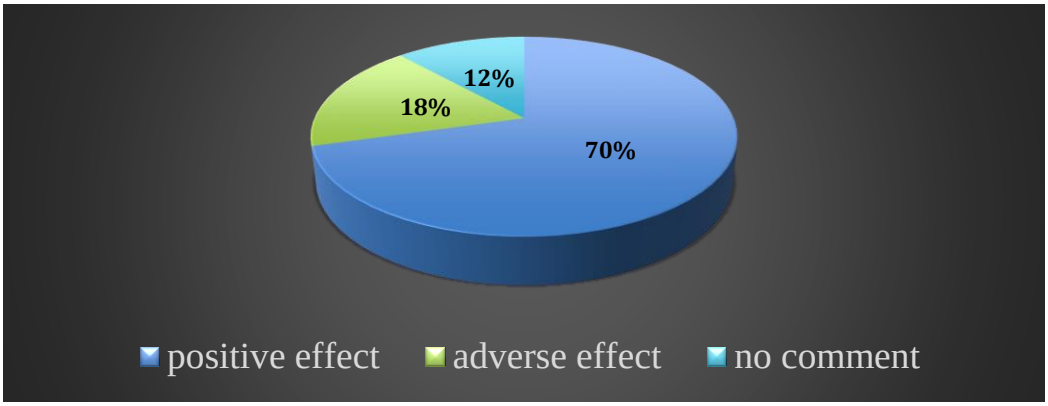


Figure 27

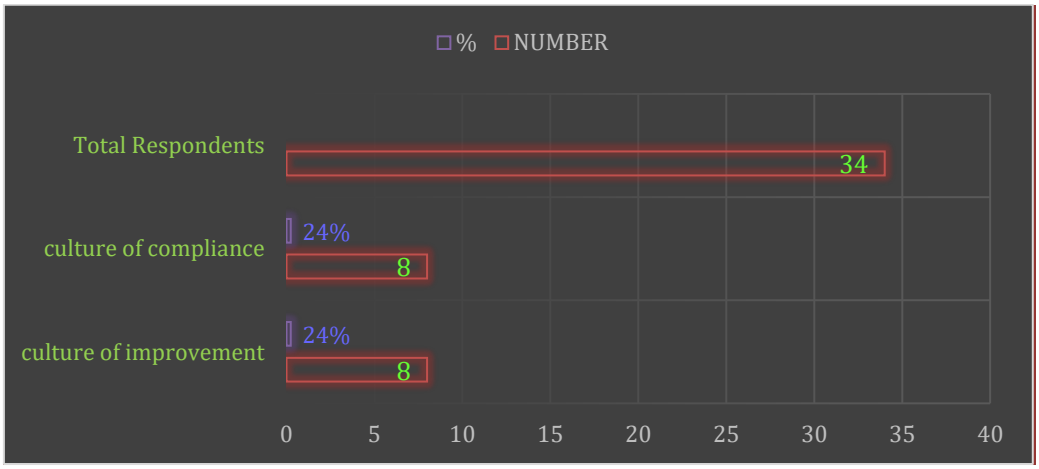
Effect of MARAD's PSG on QMS Development & Implementation



Squeezing more analysis out of the information given by METI-Champions, the researcher found two (2) interesting results that stand out (Figure 28) and qualified it as the **"Quality Culture" emerged or developed under the implementation of MARADs PSGs**.

Figure 28

Quality Culture Developed under MARAD PSGs' Implementation



The next chapter will provide a profound and substantial explanation of the above-shown figures. The researcher also offers corresponding conclusions and recommendations.

CHAPTER 5. DISCUSSIONS

This chapter discusses the research findings undertaken using the qualitative approach to answer the research questions.

5.1 Influence of QMS Principles in the development of Quality Culture

Inquiring METIs perspectives on how QMS principles influence the development of QC pose interesting results. The respondents of the online survey gave diverse views of how QMS principles influence QC development. Following are sample answers gathered through an open-ended question:

> *"It contains all the facts and thoroughly covers all the aspects of an effective and attainable operational system, making it an ideal tool in our quest for quality and excellence in Education and Training."*

> *"It will set direction to attain the vision of the university to globally competitive in all aspects."*

> *"It goes hand in hand because, without process, they will have no direction and no measures of effectiveness."*

> *"QMS promotes a culture of teamwork, consistency on the implementation of processes for the promotion of a well- balanced and continually - improved institutional services that meet or even exceed stakeholders' expectations."*

> *"Quality is not an act; it's a habit. Making it as someone's second nature becomes a part of that someone. Culture is always a part of the individual and of the group."*

Respondents' viewpoints suggest that QMS principles function as a motivator and stimulus for Quality Culture practices and that both of these constructs significantly impact organisational performance. The attainment of institutional objectives and long-term success is mainly based on the QC shaped at all levels of the operation through dynamic leadership and teamwork. At numerous levels of an organisation, culture is deep-seated in and drives the QMS's essential principles. The effect of QMS features demonstrates that when a QC is well-established inside an organisation, it will undoubtedly improve operational performance and has a current impact on primary activities. As a result, it can be proven that both of these activities are mutually beneficial.

While 94% of respondents agreed that QMS principles could influence QC development **(Figure 14)** and that level of impact is generally *extreme* and *high* **(Figure 15)**, the answer to "in what way or how" was not elicited and satisfied well by their responses. Answers gathered were ambiguous and contained few explanations as it was queried through an online survey. Had this been prompted through interviews or focus group research methods, the researcher may collect concrete and profound answers out of this concept.

Further, the online survey question intended for MARINA Evaluators to address RQ1 did not complement the Questionnaire for METIs **(Appendices 1 and 2)**. Hence, responses from MARAD Evaluators that are supposed to shed light on RQ1 merely explain that QMS is part of their evaluation instruments **(Figure 16)**. Moreover, results can only describe that most evaluators pay more attention to checking and monitoring QMS as their key areas of evaluation. Accordingly, the line of questioning was not pushy enough to address the researcher's constructs. According to Schein (2017), surveys and questionnaires have limits when it comes to cultural knowledge. Interviews provide a richer source of information. According to Schein (2017), "if decisions are made based on inaccurate assumptions about the organisation's culture, substantial harm can result" (p. 256). Such errors are most likely to occur when culture

is defined superficially—when espoused values or data gathered through questionnaires are assumed to be an accurate representation of the underlying assumptions without conducting group and individual interviews to elicit deeper assumptions and patterns (Schein, 2017).

5.2 "Quality" in Philippine MET

The researcher used three approaches to better determine the meaning of quality in Philippine MET. Firstly, inquiring respondents' perceptions using the Likert scale. Then, taking advantage of an open-ended question to obtain a narrative and deeper explanation of how METIs describe quality. Lastly, comparing METIs responses with MARAD Evaluators replies on the notion of *quality in MET*.

Based on Harvey and Green (1993) "5 Ways of Thinking Quality", Philippine METIs' description of "Quality MET" gives **56% responses (Figure 19),** describing quality as **"fitness for purpose"**. Fitness for purpose connects quality with meeting a specification or expected results. The term "fitness for purpose" raises the questions of "whose purpose" and "how is fitness assessed" (Harvey, 2011). In MET, fitness for purpose offers two different priorities for a specified purpose. The first puts the responsibility on the customer to specify requirements, while the second pinpoints it with the education provider, as expressed through mission and goals. Thus, it appears that suitability for purpose becomes a matter of compliance. Several subcategories were taken from METIs' discussions, such as *meeting customer, clientele or sponsors needs or requirements, fulfilling institutional mission, vision or goals and compliance with regulatory requirements/standards*. These sub-categories are explored from various published journals (i.e Harvey and Green (1993); Harvey and Stensaker (2008)). Although the frequency of responses revealed 56% went to fitness for purpose, it does not equate to the whole METIs' perspective since 44% of reactions view quality as a process of change or *transformation*. The 44% of responses perceive

quality as a process of change, which in higher education adds value to students/trainees through their learning experience. Therefore, they may envisage education as not a service for a customer but an ongoing process of learners' transformation.

To confirm whether Philippine METIs perceptions about quality weights more on fitness for purpose or transformation, the researcher resorted to looking at MARAD evaluators' lens. Astonishingly, the result gave a striking **75% response (Figure 21)** confirming "quality" as *fitness for purpose*, as observed by MARAD evaluators. Similarly, succeeding to "*fitness for purpose"* is the "*transformation",* garnering a frequency of 21% from responses.

The result suggests that METIs and MARAD evaluators identify quality in terms of how an institution meets the specifications of the customer, stakeholders or the authority. The customer, stakeholders and administration have requirements that become the specifications for the METIs, and the outcome must match the criteria. Thus a quality in MET should conform to the customer, stakeholders and authority's determined specifications. Fitness for purpose can also be developmental as it recognises that purposes may vary over time, thus requiring constant re-evaluation of the appropriateness of the specification. This can be a tool to analyse quality in MET at some levels. For example, if MET aims to produce competent graduates ready to pursue a career in a related maritime field of specialisation, can the system as a whole satisfy the end-users with the quality of cadets it provides? Are the MET programs providing the required knowledge, proficiency and skills? In reality, stakeholders have different views about the purpose of MET. However, it can be argued that student satisfaction is the most significant arbiter of fitness for the goal-oriented purpose.

5.3 Significant elements of Quality in the context of MET?

Based on the online survey result, several elements of quality are identified by METIs' QMS champions. It can be observed that the "elements of quality" stemmed from responses are from the foundations of the TQM approach **(Figure 22)** described by Mahmood and Mohammed (2008). These are the essential dimensions of a quality culture that aim to implement the TQM: *leadership, customer focus, continuous improvement, education and training, teamwork, involvement, empowerment, supplier partnership, recognition and reward, communication, motivation and organisation structure* (Table 4).

Table 4

Elements of Quality per METIs Perspectives

ELEMENTS	Frequency	%
Customer focus	22	65%
Continuous improvement & innovation	15	44%
Education and training	11	32%
Empowerment	7	21%
Strategic and quality policy	7	21%
Compliance with requirement/standards	**6**	**18%**
Leadership & top management commitment	5	15%
Teamwork	5	15%
Employee involvement	4	12%
Communication	2	6%
Supplier partnership	1	3%
Motivation	1	3%

So, how could METIs identify these elements of TQM while they are implementing ISO-based QMS? The answer may be argued based on Chen et al. (2016) explanation about the link between TQM and ISO-based QMS. According to them, TQM is portrayed as a holistic approach that emphasizes customer orientation, employee and customer empowerment, process attention, a well-functioning quality management system, and continuous development. Moreover, it is a method of coordinating and securing the entire organisation's participation, specifically every department, every activity, and every person at all levels. Similarly, the ISO-based QMS is grounded on the same quality management principles. It gives guidance to organisations on ensuring that their products/services continuously fulfil customers' needs and that the quality of their products/services improves over time (Chen et al., 2016).

To confirm whether the METIs-identified quality elements were the same under the MARADs standpoints, the researcher also requested MARAD evaluators' viewpoints on the quality facets in MET. Astoundingly, the result was different from the METIs **(Figure 23)**. For example, out of 15 elements described by MARAD Evaluators, there were six elements out of their Monitoring instruments (Items 1-6), seven elements from TQM principles (7-13), and two parts perceived by the researcher as elements out of quality assurance activities (Table 5).

Table 5

Elements of Quality per MARAD Evaluators

	Elements	Frequency	%
1	Competent teaching/training staff	10	42%
2	QMS including QSS	8	33%
3	Curriculum	7	29%
4	Education/training facilities & equipment	6	25%
5	Training & assessment system	3	13%
6	Teaching methods	2	8%
7	Leadership & top management commitment	5	21%
8	Continuous improvement & innovation	4	17%
9	Customer focus	3	13%
10	Education and training	3	13%
11	Employee involvement	3	13%
12	Empowerment	1	4%
13	Organisation structure	2	8%
14	**Compliance with regulatory requirements/standards**	**2**	**8%**
15	**Quality assurance**	**6**	**25%**

It can be noted that "*METI-Champions mentioned compliance with requirements/standards"* **(18%)** per **Figure 22**. In a similar vein, MARAD-Evaluators mention the notion of "*compliance with requirements/standards and quality assurance"* (associated with each other) as elements in quality in MET **(Figure 23)**. *Compliance with requirements* did not form part of the principles of TQM described by Mahmood and Mohammed (2008). However, both respondents qualified it as a significant element. It can be recalled that in searching for the answer in RQ2, QUALITY in both respondents' perspectives turned out to be "FITNESS FOR PURPOSE". To reiterate, fitness for purpose connects quality with meeting a specification or expected results.

5.4 Quality Culture of the Philippine METs

Given the sovereignty to describe the QC their institutions portray, METIs' responses generated an outstanding **121% indications toward the "regenerative" QC**, using Mary Douglas' Grid-Group scheme, followed by "responsive" QC, gaining 94% as pronounced in their responses **(Figure 24)**.

Referring to the grid-group scheme of Mary Douglas, the "regenerative" type is strong regarding the degree of group-control, while weak regarding the degree of external rules. Harvey (2008) and Harvey & Stensaker (2008) explained that the *Regenerative QC* is more focused **internally** as it highly values people and established procedures (indicators shown in Table 3). Based on the indicators generated by the researcher, it can be observed that the QC described by METIs that manifests in their institutions fall under the principles of TQM. It can be recalled that TQM's fundamental principles are designed to continuously improve an organisation via the engagement and commitment of all of its employees. TQM is concerned with ensuring that an organisation's resources are strategically allocated toward serving the needs of its customers (both internal and external), utilizing techniques to quantify results and aid in decision making (Chen et al., 2016).

The result cannot deny that significant responses claim that Philippine METIs can also be under the "responsive quality culture" **(METI-94% [Figure 24] and MARAD-54% [Figure 25])**. Referring to Mary Douglas' grid, this type is strong regarding group-control and the degree of external rules. As Harvey and Stensaker (2008) defined, external forces drive the responsive type of QC, which focuses on improvement and aims to get the most out of policy and requirement compliance. It regards QC as a solution to the evaluation challenge. Again, the result justifies the Philippine METIs' definition of quality of MET as "Fitness for Purpose".

The palpable representation of interactions among those associated with an organisation in any form is dictated by culture. QC begins with a leadership that knows and believes the implications of the system's perspective, including the critical nature of providing excellent customer service in order to be successful. This type of cultural awareness enables both a positive corporate environment and the production of satisfied customers to coexist. A culture that prioritizes process development and advocates a healthy work environment satisfies clients, resulting in a affluent institution.

5.5 MARAD PSGs' impact on the development and implementation of METIs QMS and Quality Culture

5.5.1 Effect on QMS

On the angle PSGs influencing METIs' QMS, thought-provoking reactions were gathered from the respondents. However, some of their replies are vague and hard to categorise. For example, the researcher wanted to classify responses into positive and negative impacts. However, the ambiguity of the answers and limited explanations would make it risky to classify them based on the researcher's implication. Again, the limitation of the online survey to gather data is highlighted in RQ5. To better explain, examples of respondents replies are as follows:

> *"The ever-changing requirements result in the frequent revision of our processes."*
>
> *"Regular changes on mandatory requirements?"*
>
> *"Continuously changing."*
>
> *"As PSGs evolve every 3 years, so do the institution QMS."*

Every change in the PSGs significantly affects METIs management system, operations and quality policies and procedures. This is because Regulation I/8 (Quality Standards) of the STCW Convention requires parties concerned to ensure and reflect that all applicable provisions of the Convention and STCW Code (by which member states domesticated in their national policies) are covered by the quality standard system.

Conversely, some participants generously provided insights on the effect of PSGs on their QMS.

> *"It greatly affects the development and improvement of the institutions QMS which means that the institution needs to comply with the required policies and standards being implemented. Different areas in the QMS must be considered, reviewed and revised what is need to be given focus or attention."*

> *"Frequent change have greatly affected the QMS of the institution, making curriculum changes without finishing the first cycle and catch up plans before have made the institution QMS change and lapses just to comply with new set up rules almost every year for the last 5 years. This means QMS frequent change was the effect of the MARAD's policies. New rules, new compliance, and unfortunately, new or a lot of new non-compliances during Internal audits. But of course, with our strong quality culture, the academy always complies as much it can to MARAD for its a requirement of our EQSS. Therefore, the management of change was a profound effect on the institution's QMS."*

> *"It gives assurance of conformity to internal interested parties and a specified requirements through the effective application of the Quality Management System, customer feedback mechanism, and analysis and quality objectives for*

the continual improvement of its processes geared towards customer satisfaction."

While some METIs took the frequent updates of MARAD PSGs constructively, the authority may consider and plan any updates or changes of their policies well. Bogue (1998) argued that both institutions and government require performance knowledge on activity and achievement—knowledge that informs decision-makers about the industry's health, provides a foundation for improving instructional and administrative services and demonstrates the extent to which progress is being made on shared goals. In this sense, a well-designed profile of performance indicators enables an educational program, institution, or system of institutions to provide an operational expression of its quality, meet both improvement and accountability demands, and strengthen its decision-making capabilities.

5.5.2 Effect on Quality Culture

Finally, the researcher would like to determine the impact of MARAD's rules and regulations on METIs' QC. The query was ambitiously elicited through an online survey based on an open-ended question. Similar to RQ1, respondents are very conservative in answering the question. Inquiring the impact, the researcher came up with two themes: positive and adverse effects, categorisation based on the tenor of respondents' answers. **Figure 27** describes that 70% of the respondents acknowledged the positive impact of MARAD's rules and regulations, 18% felt the adverse effect, and the remaining 12% chose not to comment. Several positive effects were recognised by respondents, such as:

"MARAD's policies, standards and guidelines impact our institution's Quality Culture by making us strive more, strictly comply with the requirements (e.g. training facilities, equipment, etc.) and be at par with the best in the industry."

"It challenges our Institution to further improve our Quality Culture and for our institution to set the Maritime Education and Training standards."

"It has brought about a big challenge to the quality culture of the institutions because when MARAD PSGs are issued, it entails documentation, manpower, and infrastructure. But it also brings about the best in any institution's quality culture. The PSGs is good test for us if we really have a good grasp of what is quality and how to we practice it. It acts as a litmus test whether we really have a quality culture or succumb to the quick fix and compliance mode to the JCMMCs."

"It encourages us more to improve and explore."

While complying with the rules and guidelines of MARAD is challenging, METIs still consider it as an opportunity for improvement for their institution. This METIs attitude can be best described based on Mary Douglas' grid-group on the type of Quality Culture, which falls under *Responsive Quality Culture*. It can be argued that this justifies the result of analysis in addressing **RQ4 (Figures 24 & 25)**. Their positive approach towards complying with standards and requirements validates the development of this research regarding the type of culture Philippine METIs have. Harvey (2008) explained that external pressures drive the responsive mode, which is enthusiastic about seizing opportunities to examine procedures and develop forward-thinking agendas. It focuses on improvement and aims to get the most out of policy or requirement compliance. Responsive QC tries to learn from others, and it tends to regard quality culture as a solution to the evaluation challenge.

However, not all METIs are pleased with the way the authorities impose their rules and policies. The respondents under the 12% **(Figure 27)** who proclaimed that

authority's rules and guidelines have an adverse effect on their QMS and quality culture provided reasons why did they say so, such as:

> *"The unclear, constant and frequent changes of the guidelines and lack of time to implement them significantly affect the school's operational viability and quality culture."*

> *"The impact is high. They do audits to check with the requirements. There are even scenarios that monitoring, accreditation and surveillance have different information on hand."*

> *"Always changing policies and requirements. The employees are getting confused due to regular change in requirements."*

> *"In order to inject quality culture to the institution requires certain timetable, therefore the changes that brought about by annual changes in policies, standards and guidelines by maritime administration really affects the objective of acquiring quality. Changes in QMS to adhere with the PSG may be accomplished in a short time, but the implementation and validation may take a year or so, this should be taken into account by the MARAD in every inspection or audit that they conduct as well as taking a stand in protecting the interest and sovereignty of the state by creating our own quality culture and not by other party."*

Regarding the above concerns, MARAD should consider all the angles in developing, updating and implementing the policies, standards and guidelines. Rules and regulations may serve as guidance to execute and deliver a quality MET, but if done recurrently, the impact on the whole operation and educational system of the institution is evident.

Out of respondent's answers, it can be argued, or further research may prove, that organisational culture can develop based on how MARAD updates and implements their PSGs. According to the analysis result, two cultures developed because of frequent updates of PCGs: **a culture of compliance** and **a culture of improvement (Figure 28)**. The *culture of compliance and improvement* can be associated with Matei and Iwinska (2016) discussion about the purpose of a QA system. According to them, quality assurance's improvement or enhancement focuses more on the internal audience and higher education institutions. The QA process serves as a more forward-thinking sequence for continuous improvement. The QA process concedes both strengths and weaknesses in this model and endorses directions leading to quality improvement. Evaluations in these QA approaches are often in recommendations rather than a pass or fail result. The recommendations are naturally targeted at an academic audience whose involvement is vital to effective quality improvement

CHAPTER 6. CONCLUSION & RECOMMENDATIONS

Finally, this chapter comprises the conclusions and recommendations regarding research questions discussed, conferring to the research's result and analyses, as well as the researcher's insight into the study's outcome.

6.1 Conclusions

RQ1. *How do QMS principles influence the development of Quality Culture?*

Organisations have varying work environments, attitudes, and leadership styles, affecting how the quality management approach is interpreted and implemented. Thus, METIs must understand their organisational culture profiles to integrate quality management principles and select the most appropriate strategy development and continuous improvement approach. Quality Culture practices serve as a motivator and stimulus for fundamental QMS activities, and as a result, both of these constructs have a major impact on organisational performance. The attainment of organisational objectives and long-term success are mostly based on the quality culture produced at all levels of the organisation through dynamic leadership and teamwork. At various levels, culture is ingrained in and drives QMS practices.

RQ2. *What is "quality" in MET from the perspective of METIs in the Philippines?*

Quality may often be an institution's sole distinguishing factor. Focusing on the customer's requirements, which is at the heart of quality, is one of the most effective strategies for competing and surviving. Pursuing the definition of quality in MET proves the difficulty and challenging characteristics, elusive term, multifaceted, dynamic and subjective and dependent on individual/organisation's perspectives. Educational institutions are committed to continuous quality improvement for a variety

of critical reasons. Several are associated with professional responsibility, while others arise due to the inherent rivalry in educational marketplaces or commitment requirements. Lastly, quality is pursued to complement the design of academic operations so that learners achieve their objectives, satisfy societal needs, and contribute to national development. The intricacy of education and training and the importance of its standards make taking a quality attitude more complicated and diverse.

RQ3. *What are the significant elements of quality in the context of MET?*

In search for quality elements in MET, a significant notion can be explored that TQM is an enhancement to the ISO-based approach in developing, producing, and delivering quality education consistently to satisfy its customers. The ISO-based approach emphasizes the development of a quality system. Alternatively, TQM focuses not only on establishing a quality system but also on achieving continuous quality improvement. As a result, it can be argued, or future research may confirm, that combining the two methods can assist any organisation in consistently and efficiently meeting customer requirements. Furthermore, TQM and ISO-based quality systems are renowned for their emphasis on management and leadership, engagement and involvement, error or defect prevention and detection, customer focus, and effective implementation. Thus, merging the beneficial parts of the two techniques can be advantageous, given that both approaches' systems and procedures can be strengthened and incorporated. This can improve outcomes, mainly because the ISO-based QMS may serve as a solid starting point for implementing TQM. Furthermore, the quality assurance performed by the MARAD is an element of quality, at least in the concept of METI in the Philippines.

RQ4. *What type of Quality Culture does Philippine METIs portray?*

When we compare the respondents' description of their quality culture to more well-known ideas on how to comprehend culture, it becomes clear that the definitions and understandings provided are defined by a very high degree of ambiguity. On the one hand, quality culture is challenging to describe because each METI is unique (culture as an organisation). Still, conversely, it can be enhanced by structural or administrative initiatives that stimulate shared values and beliefs. Confounding further, one could argue that the concept of quality culture is inextricably linked to national and international political objectives to influence how METIs work and function fundamentally.

RQ5. *How do Maritime Administration policies, standards and guidelines influence the development and implementation of METIs QMS and Quality Culture?*

The variety of METIs responses regarding the impact of MARAD's PSGs in monitoring and evaluation demonstrates several perspectives in understanding QA. Some institutions are more concerned with sustaining standards, while others are more focused on improvement and enhancement. Procedures, processes, and mechanisms are mentioned in some definitions, but few others emphasise quality culture or stakeholders' needs. The implementation of MARAD's PSGs requires METIs to comply with several key areas of education on top of the requirements set by the STCW Convention. MARADs frequent monitoring and evaluation programs and regular updating of policies and procedures are factors for METIs to adapt to changes and be flexible in aligning their internal policies and practice and eventually develop a culture of compliance.

QC as a process works best when principles, standards, and procedures are communicated and promoted across an organisation's multiple levels. While gauging

against established criteria is necessary for accountability, these systems cannot be considered quality guarantors. Quality is not a goal to be achieved, but a process that works best when an institution's products or services are assessed, and its aims and commitment to ensure it are freely expressed.

6.1.1 General Conclusion

The application of QMS Principles is critical in the generation of METIs' QC. QMS principles serve as a motivator and stimulus for QC practices, and equally, these constructs have a substantial impact on METIs performance. METIs' institutional objectives and long-term success rely primarily on the quality culture nurtured at all levels of the organisation through dynamic leadership and teamwork. Thus, culture is deeply ingrained in and drives the fundamental concepts of the QMS at multiple levels of METIs operations. This study's findings suggest that when a QC is well-established inside an organisation, it will surely increase operational performance while also having a present impact on primary operations. Therefore, it can be demonstrated that both of these concepts are reciprocally beneficial.

The foundations of a METI's quality orientation are established at the organisational level. Institutional QC is a value system embedded within an organisation that creates a quality-conscious work atmosphere. It creates and encourages quality and continuous development through ideas, traditions, and procedures. Quality institutions use quality management that focuses on generating high-quality finished products and services and improving the institution's internal and external services. As a result, having a strong quality control program can help METIs increase customer satisfaction and preserve a competitive edge through improved service.

6.2 Recommendations

Given the above circumstances, the researcher wishes to convey the following recommendations:

6.2.1 For METIS

While the result of the study implies that quality in MET is fitness for purpose, METIs may incline to a more transformative view of quality. MET may set a premium on the student's development and empowerment. Thus, for METIs, improvement should prioritise the student learning experience to optimise the process of enhancement and empowerment continuously in line with the STCW Convention requirements, induced by the QMS approach and optimised by Quality Culture practices.

6.2.2 For MARAD

MARAD's policies, standards and guidelines must be conscientious about METIs' operation and internal quality control systems. Accountability occurs as a result of a well-planned and transparent policy towards MET system improvement. Prioritizing accountability and expecting quality improvement is likely to impede, rather than stimulate, a continuous quality improvement process.

6.2.3 For future research

1. The significance of QC in successfully implementing a QMS involves a comprehensive examination of the circumstances, including all essential parts of QC, quality management practices, and organisational performance. Future research may provide a more thorough overview by developing comprehensive models of QC.

2. Diverse articles regarding TQM practices, principles and elements are available online for reference. Associating TQM (having similar principles with QMS) in developing QC may likewise be explored.

3. It is highly recommended that individual interview or focus group methods be employed to elicit more profound and substantial expectations or patterns if the same concept is explored in the future. Thus, meaningful and substantive information can be congregated as participants will have more chances of profounding their viewpoints regarding the topic.

4. The researcher described the quest to identify the type of QC of Philippine METIs through the generated graphical presentation because of the limited participants in the research. Future studies may increase the number of participants so that an inferential analysis may be utilised to develop a context that will speak on behalf of the Philippine METIs population.

6.3 Limitations of the study

The inadequate number of participants displays an intrinsic downside that may put to question the overview of findings. Similarly, a low response rate was the main drawback as the duration of the conduct of the survey was delimited by the timetable allocated in the study. Thus, the time constraint is also a primary concern. Furthermore, the online survey questionnaire was the sole instrument used to collect data. While the structure comprises mixed questions, the confinement to a single tool presents a restriction to collecting essential data. Finally, the pandemic triggers the mobility constraint. Study trips that could be an avenue for creating professional affairs and gathering data were aggravated by the ongoing pandemic.

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Appendices

Appendix A. Questionnaire for METIs

Good day! I hope all is well with you.

I am Moises ERQUIZA, taking MSc in Maritime Affairs (with specialisation in Maritime Education and Training) at the World Maritime University (WMU)-Malmö, Sweden. I am carrying out research about the role of the Quality Management System (QMS) principles in developing METIs' Quality Culture, as it is believed that the QMS principles have a relative impact on developing METIs' Quality Culture - one of the key factors in the delivery of quality education and training.

It is respectfully informed that this survey questionnaire will take not more than 10 minutes of your time. The information you will provide in this form is for academic purposes only and will therefore be treated with maximum confidentiality. Your name and affiliation (if given) will be anonymised in the final report. Your kind participation is very much appreciated and will form part of the success and realisation of the research.

Again, thank you very much and warm regards.

* REQUIRED

Section 1. Demography

1. Email*

2. Name

3. Gender

Male	☐
Female	☐
I prefer not to say	☐

4. Name of institution*

5. What designation do you hold in your institution?*
Mark only one.

- [ ] Quality Management Representative
- [ ] Dean
- [ ] Program Head
- [ ] Training Director
- [ ] Other:_____

6. How long have you been working in your institution?*
Mark only one.

- [ ] Less than 1 year
- [ ] 1-5 years
- [ ] 5-10 years
- [ ] More than 10 years

7. How long have you been involved in QMS-related activities?*
Mark only one.

- [ ] Less than 1 year
- [ ] 1-5 years
- [ ] 5-10 years
- [ ] More than 10 years

8. Do you have seafaring Experience?*
Mark only one.

- [ ] Yes
- [ ] No

9. If yes, how long have you been a seafarer?
Mark only one.

- [ ] Less than 1 year
- [ ] 1-5 years
- [ ] 5-10 years
- [ ] More than 10 years

10. Do you have teaching experience?*
Mark only one.

Yes	☐
No	☐

11. If yes, how long have you been teaching?
Mark only one.

Less than 1 year	☐
1-5 years	☐
5-10 years	☐
More than 10 years	☐

Section 2. Quality, QMS principles and Quality Culture

This section aims to help us gain insights into the concept of "quality" and QMS principles linked with the development of quality culture based on your institution's perspective. Kindly express your agreement or disagreement with the following statements by selecting the appropriate answer or answering yes/no as needed. Alongside, we will ask several questions to which we would appreciate a thorough response.

12. Does your institution have Quality Management System (QMS) in place?*
Mark only one.

Yes	☐
No	☐

13. What standard does your institution implement?*
Check all that apply.

ISO 9001 series standard	☐
Institutional standard	☐
Other:_____	☐

14. Does your institution provide QMS-related training, seminars or workshops?*
Mark only one per row.

	Yes	No
Teaching staff		
Non-teaching staff		

15. Frequency of QMS-related training, seminar or workshop conducted by your institution
Mark only one per row

	More than 3 times a year	Twice a year	Once a year	Never
Teaching staff				
Non-teaching staff				

16. Kindly indicate the level of emphasis on the following QMS Principles in implementing your institution's maritime programs.*
Mark only one per row.

	Extreme	High	Medium	Low	Negligible
Customer Focus					
Leadership					
Engagement of people					
Process approach					
Improvement					
Evidence-based decision making					
Relationship management					

17. Kindly indicate the priority level to the following QMS Principles during the stages of establishment, maintenance and improvement of your QMS Manual.*
Mark only one per row.

	Essential	High priority	Medium priority	Low priority	Not priority
Customer Focus					
Leadership					
Engagement of people					
Process approach					
Improvement					
Evidence-based decision making					
Relationship management					

18. In your opinion, QUALITY in maritime education and training is more on?*
Mark only one per row.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Quality as excellence					
Quality as perfection or consistency					
Quality as fitness for purpose					
Quality as value for money					
Quality as transformation					

19. What is "quality", in the context of maritime education and training, based on the perspective of your institution?*

20. What do you think are the elements of "quality" in the delivery of quality maritime education and training?*

21. Kindly indicate the level of impact of the following QMS principles on the development of Quality Culture.*
Mark only one per row.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Customer Focus					
Leadership					
Engagement of people					
Process approach					
Improvement					
Evidence-based decision making					
Relationship management					

22. Do you agree that the QMS, together with its principles, has something to do with developing a Quality Culture in your institution?*
Mark only one.

Yes
No
Other :_____

23. Why?*

24. The following elements of quality culture are based on the Total Quality Management (TQM) approach. Kindly indicate the level of manifestation of the following elements in your institution.*
Mark only one per row.

	To a large extent	To a moderate extent	To some extent	To a small extent	Not at all
Leadership & top management commitment					
Customer focus					
Continuous improvement					
Education and training (all staff)					
Teamwork					
Employee involvement					
Empowerment					
Supplier partnership					
Rewards and recognition					
Communication					
Motivation					
Organisational structure					
Strategic and quality policy					

25. What quality culture exists in your institution?*

26. In your opinion, what factors affect the development of quality cultures in you institution?*

27. What do you think is needed to improve your institution's quality culture?*

Section 3. Mandates, policies, standards & guidelines

This section is intended to help us understand how Maritime Administration's mandates, policies, standards and guidelines impact METIs QMS and quality culture towards the delivery of quality education and training. In this part, kindly express your opinion with the following statements by selecting the appropriate answer or answering yes/no as required. We will also ask few questions to which we would appreciate a thorough response.

28. Kindly indicate the level of agreement to the following statements.*
Mark only one per row.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The policies, standards and guidelines of the MARAD in respect to MET are clearly defined					
MARAD's objectives in accreditation, inspection and monitoring are clearly stated.					
The authorities that conduct accreditation, inspection and monitoring are knowledgeable and competent in exercising their duties and responsibilities.					
The authorities provide suggestions and insights on how to improve your institution's system.					
MARAD's policies, standards and guidelines affect the design and content of your institution's QMS.					
MARAD's policies, standards and guidelines help your institution in providing quality education and training.					
MARAD's policies, standards and guidelines help your institution improve your best practices and quality culture.					

29. How do MARAD's policies, standards and guidelines affect the content of your institution's QMS?*

30. Which areas of your QMS are the most affected by the MARADs policies, standards and guidelines?*

31. Do you agree that MARAD's legal requirements have role in developing METIs' Quality Culture?*
Mark only one.

Strongly agree	☐
Agree	☐
Neutral	☐
Disagree	☐
Strongly disagree	☐

32. How do MARAD's policies, standards and guidelines impact your institution's Quality Culture?

33. Thank you very much for your participation. Any corrections, suggestions, recommendations that can be contributed to the topic as well as this questionnaire are welcome and very much appreciated. You may reach me through e-mail: w2005544@wmu.se

Appendix B. Questionnaire for MARAD Evaluators

Thank you very much for sharing and dedicating your time to participate in this study. This survey questionnaire would take not more than 10 minutes of your time. It aims to explore the role of the Quality Management System (QMS) principles in developing METIs' Quality Culture. The researcher believes that the QMS principles have a relative impact on developing METIs' Quality Culture - one of the key factors in delivering quality education and training.

Data that will be derived from this survey questionnaire is for dissertation purposes only. Utmost confidentiality relative to this matter shall be assured. Your name and affiliation (if given) will be anonymised in the final report. Your opinion, insights and perspectives are significant contributions to the study's outcome. Your participation is very much appreciated and will form part of the success and realisation of the research.

* REQUIRED

Section 1. Demography

1. Email*

2. Name

3. Gender

Male	☐
Female	☐
I prefer not to say	☐

4. What designation do you hold in the Maritime Administration?*

5. Under what division/section?*
Check all that applies.

Maritime Education and Training Standards Supervisor	☐
Accreditation Division	☐
Monitoring Division	☐
Others: _____	☐

6. How long have you been involved in QMS-related activities?*
Mark only one.

Less than 1 year	☐
1-5 years	☐
5-10 years	☐
More than 10 years	☐

7. Do you have seafaring Experience?*
Mark only one.

Yes	☐
No	☐

8. If yes, how long have you been a seafarer?
Mark only one.

Less than 1 year	☐
1-5 years	☐
5-10 years	☐
More than 10 years	☐

9. Do you have teaching experience?*
Mark only one.

Yes	☐
No	☐

10. If yes, how long have you been teaching?
Mark only one.

Less than 1 year	☐
1-5 years	☐
5-10 years	☐
More than 10 years	☐

Section 2. Quality, QMS and Quality Culture

This section will help us understand how the Maritime Administration (MARAD), in performing their mandates, impacts METIs' QMS implementation and quality culture towards delivering quality education and training. Kindly express your opinion and agreement or disagreement with the following statements by selecting the appropriate answer or answering yes/no, as needed. Alongside, we will ask few questions to which we would appreciate a thorough response.

11. Kindly indicate your level of familiarity with the following:*
Mark only one.

	Extremely familiar	Very familiar	Moderately familiar	Slightly familiar	Not at all familiar
Quality management system (QMS)					
QMS Principles					

12. Kindly select the level of familiarity with the following QMS principles*
Mark only one per row.

	Extremely familiar	Moderately familiar	Somewhat familiar	Slightly familiar	Not at all familiar
Customer Focus					
Leadership					
Engagement of people					
Process approach					
Improvement					
Evidence-based decision making					
Relationship management					

13. In your opinion, QUALITY in maritime education and training is more on?*
Mark only one per row.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Quality as excellence					
Quality as perfection or consistency					
Quality as fitness for purpose					
Quality as value for money					
Quality as transformation					

14. What is "quality" in the context of maritime education and training?*

15. What do you think are the key elements of "quality" in the delivery of quality maritime education and training?*

Section 3. Mandates, policies, standards & guidelines

This section is intended to help us understand how Maritime Administration's mandates, policies, standards and guidelines could impact METIs QMS and quality culture towards delivery of quality education and training. In this part, kindly express your opinion with the following statements by selecting the appropriate answer or answering yes/no as required. We will also ask few questions to which we would appreciate a thorough response.

16. Are there specific national rules and regulations that require you to check and evaluate METIs' QMS?*
Mark only one.

Yes	☐
No	☐

17. What other rules and regulations require you to check and evaluate METIs' QMS?*

18. Do you give additional information and suggestions to METIs when checking and evaluating their QMS?*
Mark only one.

Yes	☐
No	☐

19. What kind of information and suggestions do you share when checking and evaluating METIs' QMS?*

20. Do you have checklist, standard or criteria in checking METIs' QMS?*
Mark only one per row.

	Yes	No
Checklist		
Standards		
Criteria		
Other		

21. Are these QMS principles, in a way, part of your checklist, standards and criteria?*
Mark only one per row.

	Yes	No
Customer Focus		
Leadership		
Engagement of people		
Process approach		
Improvement		
Evidence-based decision making		
Relationship management		

22. What key areas of MET system do you usually and comfortably check, evaluate or monitor?*
Check all that applies.

- [ ] Quality Management System (QMS) including Quality Standard System (QSS)
- [ ] Organisation, Management and Support Staff
- [ ] Curriculum content
- [ ] Teaching methodology including media of delivery
- [ ] Examination and assessment system
- [ ] Instructors and assessors
- [ ] Admission and registration system
- [ ] Facilities and training equipment
- [ ] Simulators
- [ ] Others:_____

23. Did you see significant improvement on METIs' performance upon checking and evaluating their MET system?*
Mark only one.

Yes ☐
No ☐
Other :_____

24. Kindly indicate the level of improvement on METIs' performance upon checking and evaluating their MET system.*
Mark only one per row.

	Significant improvement	Improved	Slightly improved	No improvement	Slightly worse	Worse	Much worse
Quality Management System (QMS) including Quality Standard System (QSS)							
Organisation, Management and Support Staff							
Curriculum content							
Teachning methodology including media of delivery							
Examination and assessment system							
Insructors and assessors							
Admission and registration system							
Facilities and training equipment							
Simulators							

25. Why is it important to check and evaluate METIs' QMS?*

26. Do you think Maritime Administration's mandates, policies, standards and guidelines help in developing Quality Culture of METIs?*
Mark only one.

Yes ☐
No ☐
Other :_____

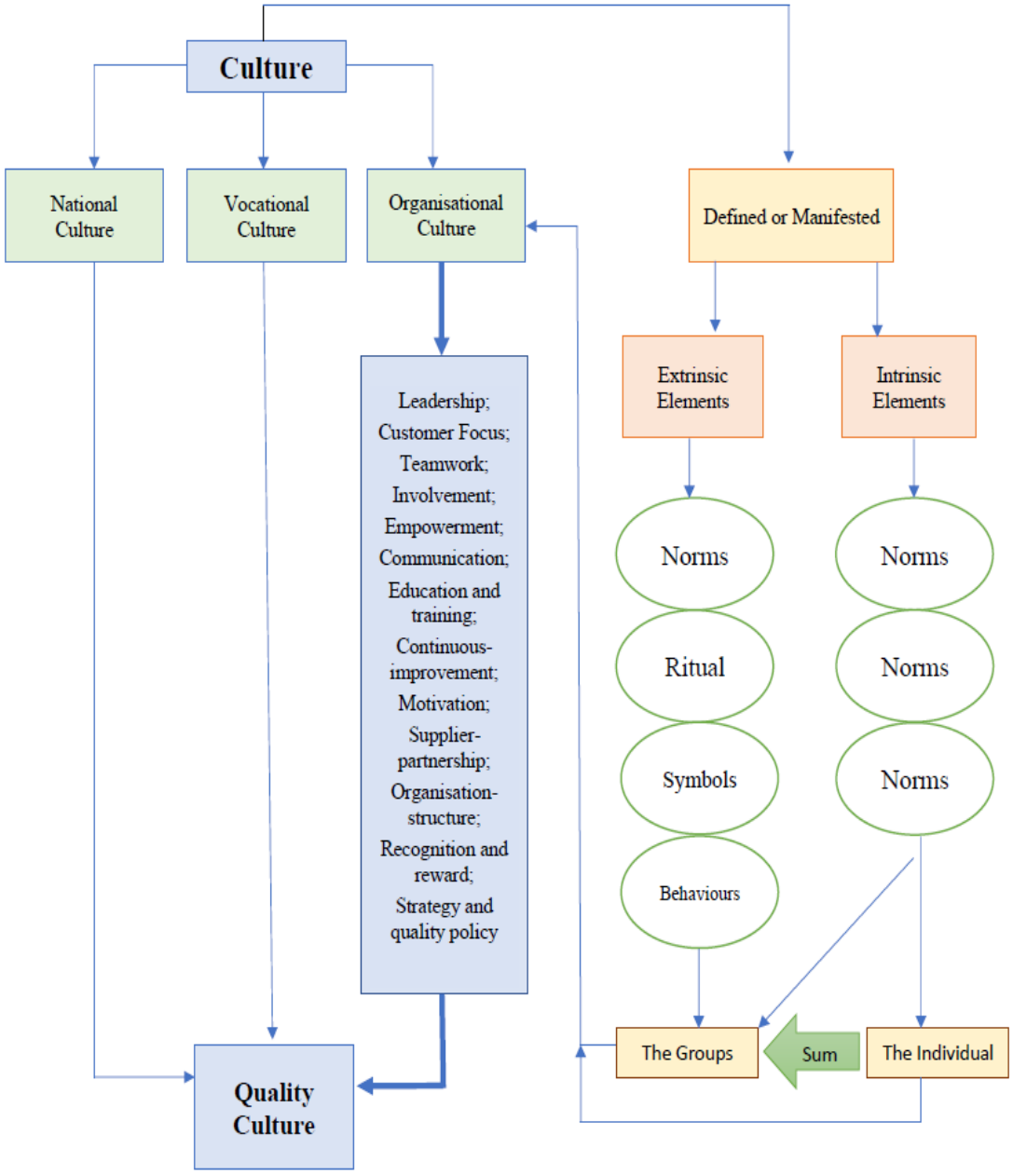
27. Kindly give example/s of a Quality Cultures observed in METIs that emanated because of the Maritime Administration's mandates, policies, standards and guidelines.*

28. What do you think is needed to improve METIs Quality Culture?*

29. Thank you very much for your participation. Any corrections, suggestions, recommendations that can be contributed to the topic as well as this questionnaire are welcome and very much appreciated. You may reach me through e-mail: w2005544@wmu.se

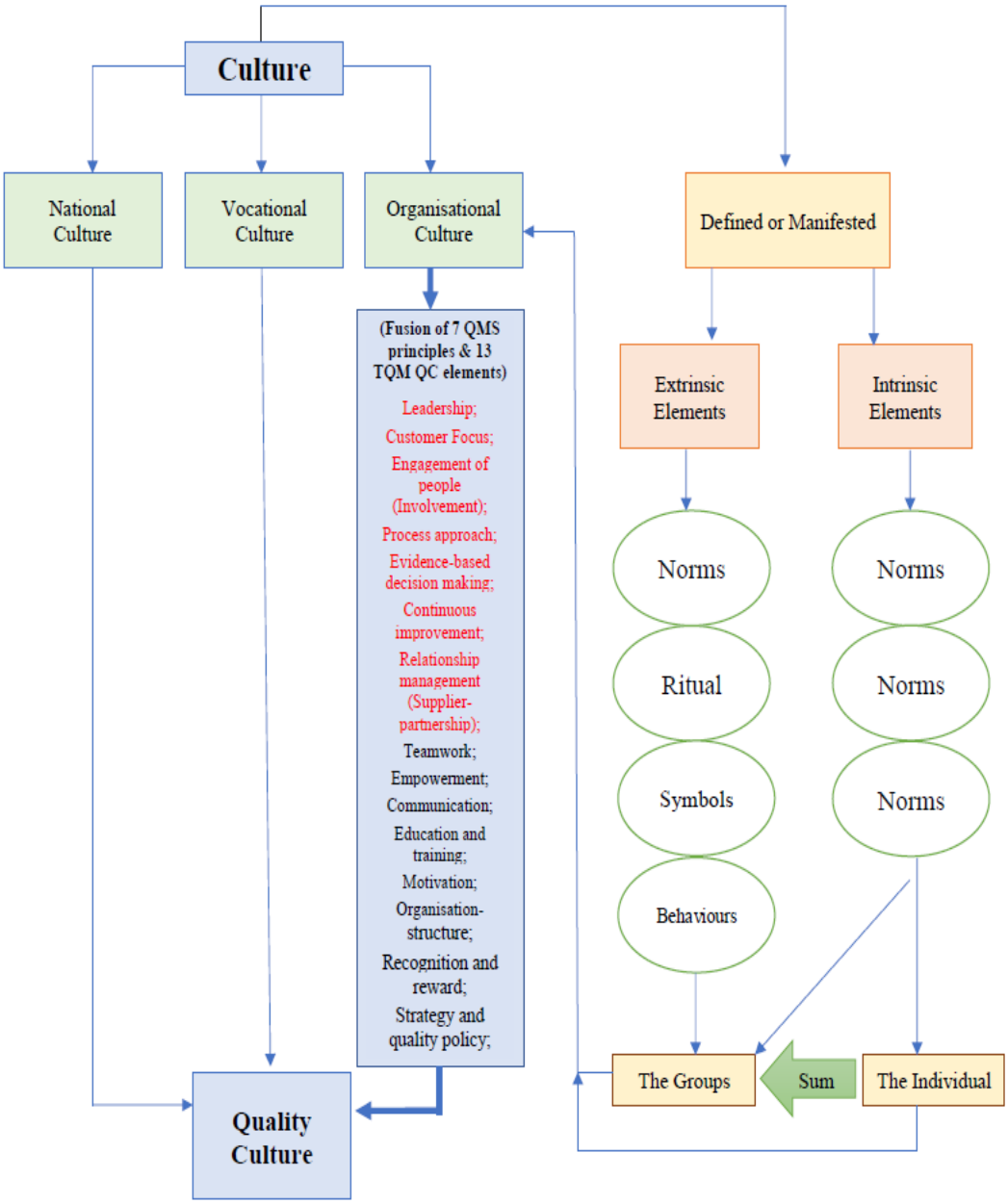
    Again, thank you very much and best regards.

Appendix C. Quality Culture Development



Source: Conceptual framework of quality culture development **(**Mohammed & Mahmood**,** 2008)

Appendix D. Quality Culture Development in MET



Source: Conceptual framework of quality culture development **(**Mohammed & Mahmood**,** 2008), enhanced by the Researcher