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Meeting of divergent realities in MET: A synergistic approach to quality standards

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WORLD MARITIME UNIVERSITY

Malmö, Sweden

**MEETING OF DIVERGENT REALITIES IN MET: A SYNERGISTIC
APPROACH TO QUALITY STANDARDS**

By

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Philippines

A dissertation submitted to the World Maritime University in partial
fulfilment of the requirements for the award of the degree of

MASTER OF SCIENCE

In

MARITIME AFFAIRS

(Maritime Education and Training)

2016

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.

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The Road not Taken

(a poem)

Two roads diverged in a yellow wood,

And sorry I could not travel both

And be one traveler, long I stood

And looked down one as far as I could

To where it bent in the undergrowth;

Then took the other, as just as fair,

And having perhaps the better claim,

Because it was grassy and wanted wear;

Though as for that the passing there

Had worn them really about the same,

And both that morning equally lay

In leaves no step had trodden black.

Oh, I kept the first for another day!

Yet knowing how way leads on to way,

I doubted if I should ever come back.

I shall be telling this with a sigh

Somewhere ages and ages hence:
Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference.

(Adapted from a poem by Robert Frost, 1991)

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Abstract

Title of Dissertation: **Meeting of Divergent Realities in MET: A Synergistic Approach to Quality Standards**

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Within the context of maritime industry, quality is almost unquantifiable. More often than not, quality is equated as successfully getting certification, and finally getting a job at sea. Everything is assumed until one is faced with difficult situations on-board such as, accident due to lack of knowledge of the situation, or human error due to vacillation. In the light of the requirements of Regulation I/8 (Quality Standards) of the STCW Convention of 1978, as amended, this dissertation explores the realities in MET practices as perceived by selected administrations along with the other maritime industry key players (seafarers, maritime education and training institutions, and shipping companies). Accordingly, this research aimed to lay down some significant cases in MET that could further inform the maritime administration of the inconspicuous but critical areas in MET that need further attention. Through qualitative analysis of the responses to the open-ended questions, this study entails interrogation of the current system of the selected maritime administrations in terms of provision of resources, legislations, and maritime education and training structures. After careful consideration of the findings, this research highlights the management responsibilities (maritime administrations), resource management (maritime administration, maritime education and training institutions, and shipping companies), and feedback mechanisms (seafarers and shipping companies) as the most critical ingredients of a successful implementation of quality standards in MET. As such, collaboration among the key players in the maritime industry is highly encouraged.

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List of abbreviations

ASEAN - Association of Southeast Asian Nations

BIMCO - Baltic and International Maritime Council

CHED - Commission on Higher Education

CIP - Comprehensive Inspection Programme

COC - Certificate of Competency

DGS - Directorate General of Shipping

EAC - Examination, Assessment and Certification

EMSA - European Maritime Safety Agency

ESSP - English and Study Skills Programme

ICS - International Chamber of Shipping

IMLA - International Maritime Lecturers Association

IMO - International Maritime Organization

ISO - International Organization for Standardization

JIMEX - Japan-India Maritime Exercise

MARAD- Maritime Administration

MARINA- Maritime Industry Authority

MET - Maritime Education and Training

METI - Maritime Education and Training Institution

METSS - Maritime Education and Training Standards Supervisors

MHEI - Maritime Higher Education Institution

MKC - Maritime Knowledge Center

MTI - Maritime Training Institution

OECD - Organization for Economic Cooperation and Development

POSE - Panel of STCW Experts

QMET - Quality Maritime Education and Training

QMS - Quality Management System

QS - Quality Standards

SML - Shipping Management and Logistics

STCW - The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers

WMU - World Maritime University

Chapter 1 - Introduction

“Quality is never an accident; it is always the result of high intention, sincere effort, intelligent direction and skillful execution; it represents the wise choice of many alternatives.”

Foster (n.d.)

As stated by the former Secretary-General of the International Maritime Organization, Mr. Koji Sekimizu, shipping cannot thrive without a quality labour force who are motivated, trained and skilled to the appropriate international standards, (“World Maritime Day”, 2015). In similar vein, Kanev (2014) argues that the quality of seafaring personnel is critical and that people are the most important component of maritime business. As maritime transportation evolves into an avant-garde industry, it is imperative that seafarers are qualified and properly assessed/certified as such to perform duties that require knowledge, technical competency, and practical skills.

In line with these perspectives, continuous efforts are made by the International Maritime Organization (IMO) to achieve consistent and effective implementation of its instruments, in this case, those regarding the training and certification of seafarers

(IMO, 2013). However, in order to achieve quality, gaining outcomes that are fit for purpose and to the satisfaction of the customer should be considered (Cross, 2016). Often, this satisfaction entails meeting a particular standard.

With the introduction of the amendments of 1995 and continuing from there with the amendments of 2010, there have been a lot of changes to the International Convention on Standards of Training Certification and Watchkeeping for Seafarers 1978, (STCW Convention '78, as amended). One of the most notable and significant among these changes is the requirement for the implementation of quality standards systems by Parties to the Convention. It has been six years since the STCW Convention was amended in Manila. On 01 January 2017, it will become fully mandatory for all Parties to the Convention. By that date, all institutions that provide MET shall have already complied with the requirements under the Regulation I/8 [Quality Standards]. On top of the requirement for quality standards under the Convention, quality should be an essential basic operating mindset/paradigm rather than a compliance add-on (Manghani, 2011).

Although the STCW Convention [Regulation I/8] demands that the “training, assessment of competence, certification, including medical certification, endorsement and revalidation activities carried out by non-governmental agencies or entities...are *to be* continuously monitored through a quality standards system to ensure achievement of defined objectives ...”, the effective implementation of these standards are only as good as the internal and external expertise and resources available to each

administration (Holder, 2002).

In a study conducted by Patrino, Velez, and Yan Wang (2013), it was noted that quality is more and more becoming the central topic in education reform and planning in many countries. Changes in the educational system may be driven by the industry. It is evident in the UK where there is a system that continuously monitors the link between higher education and the labour market (De Weert, 2012). It simply shows that determination of such correlation is considered important in terms of quality in education. At the moment, issues regarding the quality of maritime education and training (MET) are seriously being dealt with by the International Maritime Organization (IMO). As a matter of fact, effective 01 January 2016, the verification of compliance by the IMO required by the IMO Instruments Implementation Code (and its associated audit scheme), shall be carried out under a new provision in the STCW Convention (Regulation I/16 - Verification of Compliance). This is in addition to the verification and control mechanisms already in the STCW - in Regulation I/8 on Quality Standards - which allows for continually monitoring the Parties' implementation of the STCW. Similarly, Article IV and Regulation I/7 (Communication of Information) of the same Convention highlights the need for communication of information of the Parties to the Secretary-General. This information shall include the steps taken by the Parties confirming that full and complete effect is given to the provisions of the Convention.

To further the discussions on this cohesive venture and its effectiveness, this study explored the administrative frameworks within which maritime administrations

exercise their duties and responsibilities as Parties to the STCW Convention. This entailed an investigation into the current status of the selected maritime administrations in terms of provision of resources, legislation, and maritime education and training administrative and institutional practices.

Furthermore, this work aimed to examine the role of the Quality Standards Systems (per Regulation I/8 of the Annex to the STCW Convention) of the maritime administrations in exercising their control, monitoring, and evaluation of the MET systems in their own jurisdictions.

It is the interest of this study to look into the MET systems of two developing Asian countries, India and the Philippines. These countries have been identified as having significant maritime labor supply ("United Nations," n.d.). It is also noted that seafarers coming from these countries are mainly employed by foreign flagged ships operated by international shipping companies (ICS, 2015). The MET system of these two countries were analysed to identify the main features of each system. To do this, the researcher studied and made use of the Japanese MET system as a possible benchmark for analysis. Japan has been working closely with the maritime Administrations of both the Philippines, and India for maritime security and capacity building. In fact, a defense equipment transfer agreement between Tokyo and Manila was signed on February 29, 2016 making the Philippines the first Southeast Asian country to have such undertaking with Japan (Tatsumi, 2016). Likewise, the expansion of the Indo-Japanese maritime joint training to the more recent Japan-India Maritime

Exercise (JIMEX) series involving both navies in 2012 is also a proof of strong coordination between India and Japan (Nagao & Collin, 2016). In addition, Nagao and Collin (2016) also indicated that both countries have already started to assist Southeast Asian countries in building their maritime security capacities to cope with the evolving array of challenges at sea. The principle of “res communis” extends the relevance of this cooperation not only in light of maritime safety and security practices, but in the shipping community as a whole.

Furthermore, this study aimed to look into the role of quality standards in the implementation of the provisions in the Convention. It also sought to provide research-based recommendations to the administrations in the area of policy making, providing a grounded basis for the implementation of good quality management practices, including in regards to onboard training derived from the feedback of the industry key players.

In summary, it is intended that this research work will provide insightful recommendations to the maritime administrations and maritime education and training institutions as to what elements of the MET should be the focus of implementation, control, and monitoring.

1.1 Research questions

In order to address the set objectives, this study was driven by three research questions:

- .1 How do maritime administrations define the role and objectives of the

quality standards in MET in the national context?

.2 What are the key components, conditions and factors that determine and/or influence the effectiveness of a quality approach in the MET systems of different Parties to the STCW Convention?

.3 How do Maritime Administrations exercise their control and monitoring of their MET systems in terms of:

.1 resources

.2 legislation and administrative frameworks

.3 processes

.4 outputs

1.2 Methodology, source of information

The initial step in this study was to identify the sample jurisdictions and also to indicate the criteria for their selection. This helped to develop a general appreciation and understanding of the current maritime situation in the selected maritime jurisdictions. This is in line with the determination to explore further the nature and limitations of different maritime and education systems to determine any potential challenges.

The data gathering activities included research of existing literature relevant to the problem. Among others, Baltic and International Maritime Council (BIMCO), International Chamber of Shipping (ICS), and other maritime related organizations such as IMO. Resources from the WMU library were also used in the data-gathering

phase.

Since various useful and authentic readings are also available online, internet sources were utilised. Similarly, some relevant texts from dissertations found in the “Maritime Commons” in the digital repository of the WMU were used as guides. The researcher also had the chance to make use of the available reference materials (such as books and journals) in the Maritime Knowledge Center of the IMO during a data gathering period at the IMO.

The following specific methods which are deemed appropriate for answering the research questions were used in the data-gathering procedure:

- .1 Questionnaires were designed to address research questions 1, 2, and 3. This instrument was sent out to the competent authorities. Timely retrieval of the documents was one of the challenges faced in this method.
- .2 Reading of related literature and documentary analysis were done to support the answers to the research questions.

Further, this study did not intend to mine confidential information from the respondents. Objectives and requirements of the research instrument were fully explained in the instructions to the respondents as indicated in the questionnaires.

1.3 Use of words/definitions

.1 Quality

Tagged with the goals of the IMO to ensure safe and efficient ship operations on cleaner oceans, the STCW Convention mandates all the Parties to ensure the quality of the seafarers as the outcome of maritime education and training. But should it only be the outcomes that ensure quality? This assumption was interrogated by Chaffee and Sherr (1992) who proposed that quality cannot be “inspected into a product at the end of the line.” They suggested that prevention is as important to the detection of defects: all work is a process.

In this view, the word “quality” is used in this study as an overarching definition of the optimum process that leads to achieving seafarer’s competence as an optimum outcome.

.2 Education

Rickman (2004) states that education is about fostering the mind, by encouraging it to think independently and introducing it to knowledge of the physical and cultural world. This is backed by King (n.d.) when he mentions that the function of education is to teach one to think intensively and to think critically.

.3 Training

The Cambridge dictionary defines training from a business perspective as the activity of learning or teaching the skills and knowledge needed for a particular job or activity.

From an academic standpoint, Rickman (2004) says that training is about practice, about skill, about learning how to do things. Pike (2003) in his book about creative training techniques, states that the purpose of any training programme is to deliver results and that the people, after the training must be more effective than they were before. Chowdhury (2006) suggests that training is a set of defined actions undertaken to achieve a predetermined goal, while in educating neither the objective is given nor is the means of getting to it distinct.

.4 Standard

According to the International Organization for Standardization (ISO), a standard is a document that provides requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose. In this study, the standards refer to those of the STCW Convention 1978, as amended (together with its STCW Code).

.5 System

System refers to group of organizations that work together for a particular purpose, or have similar activities ("System," n.d.). On the other hand, a system ("System," n.d.) is defined as “an organized, purposeful structure that consists of interrelated and interdependent elements (components, entities, factors, members, parts etc.). These elements continually influence one another (directly or indirectly) to maintain their activity and the existence of the system, in order to achieve the goal of the system.”

.6 Framework

Framework is defined as a system of rules, ideas, or beliefs that is used to plan or decide something.

Additionally, For the purpose of further discussions and in the context of this study, “...when the standard is applied to higher maritime education process, the term “organization/products/services” will stand for “higher maritime education” process which is provided by the “university/faculty/school”. The term “customer” will stand for the “student, industry, society”. The term “supplier” will remind “the physical infrastructure, the learning resources, organization and management of the system” that serve the higher maritime education process” (Asyali, Tuna & Cerit, 2016, p. 4).

1.4 Scope and Delimitation

This study covers Quality Standards as perceived by the key players in the maritime industry namely: seafarers, maritime administrations, maritime education and training institutions, and shipping companies. Though the research questions were answered, the level of heterogeneity of the respondents means that the results cannot be used to describe a generic characterisation of the groups they represent due to the relatively small sample sizes. Nevertheless, the study interrogated and identified an overview of the current picture of the quality systems as implemented in Japan, India and the Philippines. This is discussed in the succeeding chapter.

Chapter 2 – Review of Literature

2.1 Introduction

In order to completely appreciate the essence of this study, and its implication in the current maritime industry, it is necessary to understand how the notion of Quality Standards came about and what it aims to achieve. Lemak & Reed and Hendricks & Singhal (as cited by Gustafsson, Nilsson, & Johnson, 2003) mentioned that there is a substantial body of empirical research that provides support for the notion that quality practices improve firm performance. Research also suggests that quality system implementation has the highest impact on the quality improvement of companies' operations and products (Adomaitiene & Ruzevicius, 1999 as cited by Nehati, 2010). Often, quality is used to describe the level of customer satisfaction. Dean and Bowen as cited by Gustafsson, Nilsson, & Johnson (2003, p. 4) suggest that most of what has been written about quality is based on three principles: customer focus, continuous improvement and teamwork.

This Chapter interrogates the literature and discusses the rationale of having Quality Standards and its relevance to the maritime education and training.

2.2 Legal basis of MET quality standards

STCW Regulation I/8

One of the salient changes in the International Convention on Standards of Training Certification and Watchkeeping (STCW) since its amendments in 1995 is the mandatory requirement for Quality Standards. This change in the Convention shifted the focus of MET from mere test of knowledge to demonstration of knowledge and skills. In Regulation I/8, the requirement for a continuous monitoring of all the processes that lead to the certification of seafarers and an independent evaluation of these processes, is explicitly stated.

As such, each Party to the Convention is mandated to ensure that all of these interlaced activities, more importantly the administration of seafarers' certification shall be covered by a quality standard system. This includes a clear definition of the education and training objectives related standards of competence to be achieved. In addition, the Party or any institution carrying out these activities under the authority of a Party is duty-bound to satisfy the requirements of examinations and assessments. Further, it is also necessary that the level of knowledge, understanding and skills are identified.

It is also important to note that the interest of the Convention does not merely focus on the education and training outcome. Thus, all the processes leading to certification of seafarers like qualifications and experience required of instructors and assessors, policies, systems, controls and internal quality assurance reviews

shall be established to ensure achievement of the defined objectives.

As such, impartial assessment of the system shall be carried out through documented independent evaluation which is conducted at intervals of not more than five years to ensure that objectives are met. This is also aimed at verifying continued conformity of the Party to the Convention. Likewise, timely compliance, as well as reporting of the results of such evaluation, is mandatory.

2.3 The nature of quality standards

As Nas & Koseoglu (2012) suggest, quality may mean different things to different people who have different quality expectations and methods of assessing quality. This was agreed to by Harvey and Green , as cited by Nas & Koseoglu (2012), who describe quality as a “relative concept.” In terms of STCW, “quality” means the ability of the seafarer to effectively carry out his/her duties and responsibilities (Nakazawa, 2015). The key for their success lies in administrations’ and companies’ real commitment to quality improvement and their true motives for [quality] certification, which finally dictates the manner of and depth to which the standards are implemented (Gotzamani & Tsiotras, 2001). This idea is supported by the Maritime Training and Human Element Section of the Maritime Safety Division of the IMO which claims that success will depend largely on the staff involved with responsibility for the work of ensuring quality (Cross, 2016). “Although there are different definitions of quality, many modern definitions include a qualitative and subjective evaluation made by customers, such as, “fitness for use,” “value to customers” or “customer satisfaction

and delight” (Klefsjö, Bergquist, & Garvare, 2008, p. 6).

.1 Customer Satisfaction

Department of Trade and Industry, U.K. (n.d.) claims that they are built around business processes, with a strong emphasis on improvement and a focus on meeting the needs of customers. This was agreed by Tjiptono as cited by Hadiyati, E. (2014) when he mentioned that service quality is “a measurement of how a service meets the consumer’s expectation”. Volvo Group also expresses their commitment to customer satisfaction through employees’ commitment and participation, combined with a process culture that encourages employees to be responsive and aware of the company’s objectives (AB Volvo, 2016). Furthermore, Tricker (2005) suggests that quality is not merely meeting the customers’ expectations but exceeding them. Similarly Jørgensen (2008) goes a step further and describes the purpose of developing standards as a means to secure high criteria, which must be strengthened continuously, in order to meet the demands of current knowledge and current expectations in society.

.2 Fitness for industry needs

The plain definition of fit-for-purpose is something good enough to do the job it was designed to do (Gaetani et. al., 2016, p. 198). For instance, Coca-Cola, which ranked 4th after Apple, Google, and Microsoft, in the World’s Most Valuable Brands for 2016 (“Forbes Media LLC,” 2016) has strong governance practices in place; they work persistently to ensure compliance to applicable regulations and standards. On top of these, they keep themselves abreast with new regulations, industry best practices, and

marketplace trends and conditions and also engage the company with standard-setting and industry organizations (Staff, 2012). In the same light, Bross as cited by Deming (1986, p. 168) stated that the purpose of studies in consumer preference is to adjust the product to the public, rather than, in advertising, to adjust the public to the product. In addition, consumer research should aim to understand the consumer's needs and wishes, and thus, to design product and service that will provide better living for him in the future (p. 175). In terms of quality standards, the determination of this need at the early stage of system planning is essential to its future success.

.3 Continuous improvement

Commitment to continual improvement truly rewards ("SkyMark Corporation," 2016). It has also been noted that a lack of commitment to continuous development of competence is still one of the outstanding problems in the implementation of a quality standard (Bhradwaj as cited by Loginovsky, 2009). Additionally, Anderson (as cited by Hadiyati, 2014) defined quality as a strategic tool to achieve operational efficiency and improve organizational performance. However, Steiber and Alänge as cited by Siva et al., (2016) suggest that though some quality management approaches could positively impact innovation, the question of whether the quality management in general supports improvement or not remains unresolved.

2.4 Maritime Education and Training

.1 Education

One of the identified important factors in enabling integration into global value chains is the development of human capital through education and training, in addition to developing infrastructure, improving the availability of capital, improving the business climate and the quality of institutions (Kowalski, et. al., 2015). Additionally, Matchett et. al. (2016) suggest that “quality be viewed as the extent to which an institution increases the likelihood of achieving various educational goals—that is, as a causal impact of attending an institution on some outcome of education.” (p. 4). There are various studies examining general quality management practices but industry-specific studies on quality management practices and factors that influence their success in the shipping industry are rather few (Cheng & Choy, 2007, p. 1). For that reason, quality in terms of maritime education and training may not be easily quantified.

Apparently, the requirement for a quality standard in education has drastically changed the educational paradigm (Cheng, 2001). According to Tyler as cited by Bramley (1991), it was not until the late 1960s and early 1970s that organizations started to control the quality of training by setting training objectives.

From an education point of view, Kvaal as cited by Matchett, Dahlberg and Rudin (2016) distinguished between post-secondary education programmes designed for specific economic outcomes and programmes designed to confer broader skills. He further suggested that “quality outcomes” (p. 11) will vary strongly depending on

institutional mission and purpose.

.2 Training

Just by reading the full definition of the STCW, one could claim that training is an integral aspect of this Convention. The peculiarity of the maritime profession suggests that there should be standards of training that help develop the skills of seafarers, among all others, in order for them to carry out their specific tasks onboard a ship. It is a career where people are trained in many areas (Aliyu, 2016, para. 4). For this reason, there is a need to align the skills supply with demand (Martinez-Fernandez & Choi, 2012). There is no doubt that, in recent years the maritime industry has been attracting too few new entrants, and faces both a shortfall of staff and a serious skills gap, (*IMarEST: Shipping's looming skills gap*, 2016, para. 4).

Since the shipping industry worldwide is experiencing a shortage of trained and qualified officers (Gekara, 2009), training and other activation measures are deemed necessary for the long-term unemployed who often experience a range of difficulties in finding jobs (Cusmano et al., 2015). Mwangura (2016, para. 2) notes that, training has always been vital to moulding future officers not only in the area concerning Maritime Education and Training (MET), but also in forming such unique characteristics as self-developmental education, responsibility, attentiveness, planning, readiness, spontaneousness, accuracy, self-denial, obedience and leadership among others.

For example, in education and training, central agencies can contribute by providing

the policy, regulation, and planning framework for local initiatives, by supporting local partners with information and forecasts, curriculum development, quality and accreditation assessment, evaluation and monitoring, and funding for the local partners to meet the agreed funding criteria (Fernandez & Choi, 2012, p. 31).

2.5 Quality Standards in Maritime Education and Training

IMO (2016) notes that an essential requirement of Quality Standards is for the *administrations to* “satisfy themselves that their administrative systems for establishing and monitoring training, competency and certification arrangements are of an adequate standard to ensure that specified objectives are being achieved (p. 4).” However, Lau et. al. (as cited by Klefsjö, et. al., 2008) are of the opinion that the difficulty in managing quality that involves cultural change has seldom been given enough attention. Similarly, there is underestimation of the time, resources and work needed during the implementation.

In recognition of the fact that seafarers certification used to be dependent on the results of tests and examinations without much emphasis given to the quality of training, it is required that the administrations must satisfy themselves, *and* others closely involved, about the quality of their certification and training activities - at all levels (Cross, 2016, p. 4). In this context, quality is conceptualised in consideration of its fitness for an intended purpose rather than comparing the level of competence of the involved individuals.

The monitoring and evaluation provisions of a *quality standards* system are more

concerned with the operating systems and procedures that lead to the actual certification of a seafarer rather than the actual standards of competency or the educational standards of related courses (Cross, 2016).

Nas & Koseoglu (2012) view the quality of education as a means of determining the students' requirements and expectations. They believe that the main and the most important stakeholders and competent evaluators to monitor MET service quality of the MET Institutions are their graduates, which they classified as internal stakeholders (formerly) and external stakeholders (currently). On the contrary, Maringe & Gibbs (2009) held that the higher education service is more than just fulfilment of "clients" wishes and needs. He further explained that both the students and the education providers' needs and expectations are approximated in a manner that helps to accomplish the field of study, helping students to take their place in society in their best and most appropriate way.

The service quality of education is improved by graduates' satisfaction. Quality in education means determining the requirements and expectations of diverse stakeholders and meeting them. It is not easy to determine service quality in higher education. For this purpose, Gatfield, Barker and Graham (2006) made focus group studies, interviews and a literature review to determine the student's quality perceptions, and the results of which suggest that the most important factor in determining quality in education is 'academic instruction' (p. 248).

Challenges

It was reported by OECD Paris (2012) that “providing access to quality education is fundamental to the country’s long-term economic success as is ensuring opportunities for all” (p .5). But despite the focus on the quality in undergraduate education in terms of input factors and outcome measures, educators, policymakers, employers, and other interested stakeholders continue to strive for more comprehensive indicators of a “quality undergraduate experience,” including those that measure student learning outcomes and graduates’ readiness for success in the workforce (Matchett, et. al., 2016).

In achieving such quality, some of the outstanding challenges faced by the Asian countries include reducing skills mismatches, improving links between training and industry needs, upgrading outdated training systems and increasing industry participation (Martinez-Fernandez & Choi, 2012). According to the World Trade Organization (as cited by "WTO's New Trade Index," 2016) world trade has been moving sluggishly since 2015, however, rise of the world trade in terms of value is expected in 2017. To sustain a growth path, increasing the level of workplace training and the quality of training is becoming a key issue (Martinez-Fernandez & Choi, 2012). Additionally, the low skill investment of the industries is seen as a common problem in promoting workplace training (p. 37).

But the question as to who decides the quality and how it is measured remains. As a matter of fact, maintaining the quality of education is still an on-going challenge in all

countries (Osborn, Cutter & Ullah, 2005).

2.6 Key Elements of Quality Standards

The STCW Convention lays out the specific key elements of a Quality Standards. In the provision on the STCW Regulation I/8, the elements it seeks to achieve are clearly stated. Section B-I/8 of the Code recommends that in applying quality standards under the provisions of Regulation I/8 and Section A-I/8 to the administration of its certification system, each Party should take account of existing national or international models. It is also suggested that the key elements such as expressed policy regarding quality indicating the means for its implementation, a quality system, operational activities that ensures quality control, systematic monitoring arrangements that involves internal quality audits, as well as independent external quality evaluations are incorporated.

As guidance for administrations therefore and according to Cross (2016, p. 5) the *quality standards* provisions of Regulation I/8 (together with the requirements of section A-I/8 and guidance of section B-I/8) may be summarised as:

- 1 providing systems and processes to *assure* the quality of the training and assessment;
- 2 extending this to incorporate all certification, endorsement and revalidation activities; and
- 3 introducing the additional element of *accountability* by way of the independent evaluation and associated reporting requirements.

2.7 The independent evaluation

Regulation I/8 of the STCW Convention, 1978, as amended, and Section A-I/8 of the STCW Code contain the requirements for the independent evaluation and follow-up actions. They specify the scope and purpose of the evaluation and require that results be discussed with those responsible for the area evaluated - in order that timely action may be taken to correct any deficiencies. The evaluations are to be conducted at intervals of not more than five years. The outcome of each evaluation must be communicated to the Secretary-General of the Organization within six months of its completion (Section A-I/7, paragraph 4 of the STCW Code).

These provisions in the guidance notes for the administrations aim for *accountability*: that is, to demonstrate to other Parties to the Convention and to all concerned stakeholders through IMO, that each administration's responsibilities for the quality of its activities are being discharged effectively.

The final results of the quality standards activities should be represented by the independent evaluation and follow-up actions. This key element, if properly implemented is critical to the success of the entire operation. In addition, it is required by Regulation I/8 that periodic evaluations be undertaken *by qualified persons who are not themselves involved in the activities concerned*. Such qualified persons are determined by an administration. Though there are no particular independent bodies identified to do the evaluation, the credibility of such evaluation will be based on its credibility within the international maritime community (Cross, 2016).

2.8 Quality Standards in MET

.1 Japan

Japan has been providing assistance to various countries including India and the Philippines in areas such as education and health, where the poor can benefit directly. As reported by the Japanese Ministry of Foreign Affairs (2013), Japan is not only interested in supporting these countries improve their own infrastructures, economies, legal systems, employment opportunities through innovations in technology, and human resource, but also in assisting them in a manner that directly influences their economic growth.

In its recognition of the critical role of education to these developments and overall sustainability of human development and nation-building, Japan attaches great importance to its assistance in this sector (Ministry of Foreign Affairs, 2013). Japan acts as an enabler as it works closely with the industry, the operators and governments from which the inputs for future decisions in terms of education and training are derived (Achuthan, 2005).

Despite being comprehensive, the MET system of Japan has once been subject to an independent evaluation when the Republic of Cyprus requested for the Recognition of Certificates from Japan. Japan was inspected by the European Maritime Safety Agency (EMSA) in 2012. As a result of the independent body evaluation, some findings pertinent to the implementation of quality standards were mentioned, to wit (Bulc, 2014):

“(3) The assessment did not reveal serious concerns though it identified some areas in need of attention. In particular, the quality standards system of the maritime administration and of the Maritime Education and Training Institutions did not cover some processes. Also, the syllabi and the practical training established by the national standards did not ensure the achievement of some prescribed standards of competence for the ‘Life Saving’ and ‘Fire Fighting’ courses.

(4) ...However, based on the analysis of the documentation provided by the Japanese authorities, it appeared that the administration did not ensure that this type of seagoing service was relevant to the certificate applied for and that all relevant competences were achieved during this seagoing service for the candidates who had completed 36 months of seagoing service. Also, it appeared that the administration did not ensure that this type of seagoing service was relevant to the certificate applied for and that all relevant competences were achieved during this seagoing service for the revalidation and upgrade of certificates for all candidates.

(5) ... However, it appeared that the administration did not require candidates who have completed 36 months of seagoing service to also complete approved education in order to apply for certification at operational level.

(8) ... the application of such criteria was not sufficiently demonstrated by the information provided.

(9) Regarding the completion of approved education by candidates applying for certification at operational level who have completed 36 months of seagoing service, the Japanese authorities argued that they comply with the relevant requirements of the STCW Convention. However, such compliance was not sufficiently demonstrated by the information provided.

Further, having completely presented all the necessary document, the decision of the Commission reveals that “The final outcome of the assessment demonstrates that Japan complies with the requirements of the STCW Convention, while this country has taken appropriate measures to prevent fraud involving certificates.”

.2 India and the Philippines

According to a report by Kowalski, Gonzalez, Ugarte, & Ragoussis (2015), institutional quality in South Asia is below the world average in all countries except Bhutan. Though India ranks second in the region, showing an institutional quality slightly higher than that of China, the Philippines is one of those who are far behind the other South East Asia (SEA) countries in terms of good practice, though, they can learn from some of their ASEAN neighbours with a view to improving the quality of their institutions (p. 47).

India and Philippines may be different in some aspects but in the fulfillment of the requirements under the STCW Convention, these two seafaring countries encounter similar implementation challenges. Based on the research of Baylon & Santos (2011)

and Thiruvassagam & Rengamani (2015) the following have been identified as the common areas in MET that need more consideration by policy makers and by the whole maritime industry at large:

- 1 Commitment and development of plans for MET system; ship-owners or shipping companies are encouraged to support improvement plans in MET to ensure that they will employ qualified seafarers who will man their vessels.
- 2 Collaboration between MET institutions (METI) and the shipping industry (the end users of graduates to ensure that their MET programmes are current and relevant to the industry); closer cooperation between MET institutions should also be strengthened to establish programmes on faculty/staff exchange, to share expensive facilities and equipment, and to undertake trainings of instructors; maritime institutions must go in for networking with companies.
- 3 Updated training programmes by the METI; well-designed and updated curricula, and other requirements (e.g. support time on modern vessels to gain first-hand experience with current technologies).
- 4 Latest technology in terms of facilities and equipment like simulators and other supporting technologies; a more practical orientation in teaching, not only on the theoretical aspects of the profession because practical (competence-based) learning is favoured over theoretical learning in maritime degree programmes, with access to current simulation technologies and opportunities for trainees to obtain onboard experience serving as cadets.
- 5 Highly qualified and experienced instructors; the faculty who normally teaches the curriculum of Directorate General of Shipping (DGS) should be imbibed

with appropriate pedagogy techniques. Currently most of the faculty resources are seafarers without much training in teaching methodologies.

6 Adoption of curriculum and guidelines

7 Skill development among cadets

8 Focus on research and development

Similarly, both countries implement a monitoring and control mechanisms to ensure that MET standards are complied with. India implements the ‘Comprehensive Inspection Programme (CIP)’ which is compulsory for all the Indian maritime institutions. This mechanism is more of a checklist approach that dispenses with the mandatory requirement for the ISO certification of the Quality System and the Grading by rating agencies. Rather, it focuses on infrastructure set-up and maintenance, faculty & human resource development, student development programmes, recruitment & placement records and overall performance & long-term prospects (Directorate General of Shipping, Mumbai, 2013).

On the other hand, Philippines employs an outcome-based monitoring instrument that is aimed at checking the MET based on the processes involved that lead to the seafarers’ certification. The key areas that are given focus includes quality standards system, organization and management, curriculum, teaching methods and media of delivery (academic strategies), examination and assessment system (including appeals and re-sits), faculty (instructors, assessors, and support staff), admission and retention (students), facilities, training equipment, simulator, shipboard training, research and development, and extension services (Joint CHED-MARINA Memorandum No. 1,

Series of 2016).

Chapter 3 - Methodology

3.1 Introduction

This research is aimed at finding out answers relevant to how maritime administrations can better improve their monitoring of the MET systems through quality standards system. For this purpose, the researcher asked the following questions:

- .1 How do maritime administrations define the role and objectives of the quality standards in MET in the national context?
- .2 What are the key components, conditions and factors that determine and/or influence the effectiveness of a quality approach in the MET systems of different Parties to the STCW Convention?
- .3 How do Maritime Administrations exercise their control and monitoring of their MET systems in terms of:
 - .1 resources
 - .2 legislation and administrative frameworks
 - .3 processes
 - .4 outputs

3.2 Selection of Participants

According to Johnson & Onwuegbuzie (2004), the research question is very

fundamental and should be followed by research methods that lead to obtaining valid and valuable answers. To answer the research questions, participants from the maritime industry were chosen and classified into four groups, namely:

- .1 Maritime Administrations (MARAD)
- .2 Maritime Education and Training Institutions (METI)
- .3 Shipping Companies
- .4 Seafarers

Since the research aims to study the MET systems of the Philippines and India, using the Japanese MET system as the benchmark, the questionnaires were distributed to the participants purposively; participants from the Philippines, India, and Japan who can best inform the research questions and enhance understanding of the phenomenon under study were selected by the researcher (Kuper, et. al. 2008; Creswell, 2009, as cited by Sargeant, 2012). As a contingency plan, the questionnaires were also sent to the WMU Alumni from different countries.

3.3 Instrumentation

The researcher used a Likert Scale Response Format to invite responses from research participants. This response format makes use of fixed choice response formats and is designed to measure attitudes or opinions (Bowling, 1997; Burns, & Grove, 1997 as cited by McLeod, 2008). These ordinal scales measure levels of agreement/disagreement. Further, the researcher also used open-ended questions to encourage a full, meaningful answer using the subject's own knowledge and/or feelings

on the questions asked ("Open-ended Questions," n.d.).

3.4 Research Ethics

It is very essential for a researcher to learn how to make decisions and to act ethically in various situations through careful interpretation, assessment and application of various research rules (Resnik, 2015). In this regard, the research instruments were approved by the WMU Research Ethics Committee. The participants willingly agreed to answer the research questionnaires on the understanding that data derived from their responses was solely for the purpose of the dissertation and that the names of respondents would be anonymised in the final report.

3.5 Questionnaire Instrument

Four different sets of questionnaires for the four groups of respondents were made available in Google Forms format. All questionnaires were aimed at getting both qualitative and quantitative responses. Section A of the questionnaires required answers to demographic questions and Section B contained a combination of questions in the Likert Scale Response Format, Yes or No questions, and open-ended but mandatory questions. There were 27 questions for the METI, 22 for the shipping companies, and 30 questions for the seafarers and MARAD each. The respondents' names and the names of the companies were optional fields.

Reliability of the questionnaires were verified through a pilot testing which was participated in by 19 WMU students from China, Colombia, Ecuador, Egypt, Ghana,

Greece, India, Japan, Kenya, Malawi, Panama, Philippines, Senegal, Tonga, and Vietnam. As a result of the pilot testing a question in Section B of the questionnaire for the seafarers was modified.

3.6 Data Collection

.1 Quantitative Method

For the purpose of this study, the researcher aimed at getting responses from four groups of people who are considered as the “key players” in the maritime industry: maritime administrations (MARADs), maritime education and training institutions (METIs), seafarers, and shipping companies. The researcher aimed at getting 25 respondents from each group to get a total of 100 responses. In the process of getting potential respondents for the research survey, the researcher sought assistance of the WMU professors from Japan and India. Contact details of individuals from India and Japan who could best provide links to more respondents were given to the researcher.

Likewise, questionnaires were sent to the researcher’s affiliates from the Philippines. Indian and Japanese colleagues from WMU also served as “focal persons”. Several contacts were given to the researcher. However, some questionnaires were directly sent to the other respondents by the focal persons who are in contact with the respondents on regular basis.

In an attempt to gather more data, the researcher also asked for contact details of

WMU Alumni from 2000-2015 from the University Registrar. The questionnaires were sent to 850 WMU alumni e-mail addresses. In total, the questionnaires were sent to approximately a thousand respondents. Majority of the e-mails bounced back and were deemed to have not reached the potential respondents. Ultimately, the researcher came up with 101 responses - a response rate of 10.1%. Although, this number is enough for the total number of respondents needed, as targeted, the distribution of the respondents is not equal per group. A series of follow-ups was undertaken by the researcher but getting responses was challenging particularly from the shipping companies from which the researcher got 10.89% of the total responses received (11 responses). It is followed by the METI group with 19.80% (20 respondents), and responses from MARAD with a total of 23.76% (24 respondents). The largest percentage of 45.54% (46 respondents) came from the seafarers' group.

3.7 Data Analyses

.1 Quantitative Analyses

Despite the number of the responses received, the research questions were well addressed by the responses gathered from open-ended questions. Therefore, quantitative analysis was limited to descriptive statics using the graphs, figures, and other statistics generated automatically by Google Forms and Google Spreadsheet.

.2 Qualitative Analyses

The researcher used Excel sheets to tabulate the responses. The answers were grouped into themes and the number of occurrence of the theme in a response was counted. The

answers were evaluated by questions asked per group of respondents. Results from the groups with the same questions were analysed collectively.

Chapter 4 – Analysis and Presentation of Data

4.1 Introduction

This chapter presents the statistical data based on the analyses of the responses gathered in the data collection. The research was aimed at defining the role of the quality standards systems in terms of maritime education and training as perceived by the maritime industry key players: maritime administration, maritime education and training institutions, seafarers, and shipping companies. As indicated earlier, the research questions for the study were:

- .1 How do maritime administrations define the role and objectives of the quality standards in MET in the national context?
- .2 What are the key components, conditions and factors that determine and/or influence the effectiveness of a quality approach in the MET systems of different Parties to the STCW Convention?
- .3 How do Maritime Administrations exercise their control and monitoring of their MET systems in terms of:
 - .1 resources
 - .2 legislation and administrative frameworks
 - .3 processes

.4 outputs

4.2 Research findings and analyses of data

To answer such inquiries, the results of the responses were categorised into themes using the Quality Maritime Education and Training Standards (QMET) Standards (“QMET PSB”, 2002). The main themes that emerged were namely, quality management system, management responsibility, resource management, course realisation, and evaluation and improvement. The themes were further subdivided into the following categories:

.1 Quality Management System

1. General requirements
 - 1.1 International and national requirements
2. Documentation requirements

.2 Management Responsibility

1. Management commitment
2. Education and training requirements
3. Quality policy
4. Planning
5. Responsibility, authority, and communication
6. Management review

.3 Resource Management

7. Physical resources
8. Human resources

9. Work environment
10. Procurement/engagement

.4 Course Realisation

1. Design and development
2. Validation
3. Delivery
4. Monitoring
5. Review
6. Marketing
7. External approved courses

.5 Evaluation and Improvement

1. Monitoring and measurement
2. Control of non-conformity
3. Analysis of data
4. Continual improvement

4.3 Statistical presentation of results

After the electronic questionnaires were distributed to gather data, the researcher received a total of 101 responses, although, for the purpose of this analysis, the researcher counted the number of responses received per question since a respondent could give more than one answer to an open-ended question. The questionnaire consisted of questions that encouraged open responses to the following inquiry:

.1 How the administrations exercise their control and monitoring of the MET systems in their own jurisdiction in terms of resources, legislation and administrative frameworks, processes, and outputs

Control and monitoring mechanism of the administrations in terms of resources, implied that monitoring, and continual improvement are the main focus. Out of 29 written responses, 27.59% (8) answered that their administration is implementing monitoring and control mechanisms to ensure the provision of resources for MET. Six (20.68%) of them mentioned that there are documentary and procedural requirements that need to be satisfied. Five or 17.24% of the responses talked about the mechanisms on the allocation of funds and other resources, whereas another five (17.24%) stated that the management responsibility plays an important role in communicating the need for provision of the resources. Four (13.79%) said that they do not have any idea how their administrations exercise control in terms of resources. Further, one (3.44%) of the responses indicates that bureaucracy influences the way they control resources.

In terms of the “legislation and administrative framework”, a significant portion of the responses (59.26%) or a total of 16 out of 27 responses implied that most administrations have their own rules and regulations that are implemented in compliance with the national and international standards. While five (18.52%) gave responses that are under management responsibility, three (11.11%) of them mentioned audits. Another two (7.41%) gave different answers such as “no idea” and “none” and one (3.70%) said that the legislation is “changing.”

It is clear that the mechanisms on control and monitoring procedures in terms of processes mainly involve compliance in the QMS and regulatory standards; almost half or 39.28% (11) of the total responses indicate this. It is followed by the evaluation and improvement 28.57% (8), and management responsibility with 10.71% (3) of the responses. Three (10.71%) of the respondents gave uncategorised answers like “always”, “constantly changing because of constant change in legislation and administrative framework”, and “proceeding” while another three (10.71%) answered “none” and “no idea.”

In terms of outputs, 12 (40%) gave responses that fall under the management responsibility, while 36.67% or 8 out of 30 responses pertained to evaluation and improvement. Further, four of the responses (13.33%) talked about documentary requirements according to the QMS. Three (10%) gave indefinite answers such as “it is study by the authority”, “reactive rather than proactive”, and “no one.” Nobody cares about MET” while another 10% mentioned that they have no idea.

.2 How the policies of the administrations apply to the shipping companies

Out of 31 responses, 11 or 35.48% claimed that the extent to which the maritime administrations exercise their control with the shipping companies vastly involve compliance with the international and national legislation (ISM Code, for instance). Audits and verification measures are also employed by the administrations, as revealed by nine (29.03%) responses. Likewise, management responsibility is 29.03%, followed by resource management with four or 11.43% of the total responses.

.3 Challenges encountered in the implementation of the Quality Standards System

MARAD

Most of the challenges encountered in the implementation of the QSS in the MARADs pertained to the quality management system itself according to 11 (34.38%) out of 32 responses received. Eight (25%) identify such challenges with management responsibility, and seven or 21.88% mentioned that there are challenges in the evaluation and improvement. Further, three (9.38%) said it is in the resource management where they encounter challenges. Another 9.38% answered “Not applicable.”

METI

Responses received from the people working in METI revealed that six (27.27%) out of 22 believed that challenges are mostly encountered in the management responsibility. Meanwhile, 22.73% or five out of 22 believed that they have challenges in terms of resource management. Similarly, another five claimed that they do not encounter difficulties in the implementation of the QSS in their organizations. Three (13.64%) of the responses referred to issues on QMS implementation, two (9.09%) indicated evaluation and improvement, while only one (4.54%) considered course realisation as the challenging part.

.4 Factors that affect effective implementation

MARAD

From the point of view of those who work in the MARAD, factors that influence the effective implementation of the QSS are linked to management responsibilities as mentioned by ten (29.41%) out of 34 responses. It is followed by the resource management which took 23.52% or 8 responses. Elements of QMS and evaluation and improvement were both indicated by 4 or 11.76% respectively. The other eight (23.52%) respondents provided other answers (stated verbatim) such as:

1. Ego
2. Urgency
3. Change (Adoption with the new system is hard considering that employees are used to the old practice; These challenges are dynamic and continuous)
4. Stakeholders
5. Culture
6. Lack of political will, political systems
7. Way of doing things

METI

Five out of 22 responses (22.73%) stated factors that influence the ability to have effective implementation of QSS (stated verbatim):

1. Lack of time
2. Effects of implementing change and improvement

3. Unattractiveness of the job due to poor compensation (unattractive salaries to attract good qualified instructors. Inadequate budget to purchase state of the art equipment)
4. Acceptance
5. Culture - I guess it might be related to the culture in Japan. As our mind, we have historically had own quality culture.

Five or 22.73% of the responses indicated that factors that affect the effectiveness of implementation have something to do with resource management, and another five (22.73%) referred to management responsibility whereas four (18.18%) responded that the question was “not applicable” to them. Factors that are related to the QMS were mentioned twice (9.09%). Further, only one (4.55%) mentioned a factor that relates to evaluation and improvement.

.5 Satisfaction with the current MET system

Since the study is aimed at informing the MARAD about how they can improve the implementation of QSS in their own jurisdictions, the question on MET satisfaction was asked only from the seafarers, shipping companies, and maritime education and training institutions. In total, there were 77 respondents for this question.

Answers were coded as “yes”, “no”, “yes with reservation” and “indeterminate”. Responses from the groups revealed that there is a high level of dissatisfaction among the respondents.

Thirty-six (46.75%) of the respondents said they are not satisfied with the current MET system. Twenty-eight (36.36%) said that they are satisfied with their current MET system. A couple of seafarer respondents (2.59%) gave indeterminate answers such as “☺” and “GGWP¹” Furthermore, 11 (14.29%) said “yes” they are satisfied but with reservations. Figure 1 illustrates the level of satisfaction of the respondents.

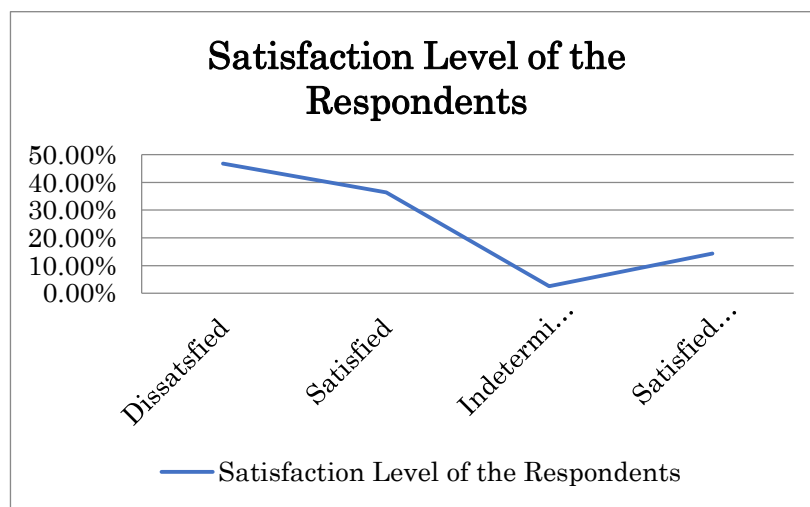


Figure 1. Satisfaction level of respondents

Further, among the dissatisfied respondents, twenty-three (63.89%) are seafarers, eight (22.22%) are people working in the shipping companies, and five (13.89%) are from the METI. The next figure shows the percentage of dissatisfied respondents.

¹ Abbreviation of good game, well played (www.urbandictionary.com)

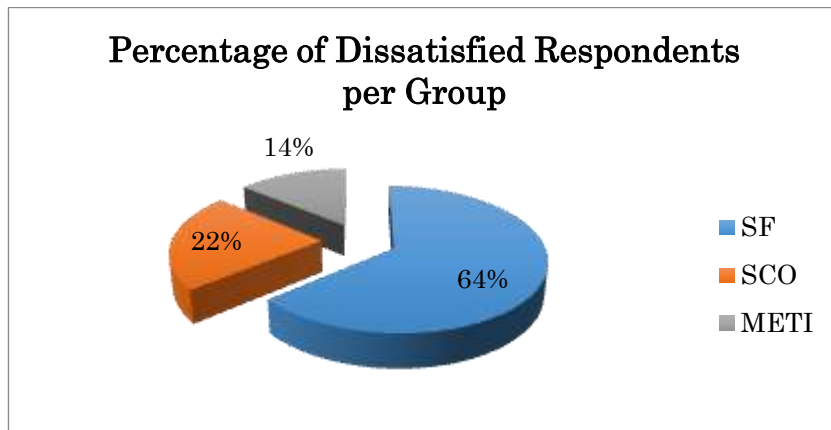


Figure 2. Percentage of dissatisfied respondents per group

On the other hand, more than half or 15 (53.57%) of them comes from the METI, followed by 11 (39.29%) satisfied answers from the seafarers, and two (7.14%) from the shipping companies. The figure below presents the percentage of satisfied respondents per group.

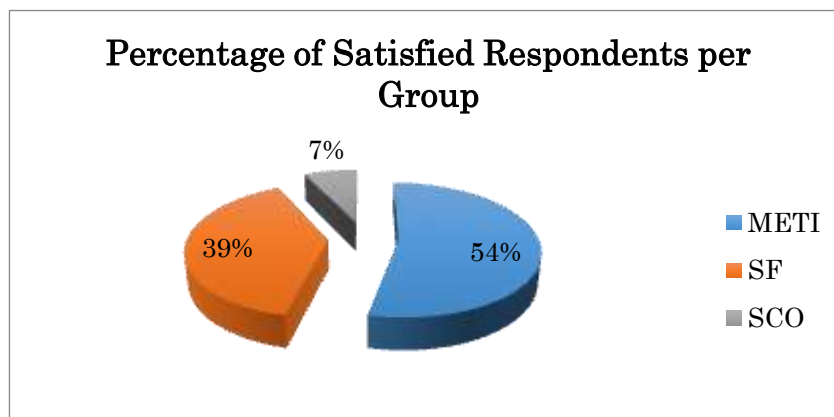


Figure 3. Percentage of satisfied respondents per group

4.4 Qualitative Analysis

.1 Quality Management System

Quality management is described as the process, supported by policies and systems used by an institution to maintain and enhance the quality of education experienced by

its students and of the research undertaken by its staff. The set of integrated policies and practices that structure the management, implementation and adaptation of quality assurance processes is what is referred to as quality system, while the quality standard are norms, expectations or specifications that provide the basis for the assurance of quality (Harvey, 2016). For a more concise description, and to suit the intention of the Convention, QSS is referred to as a system that is able to manage and control all necessary activities and information through a set of documented procedure (Nakazawa, 2015).

As indicated below, findings of this study revealed that there is a great reliance on the QMS when it comes to MARAD total control of the MET Systems in their own jurisdictions. This includes the implementation of the national and international regulations. When asked about how their administration exercise control and monitoring of their own MET system in terms of processes, resources, legislation and administrative frameworks, and outputs, the following were their answers (stated verbatim):

HRM, Kenya

“Regulatory. Insist on QSS”

Personnel of Maritime Ships Security Department, Panama

“Exist a link through the use of Circulars and Marine Notices.”

Top Management, India

“In India, the Maritime Administration lays down strict norms for conduct of each course. Besides this the METI has to have QMS certified by another agency.”

Officer-in-Charge, Public Information Division

“There is a government unit dedicated for monitoring of MET, the Monitoring Division of the STCW Office-MARINA, which carry-out monitoring activities in coordination with the Commission on Higher Education. There is also a Surveillance Division for spot-checking of continued compliance to STCW standards. A Maritime Education Review Committee is in-charge of evaluation and revision of education requirements/curriculum to meet relevant standards of education and training. A Technical Panel for Maritime Education, headed by the MARINA Administrator regularly convenes to discuss matters on proper and effective implementation education and training standards. Ultimately, the Administration employs technical experts called Panel of STCW Experts (POSE) to serve as Maritime Education and Training Standards Supervisors (METSS) who join the Monitoring Division in conducting inspection to Maritime Higher Education Institutions (MHEIs) and Maritime Training Institutions (MTIs).”

Executive Director, Philippines

“Using the ISO 9001 standards for seamless portal entry and exchange”

Technical Assistant at the Research and Development Division, Philippines

“The Administration prescribes the minimum standards for the Maritime Training Institutions in the offer of the training courses. These MTIs are being accredited and monitored if they comply with the requirements.”

Section chief, PSC office, Japan

“We have the control on all aspects of the MET right from approval of institutes, intake into the institutes, assessment of eligibility for examination, conduct of examinations (written and oral), declaration of result and preparation and dispatch of COCs.”

Officer-in-Charge, Public Information Division, Philippines

“The current policies issued aim at standardizing domestic and international requirements, such that there will be "no distinction" as for employment in domestic or international. With this, the shipping companies are affected in terms of assimilating and making a full effect of the Convention, as amended. Affected in the sense that all crew/personnel ALL shipping companies shall employ MUST be compliant to the requirements.”

Director, India

“We have our Merchant Shipping rules EAC branch, Quality Manuals for same and also follow the STCW code’ and well defined quality manual; through a licensing system; implemented through legislation.”

Chief, Policy Development and Review Division

“The Administration promulgates its own administrative regulations to fully implement its mandate on maritime education, training and certification system.”

Responses also indicated that most of the MARAD exercise their control through verification of compliance, implementation of quality manuals, and standardization of well-defined policies. External verifications in behalf of the administration are also permitted.

.2 Management Responsibility

Deming (1986, p. 25) described innovation as the foundation of the future which cannot thrive unless the top management has declared unshakable commitment to quality and productivity. In the research findings, it shows that the management responsibility is the greatest factor that influences the effectiveness of a QS implementation. Out of the 253 responses received, 66 or 26.09% is attributed such effectiveness to management responsibility.

It is necessary that the top management exercise its responsibility to ensure that everyone involved in the system has an appropriate knowledge and understanding of the organization's quality policy through internal communication. This includes management commitment to make certain that the requirements, including customer, legal, and regulatory are communicated throughout the organization ("5 Management Responsibility," 2001). In the surveyed MARAD, it is apparent that the top management's level of awareness is high as shown in Figure 4.

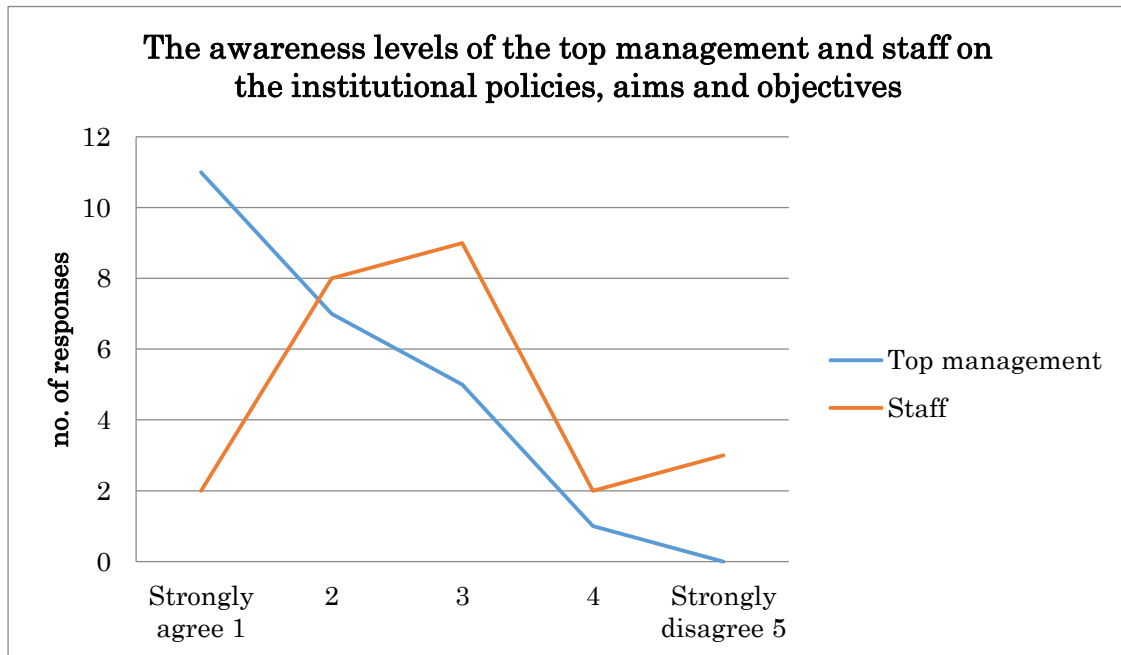


Figure 4. Awareness levels of top management and staff

However, the responses revealed some issues on the awareness of Quality Standards among the staff. Santos et. al. as cited by Guasch (2007), all note that the most frequent barriers to certification are lack of quality awareness and resistance to change (p. 105).

Further, when asked about the factors that influence the implementation of the quality standards in their institutions, the following were some of the responses (stated verbatim):

Indian Principal

“...the belief on quality system by all faculty members. Some always think this to be a necessary evil and documentation is more important than the spirit of the system.”

Staff from the Philippine MARAD

“Lack of appreciation of the whole QMS process.”

Director, and a person in-charge of seafarer’s training, India

“Awareness and execution.”

Top management of an METI, Philippines

“Overkill requirement that entails so much cost.”

Maritime education and training standards supervisor

“QSS was new then and the implementation of the IQA [*Internal Quality Audit*] was something like an intrusion into the undertakings of other employees.”

Training manager of a shipping company, India

“In case of emergency joining or a replacement of candidate due to last moment rejection from Owners it becomes challenging to fulfill our own criteria of training.”

In some cases, ‘Quality Standards’ is viewed as a very new concept.

Senior Coordinator, Japan:

“In fact, I have not developed the QSS in my institution. However, I think it has been quite difficult to mind the philosophy of QSS or QMS to our staff.”

Division Chief of the Surveillance Division, Philippines

“Adoption with the new system is hard considering that employees are used to the old practice.”

In addition, the commitment of the top management was also questioned. In quality management, management commitment includes (1) setting up and serving on a quality committee, (2) formulating and establishing quality policies and objectives, (3) providing resources and training, (4) overseeing implementation at all levels of the organization, and (5) evaluating and revising the policy in light of results achieved ("Top Management Commitment," n.d.).

Some respondents claimed that there is vagueness in the rules that make them open to subjective interpretations. Shortcomings with respect to the oversight of proper QSS implementation was likewise mentioned, as well as concerns on the designation of personnel.

Engineer and Ship Surveyor, India

“Varied knowledge and experience of surveyors, non-communication of the quality manual changes swiftly across the entire spectrum of field offices, no clarity in the rules (often some rules are kept open to interpretation).”

Officer-in-Charge, Public Information Division, Philippines

“Political system in which each agency exists and functions according to its own

mandate; general acceptance and awareness of Reg. I/8 of the STCW Convention, as amended; effective control and monitoring system for PROPER implementation of a QSS; not all personnel playing important role in the implementation of the QSS have been trained to perform such functions.”

Principal, India

“The quality system is in place since last 15 years and is quite matured. The biggest challenge is the classroom monitoring i.e. ensuring what and how things are taught.”

Staff from the Philippine MARAD

“Lack of training. Lack of support from management.”

“Lack of Staff/Personnel, unstable designation of Division Chief, weak support from the top management.”

Division Chief of the Surveillance Division, Philippines

“Adherence to policy procedures is quite a challenge considering that the QSS is relatively new to the Administration as far as implementation.”

.3 Resource Management

Numerous responses pertained to human resource management as a factor for an effective implementation of the QSS. Respondents were articulate in emphasising these

factors not only in terms of the scarcity of personnel but also their professional qualifications.

METI Top Management, India

“In India, the Maritime Administration lays down strict norms for conduct of each course. Besides this the METI has to have QMS certified by another agency. There is also a grading system needs to be done by another third party for each competency course or pre-sea course. The challenge encountered is shortage of faculty. Faculty shortage is there because faculty needs to be experienced from seagoing job and holding highest Certificate of competency. Not many take up faculty position as salary is less.”

Lecturer, Cameroon

“Insufficient qualified instructors and inadequate training facilities.”

Senior Lecturer, Egypt

“Scarcity of experienced maritime teachers”

Nautical Surveyor and PSCO, India

“Mainly due to shortage of skilled man power in the Administration.”

Further, challenges in the provision of physical resources and procurement are present in some jurisdictions.

Senior Lecturer, Nautical Science Department, Ghana

“There have been challenges in the implementation mainly in area of the provision of teaching aids such as ship handling simulators and lack of funding for procurement.”

Legal Division Officer, Vietnam

“External factors such as foreign shipping companies and the poor ability of national shipowners.”

METI Top Management, Philippines

“Yes. Cost of certification is one problem because it's too expensive. We also initially experienced resistance from the faculty and staff because certification entails additional workload.”

.4 Course Realisation

Since the STCW Convention aims at ensuring safe and efficient operations of ships, the end users of the MET systems are the seafarers, and the shipping companies: seafarers who have specific, multiple, and varied jobs and responsibilities to perform, and the ship owners (or companies) who want to be sure that everyone who gets onboard their ships were well trained, skillful, and reliable (Emad & Roth, 2008). When asked about the level of satisfaction on the MET systems, a great portion (42.11%) of their responses referred to course realisation.

In India, it seems that there is a great dissatisfaction from the seafarers when it comes to the provision of training facilities for practical training in terms of technology and equipment-to-student ratio both in the private and government run METI. There was a claim that the MET facilities are not sufficient to accommodate the number of students.

Maharashtra Academy of Naval Education and Training, Private Institute, India

“The system can become more transparent by proper IT system and by complying with right to information act. The infrastructure is not good and there is overcapacity of seafarers which is causing unemployability. This can be improved by regulating the batch size for students as per the demand of maritime industry. There should be close cooperation with maritime industry to meet their requirements. The lead time should be minimised by adopting new programmes and training technologies into MET system to comply with new regulations and advance standards of maritime industry. Corruption and involvement of middlemen or agents is also one of the major hindrances for transparent organizational structure in my country. This can be improved by direct cooperation with awarding and licensing authorities and MET institutions in India.”

Fourth Engineer, India

“The MET system should provide more practical knowledge to students on current technology and equipments that is used nowadays, the leadership and risk taking abilities of students should be improved.”

There is also an issue on the fees and charges. Some seafarers believed that they do not get the value for the money they pay for the training, and that there are unnecessary trainings that entail too much costs. This is true for both public and private institutions.

Fourth Engineer, Marine Engineering and Research Institute, Kolkata, India

“No. Whether it be the IMO or the national shipping governments, they should plan and think more justly about the welfare of seafarers, instead of acting like money laundering machines. Recently introduced courses like high voltage course, cost too much without any specific reason! Many colleges (in India) are not able to provide placements to the passing out cadets, reason being the cobwebs of agencies via which the companies hire these days, which usually costs a cadet around 5000 usd, far too much for a young guy. Merit these days has taken a back seat.”

Fourth Engineer, Marine Engineering and Research Institute, Kolkata, India

“The training fee should be reduced because it is much more in comparison with the facilities provided by the institute.”

Fourth Engineer, Vishwakarma Maritime Institute (VMI), India

“They take lot of money for training and courses sometime the situation arise you don't have any saving after that all are usually spent on exams and course which year by year increase there prices but the salary don't increase only the institution and colleges and administration are getting all our hard earned money this is creating a negative picture of industry.”

Fourth Engineer, Indian Maritime University (IMU) Kolkata, India

"All the Institute must communicate with their students about faculties, facilities and the need of modifications. There are many things those must be changed or need to be improved, and students are the one who know better than what to be and what not to. Thank you."

In the Philippines, redundancy of training has been mentioned repeatedly by the respondents. Further, there is also a problem when it comes to employment, as some of the graduate had difficulties in finding job after graduation. This, again, may raise the question on "fitness for purpose" of MET.

Third Officer, (MAAP) Philippines

"No. There's too much training on the current system, trainings that already been taken up in the academy."

Second Assistant Engineer, (NYK) Philippines

"Not much satisfied. Need to review the syllabus of some trainings which are in common with the other training."

Engine Cadet, (PMMA) Philippines

"Yes but in other schools or institutions they have a very low rate of graduates getting a job in the industry. Most graduates from other schools finished their courses but failed to use it. Which is very sad."

According to Alfiani (2010) the declining number of seafarers from major ship owner countries like Japan has been one of the reasons why employers choose to man their ships with international crews. This is evident in one of the responses when a respondent mentioned that there is a challenge in training national crews.

Faculty of Maritime Sciences, Kobe University, Japan

“I felt satisfied with my cadetship more than 10 years ago. There were a lot of structural changes in the ministry and relevant MET organizations affected. The link between MET institutions and shipping companies has been less significant. Shipping companies are more interested in training foreign crew than their national crew, because of the HR costs and their excellences.”

Some ship operators have little interest in the assessment techniques underpinning licence examinations and less idea of the variations that can currently be identified in the practice of different maritime administrations (Sampson, Gekara & Bloor, 2011, p. 91). But as to the question on the satisfaction level, some of the responses received imply otherwise (stated verbatim):

International Shipping Company, Japan

“Publicity activity about this maritime MET is not enough. MET is very much into licence matter and not enough about the industry itself.”

International Company, Philippines

“Not really. It can be improved when the administration MARINA properly defines its goals in ensuring not only the STCW compliance, but the real competence of the seafarers after finishing school.”

Multinational Company, India

“More training is required identifying caliber of candidates. Especially there is big void on technical training.”

International Company, Philippines

"Needs improvement. The maritime education and training in the Philippines is over and beyond what international standards seem to require. But what needs improvement is the alignment with STCW. I don't understand why we always have problems with STCW compliance."

Multinational Company, Philippines

“No, the MET system does not fully address the needs of the seafarers for shipboard competence. There must be better coordination between the institutions and the shipping companies to address this need.”

.5 Evaluation and Improvement

In the results of the data analyses, majority of the people working in the MARAD believe that there is a monitoring system that ensures full implementation of the quality policies. Below is a figure that shows the level of agreement of the respondents that such system is present in the Administration:

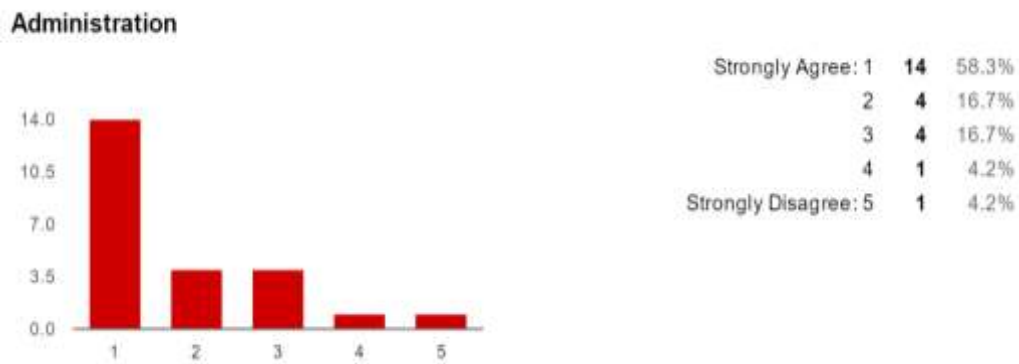


Figure 5. Percentage of those who believe that there is a monitoring system in place

When asked about how the Administration exercise their control and monitoring of MET, most of the answers indicated that they usually conduct of inspections, audits, and verification of the processes leading to seafarers' certification. However, the research found some challenges in the implementation of QSS in these areas according to 19.37% of the total responses received. Below are some of the responses verbatim:

Division Chief- Surveillance Division

“Periodic inspections and monitoring are conducted including surprise inspection and verification to all MET institutions.”

Senior Officer, Quality Management Division, Philippines

“Systematic monitoring if systems are in place and if changes are to be introduced.”

Public Relations and customer care officer, Kenya

“Conducting audits and evaluations; including reevaluations; benchmarking; they ensure that shipping companies are responsible for employing seafarers aboard their ships in compliance to the requirements of the amended STCW Convention.”

Nautical Surveyor and PSCO, India

“Part of the monitoring activities delegated to the Recognized Organizations i.e. Classification societies for conduct of Comprehensive Inspection Programme (CIP) of METs in view of shortage of personnel in the Administration. The frequency of monitoring directly by Administration varies based on the CIP grading of METs; Company responsibilities defined in National STCW Rules. Implementation verified during ISM audits of companies and ships and during ship inspections.”

Section chief, PSC office, Japan

“Through annual reporting from each MET institutions and Audit if considered necessary.”

Executive Director, Philippines

“Extend service providers that are not following a QSS, ergo service output at times cannot be verified.”

The findings also show that the majority of MARAD and METI conduct internal quality audits and employ third party evaluations.

The high percentage of these evaluation mechanisms also entails institutional challenges, mainly because the concept of audit and review is not fully accepted (lack of experience of this or culture) (Wyatt, 2012). Challenges in these areas are also experienced by the shipping companies and METIs.

Chief Engineer, India

“Getting various departments data organised and audited.”

Former Head, Maritime Safety Department, Ghana

“Measuring the level of achievements in IMO mandatory courses vis-a-vis goals.”

Chief of Policy Development and Review Division, Philippines

“Management has the tendency to lobby the downgrading of major non-conformities.”

Training Manager in an METI, Philippines

“Non-compliance of required training equipment in maritime schools.”

Principal, India

“The quality system is in place since last 15 years & is quite matured. The biggest challenge is the classroom monitoring i.e. ensuring what and how things are taught.”

4.5 Summary

Chapter 4 articulated the following:

- .1 The MARAD exercise their control and monitoring of the MET systems mainly through Quality Management Systems.
- .2 Management responsibility is the greatest factor that affects the effective implementation of the QSS.
- .3 There is a substantial level of dissatisfaction from the seafarers on the current MET systems in both India and the Philippines.
- .4 Challenges encountered in the implementation of the QSS pertain to the QMS and management responsibility.

Chapter 5 – Discussion of Findings

“The whole is more than the sum of its parts.”

Aristotle (n.d.)

5.1 Discussion of Findings

In chapter four, the data were presented and analysed. This chapter, however, will summarise and discuss the research findings, significance of the study, recommendations for further study and conclusion. Further, the extent to which the research questions were answered by the study and its relevance to current MET practices will also be presented. Concepts as discussed in the literature review are considered in the synthesis of the research findings and are backed by the data recorded in the previous chapter.

5.2 Summary of the Study

The study intended to find out how the maritime administrations exercise their control and monitoring functions of maritime education and training in their own jurisdictions, including the kind of control they have over the shipping companies, and all other processes that lead to seafarers' certification. The study also looked into three determinants of quality and tried to extract substantial responses from the “customers” that lead to: customer satisfaction, fitness for the industry, and continuous improvement. For further understanding of its essence, quality in terms of education needed to be contextualised.

As such, key stakeholders who often hold views and meanings of educational quality were taken into consideration in trying to draw an applicable, if not perfect, picture of quality in the current MET systems (UNICEF, n.d., p. 5). Readings of literature and analysis of qualitative data led the researcher to conclude that quality cannot be fully achieved and determined by merely looking at the output, but by carefully looking into the systems and how they are really implemented.

There are challenges in the implementation of quality standards in most jurisdictions surveyed. Most of these challenges pertained to customer satisfaction which leads to the interrogation of management responsibilities in terms of dealing with feedbacks and constancy of objectives (Deming, 1986). As part of management responsibilities, “the institute shall ensure that industry, student and regulatory requirements are met, with the aim of improving industry/student satisfaction (“PSB Certification,” 2002, p. 14).

However, it was noted that a large number of the seafarer respondents expressed their dissatisfaction with the current MET system in terms of educational and training requirements. This includes dissatisfaction with the provision of onboard training for cadets, low job opportunities after graduation due to skills gap, insufficient technology to cater for practical training, poorly qualified instructors, redundancy of training, and the value for money of the training.

5.3 Discussion of the Findings in View of the Research Questions

Research Question 1 & 3.

How do maritime administrations define the role and objectives of the quality standards in MET in the national context? How do Maritime Administrations exercise their control and monitoring of their MET systems in terms of resources, legislation and administrative frameworks, processes, outputs?

One hundred percent of responses from MARADs indicated that they implement a quality standard pursuant to Regulation I/8 of the Convention.

How maritime administrations define the role and objectives of Quality Standards

■ QMS ■ MR ■ RM ■ EI ■ others ■ n/r

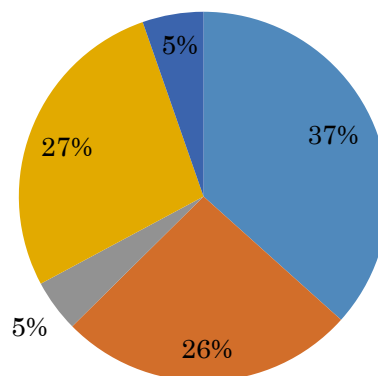


Figure 6. Domains within which the maritime administration outline the role and objectives of the QS in MET

In connection with their compliance with the Quality Standards requirement, figure 6 above shows the domains within which the maritime administration outline the role

and objectives of the QS in MET: Quality Management System (QMS), Management Responsibilities (MR), Resource Management (RM) and Evaluation and Improvement (EI). QMS, MR and EI are the three major domains. A large portion of the responses received is related to the QMS (general requirements and documentation) in terms of control mechanisms done in the implementation of the legislative and administrative frameworks, and processes. This includes national legislation and implementation of international and national regulations. Conversely, the reported challenges in the implementation of QS in MET, once again, are encountered in the same domains as previously mentioned.

The responses also highlighted the focus on the responsibility, authority, and communication where MARADs indicated that they exercise their control and monitoring of the MET systems through issuance of regulatory requirements to satisfy paragraph 1 of Regulation I/8. Monitoring and control procedures are focused on the provision of resources and monitoring of outputs.

Moreover, answers from the people working in the MARAD show that most employees are aware of their roles and functions in their organization, although there is a small percentage that claimed that the job description was not well-defined as shown in Figure 7.

The job description of each employee is well-defined.

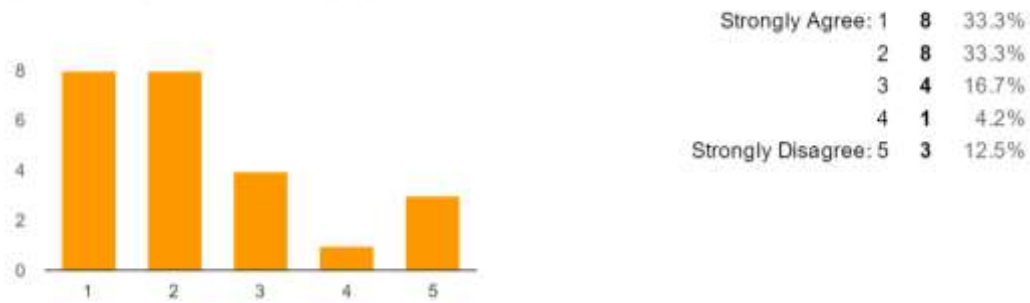


Figure 7. This figure illustrates the level of agreement of the respondents in terms of having a well-defined job description

Further, the control and monitoring exercised by MARAD also give emphasis on their commitment to improve the system through evaluation. This involves audits, inspection, and monitoring exercises conducted to check on the implementation of MET systems. Though a high percentage suggests that such mechanisms are done by the administrations, one may claim that this does not indicate full achievement of quality. As Dodge mentioned, “you cannot inspect quality into a product” (Deming, 1986, p. 32), the quality should lie on **how** the final product was achieved. Having mentioned such, the system involved in the monitoring activities is in question.

Nevertheless, the findings also suggest that the necessary effort for continual improvement is being done by the Administrations. Glasser (as cited by UNICEF, n.d., p. 5) once stated that “systems that embrace change through... self-assessment are more likely to offer quality education to students”. As such, it is also important to note that METIs conduct internal quality audits as part of their self-assessment scheme like MARADs do, as reflected in the next figure.

Your administration conducts internal audits periodically.

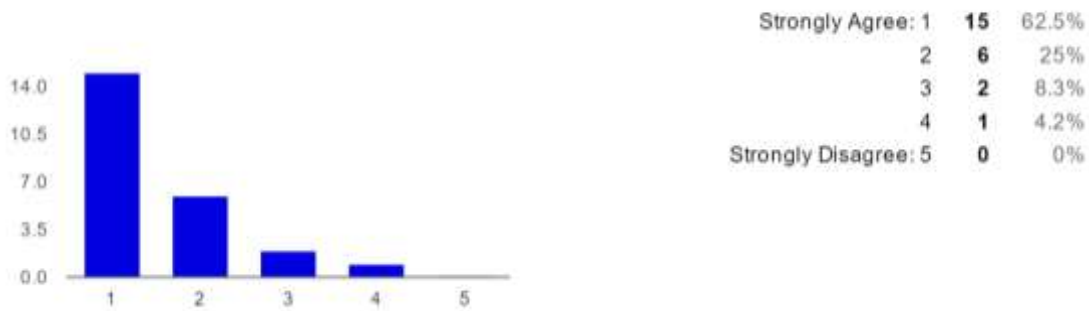


Figure 8. This figure shows that high percentage of the respondents believe that their administration conducts internal audits

Additionally, a substantial number or 66.70% of responses from MARAD indicated that they are employing third party evaluation. This is similar to the METI from which 55% of the responses revealed that they employ third party audits on top of the ones being conducted by the maritime administration

Research Question 2

What are the key components, conditions and factors that determine and/or influence the effectiveness of a quality approach in the MET systems of different Parties to the STCW Convention?

In the previous chapter, it has been found out that management responsibility plays a critical role in the effective implementation of the quality standards system. Despite the efforts for continual improvement, challenges in the QS implementation are still encountered.

Below is a figure that shows the areas in which factors that contribute to effective QSS implementation are noted.

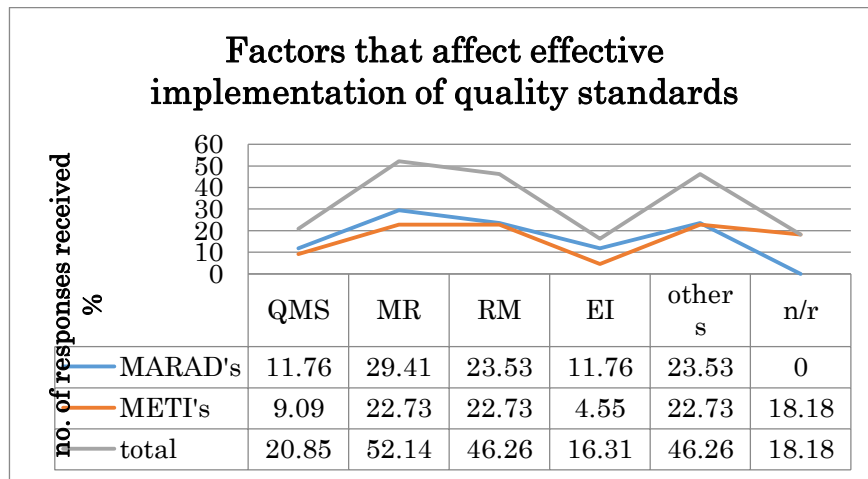


Figure 9. Areas in which factors that contribute to effective QSS implementation are noted

Although majority of the responses from MARAD implied that goals and objectives of the system were clearly defined, it is noticeable that there is a little divergence of responses from MARAD and METI when it comes to clarity of policies, aims and objectives as shown in the table below:

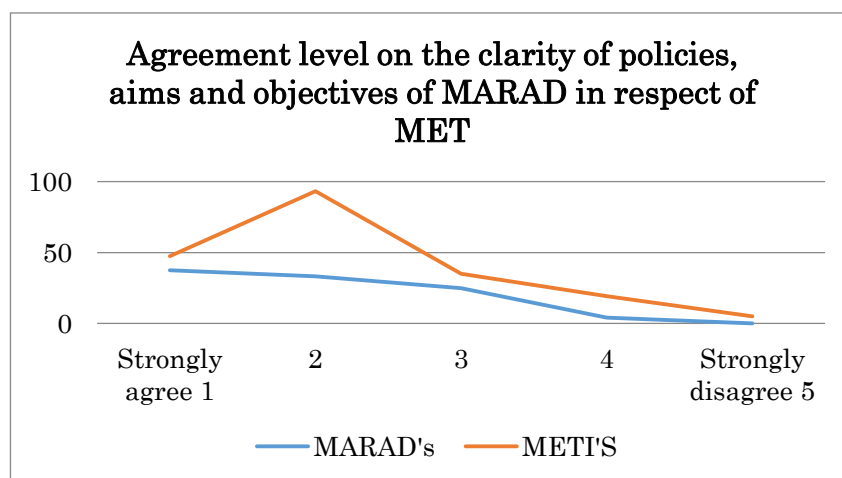


Figure 10. Agreement level on the clarity of policies, aims, and objectives

The discrepancy between the responses indicates that there is vagueness in the policies, aims and objectives as perceived by the METI. Such could be a result of an unstated assumption that the procedures are fully defined and followed in most service organizations (Latzko n.d., as cited by Deming, 1986, p. 191), like MARAD.

Provided that there are clear policies in place in most jurisdiction, there is still a need to identify the factors that affect the successful implementation of the MET systems. The disagreement between the results may suggest that there is a need to look closely into how the METI implement the system. The gap between the understanding of the policies, no matter how small can snowball into something irredeemable if not corrected at the early stages of implementation. “No amount of care or skill in workmanship can overcome fundamental faults in the system (Deming, 1986, p. 315).”

Report on customer's satisfaction

Further to the previous discussions, this study also wants to highlight the significance of “customer satisfaction” as one of the key components of an effective quality system. Literature in the earlier chapter suggested that customer satisfaction should be one of the prime objectives of quality education. Usman (2010) indicates that satisfaction plays a major role in determining the originality and accuracy of a system, especially the educational system wherein the level of satisfaction is tagged with the level of students' skill development, course knowledge and mentality. Additionally, Keller as cited by Usman (2010) suggested that the students get motivated from the

reliability of the facilities they are provided with. However, the findings show that there is a substantial amount of dissatisfaction from the respondents. It was previously noted that most of the responses expressed discontent with the provision of resources among others.

Access to appropriate and up-to-date equipment is one of the major concerns in India. Respondents from both public and private METI mentioned that there is a problem when it comes to the training facilities that are perceived to be outdated. For the same reason, the findings revealed that the respondents demand for more practical training that could help them get the job. This is supported by Carron & Chau (as cited by UNICEF, n.d.) when they mentioned a study in India which suggested that, the quality of the learning environment was strongly correlated with pupils' achievement. This needs to be looked into by the management if they really are committed to achieving quality.

If the institutions and the administrations are aiming at producing quality seafarers, then the goals as well as the means of achieving them have to be in line with the objectives. Deming (1986, p. 16) emphasised that outputs cannot be considered without considering the goals they are designed to achieve. Moreover, the responses suggest that there is a need to review the policies considering the outcomes of the courses despite the provision of strict policies for the conduct of each course.

On the other hand, redundancy of training was repeatedly stated by the respondents from the Philippines. This suggests further review of curricula is needed in order to identify the gaps and duplication of training programmes. This is associated with their complaints about high cost training fees which are believed to be just redundancy and not adding much value with what they already know.

It was noted in both jurisdictions that the respondents did not find value for money from the courses they attended because the facilities that were offered to them were deemed to be inadequate and “not meeting the standards”. Similarly the training programme for cadets and some issues related to employment were also found to be a unsatisfactory as mentioned by the respondents from India, Japan, and Philippines.

Further, problems on human resources like, lack of qualified instructors was highlighted as a common challenge in all the surveyed respondents. Being aware that teaching personnel is one critical factors in achieving quality education, Regulation I/8 clearly stated the requirement for a quality standard that covers the administration of processes that lead to seafarers’ certification, including the qualification of instructors. This is in line with the requirements of Regulation I/6 [Training and assessment] which requires a Party to ensure administration, supervision and monitoring of training and assessment of seafarers. This idea was affirmed by the Japanese Ministry of Foreign Affairs (2013) who believes in the importance of excellent teaching staff in developing excellent industrial human resources. “They argue that educational leaders must be able to ‘account for the quality of learning’ in their institutions” (Haughton, 2012, p.

59). Indeed, the importance of having well-trained instructors as associated with the perception of quality was highlighted in the discussion of the overall satisfaction with MET, as well as in the literature review in Chapter 2. In effect, the system on how these instructors were qualified to perform such teaching functions needs a review.

5.4 Implications of findings

The literature talks about MET quality in terms of satisfying the “customers” as well as “fitness for industry needs” and such are indicated in the findings of this study. As a result, it calls for attention of the maritime administrations to look into their systems more critically and mind the importance of feedback mechanisms in their commitment to continual improvement of MET. This could help them align their objectives with what is required, not only by the Convention but with what the “customers” themselves, require. Total engagement with the seafarers and shipping companies is necessary.

Since management responsibilities are also highlighted in this research, the relevance of this study extends to the top management of METI and MARAD and all other important stakeholders that are involved in seafarer certification and overall safety and efficiency of ship operations at large. As the research findings revealed, mere compliance with the requirements of the Convention does not totally assure quality--for one may satisfy every stated requirement and still fail to satisfy the customer in a profound way (Cochran, 2008, para. 7).

In terms of organizational or institutional quality, the study revealed lack of awareness of the staff of the quality standards system in both MARAD and METI. As such, there is a need to review the policy on competence, awareness, and training of the staff to emphasise the importance of their individual activities in achieving quality objectives, and at the same time enable them to perform their specific functions effectively.

Given such expectations, paired with the complex nature of the maritime industry, there is a need to the act of those concerned together, to fully achieve success. As such, this impacts everyone who, in one way or another has a chance to build quality into the service offered, whether or not directly involved with the “customers.”

5.5 Recommendations

With all the findings and data at hand, the analyses focused only on the data that best answer the research questions. Therefore, quantitative data were not exhaustively analysed. It is also necessary to mention that, the study was participated in by only a limited number of respondents from Japan and therefore cannot create such solid conclusion of the current MET situation in that jurisdiction. On the other hand, respondents from India and the Philippines, especially from the seafarers point of view, are enough to conclude the presence of some lapses in their MET system.

However, the researcher also note that the responses from the seafarer are just limited to their own experiences and knowledge of the bigger picture in terms of application of the quality standards system at the national level.

Nevertheless, this research recommends the following:

To the MARAD:

People are part of the system but few people in the industry know what constitute a system (Deming, 1986, p. 366). It is the duty of the administration to ensure appropriate and non-conflicting understanding of the policies, aims, and objectives in both the maritime administration and the stakeholders, particularly the METI who have direct interaction with the customers (seafarers and industry). It is also recommended that the MARAD strengthen their collaboration with industry stakeholders. With this, identifying the lapses in the whole MET system should not be as challenging.

It is also suggested that the MARADs as government institutions act not only as regulators but as enablers. That is, not only setting goals that can be realised within the capabilities of the system but also through assertion of leadership, to organize the stakeholders, and to allocate resources in the development enterprise (Bratton, 1989).

To the METI:

A review of current policies on hiring instructors and all other personnel, and augmentation of institutional capacity through training are recommended. Likewise, conducting constant review of the national regulations and curriculum vis-a-vis inventory of the training facilities is highly suggested. Further, it is also recommended that the link between MET institutions and shipping companies be strengthened in order to improve the current situation on training berths for cadets.

5.6 Conclusions

The study has provided through its findings that the role of the quality standards system as implemented by the maritime administration is defined as a means of controlling and monitoring the processes that underpin maritime education and training. However, factors and challenges in ensuring its effective implementation were also noted. Management responsibility, among all other factors, was determined to be one of the greatest factors that affect the implementation of the quality standard system. Since the management holds an immense responsibility in ensuring the proper implementation of the QSS, it is prudent to conclude that not much improvement can be expected from the effort of the workforce unaided by the management (Deming, 1986, p. 366). Another important factor was the resource management. This does not only involve scarcity with respect to adequate and relevant training facilities, but also putting the right people to perform the job. As Barber & Mourshed (2007, p. 13) put it, the quality of an education system cannot exceed the quality of its teachers. In the research findings, qualification of instructors was questioned and therefore calls for an utmost attention.

Further, the study reveals that seafarers in the surveyed jurisdictions are generally not satisfied with the current MET systems. Therefore, the MARADs should be made aware of the “reality” behind the METIs compliance with the national regulations. Dissatisfaction of the seafarers strongly indicates that despite the mechanisms of the government to ensure the quality of MET, the “customers” are not fully satisfied. As the end users of the product, seafarers and shipowners/shipping companies are deemed

to be in the position to judge whether the objectives are satisfied. “When it comes to customers, feelings are facts (Kalmar n.d., as cited from Cochran, 2008).”

The “High Level Group” (2013, p. 14) realises that there is no single definition for high quality in teaching and learning, as both are multi-faceted activities that depend largely on the context, such as the subject, the learners, the mode of instruction, resources, etc. As such, the study let the literature and the findings speak a definite context in which the quality can be defined. With this, it was concluded that the customers’ perspectives are very important in determining quality.

The study laid down the factors that affect the effectiveness of the QSS, and further described the perceived quality of the current MET, which generally boiled down to management responsibilities. However, maritime administrations cannot work in isolation; for the quality standards to work effectively, collective effort from the key players is highly encouraged.

"Alone we can do so little, together we can do so much."

--*Helen Keller (n.d.)*

(adapted from Kerpen, 2014)

References

- 5 Management responsibility. (2001). Retrieved from
http://www.simplyquality.org/2000%20Summary/req_5-0.html
- AB Volvo. (2016). Quality. Retrieved from
<http://www.volvogroup.com/group/global/en-gb/volvo%20group/ourvalues/quality/Pages/quality.aspx>
- Achuthan, A. (2005). Synergistic Solutions.
- Alfiani, Didin Susetyo., "Multinational and multicultural seafarers and MET students : a socio-cultural study for improving maritime safety and the education of seafarers" (2010). World Maritime University Dissertations. Paper 425.
- Aliyu, M. (2016, March 30). Master mariners, engineers to serve as faculty instructors at MMTC.
Retrieved from
<http://guardian.ng/business-services/master-mariners-engineers-to-serve-as-faculty-instructors-at-mmtc/>
- Aristotle. (n.d.). BrainyQuote.com. Retrieved September 17, 2016, from BrainyQuote.com Web site:
<http://www.brainyquote.com/quotes/quotes/a/aristotle377766.html>
- Asyali, E., Tuna, O., & Cerit, A. (2016). [Http://journal.ru/wp-content/uploads/2016/08/d-2016-154.pdf](http://journal.ru/wp-content/uploads/2016/08/d-2016-154.pdf).
ISO 9000:2000 Quality Management System and Problem Based Learning in MET.
doi:10.18411/d-2016-154
- Barber, M., & Mourshed, M. (2007). *How the world's best-performing school systems come out on top*. New York: McKinsey & Co.
- Baylon, A. M., & Santos, E. R., VAdm. (2011). The Challenges in Philippine Maritime Education and Training. *International Journal of Innovative Interdisciplinary Research*, (1), december.
- Bramley, P. (1991). *Evaluating training effectiveness: Translating theory into practice*. London: McGraw-Hill Book.
- Bratton, M. (1989). The politics of government-NGO relations in Africa. *World Development*, 17(4), 569-587. doi:10.1016/0305-750x(89)90263-5
- Bulc, V. (2014, December 19). Commission Implementing Decision of 17 December 2014 on the recognition of Japan pursuant to Directive 2008/106/EC of the European Parliament and of the Council as regards the systems for training and certification of seafarers (notified under document C(2014) 9590) (Text with EEA relevance) (2014/935/EU). Retrieved from
<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014D0935&from=EN>

- Chaffee, E., & Sherr, L. A. (1992, October). Quality: Transforming Postsecondary Education. ERIC Digest. Retrieved from <http://www.ericdigests.org/1992-1/quality.htm>
- Cheng, Y.C. (2001b). New Education and New Teacher Education: A Paradigm Shift for the Future. In Cheng, Y.C., Chow, K.W., & Tsui, K.T. (eds.). *New Teacher Education for the Future: International Perspectives*, (pp. 33-88). Hong Kong & The Netherlands: Hong Kong Institute of Education & Kluwer Academic Publishers.
- Cheng, T. C., & Choy, P. W. (2007). Measuring Success Factors of Quality Management in the Shipping Industry. *Maritime Economics & Logistics*, 9(3), 234-253.
- Chowdhury, M. S. (n.d.). Human behavior in the context of training: An overview of the role of learning theories as applied to training and development. Retrieved from <http://www.tlinc.com/articl112.htm>
- Cochran, C. (2008). Measuring service quality. Retrieved from http://www.qualitydigest.com/mar08/articles/03_article.shtml
- Cross, S. J. (2015). *Quality standards, Regulation I/8, STCW Convention, 1978, as amended, notes for the guidance of administrations*. Unpublished lecture notes in curriculum design, delivery and assessment. World Maritime University, Malmo, Sweden
- Cusmano, L., Froy, F., Bouis, R., Christensen, A., Serres, A. D., Guichard, S., . . . Renaud, I. (2015). *Escaping the Stagnation Trap: Policy Options for the Euro Area and Japan*.
- Deming, E. W. (1982). *Out of crisis* (First MIT Press ed., Ser. 2000, p. 6). Cambridge, MA: Massachusetts Institute of Technology.
- Department of Trade and Industry. (n.d.). *Quality Management Systems* [PDF]. United Kingdom: Department of Trade and Industry.
- De Weert, E. (2011), *Perspectives on Higher Education and the Labour Market: Review of International Policy Developments*, Centre for Higher Education Policy Studies, University of Twente, Enschede.
- Directorate General of Shipping, Mumbai. (2013). Comprehensive Inspection Programme (CIP) for Maritime Training Institutes-Competency Courses. (23), 2014th ser.
- Emad, G., & Roth, W. M. (2008). Contradictions in the practices of training for and assessment of competency. *Education Training*, 50(3), 260-272. doi:10.1108/00400910810874026
- Fernandez, C. M., & Choi, K. (2012). *An overview of skills development pathways in Asia* (pp. 13-39, Skills Pathways Asia).
- Forbes Media LLC. (2016). The World's Most Valuable Brands. Retrieved from <http://www.forbes.com/powerful-brands/list/#tab:rank>

- Foster, W. A. (n.d.). Forbes quotes. Thoughts on the business of life. Retrieved from <http://www.forbes.com/quotes/9698/>
- Frost, R., Undermeyer, L., & Frost, R. (1991). *The road not taken: A selection of Robert Frost's poems.* New York: H. Holt and Co.
- Gaetani I.I., Hoes P., & Hensen J.L.M., (2016). Occupant behavior in building energy simulation: towards a fit-for-purpose modeling strategy. *Energy and Buildings*, Vol. 121(2016), p. 188-204
- Gatfield, T., Barker, M., & Graham, P. (2006, July 7). *Journal of Higher Education Policy and Management*. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/1360080990210210>
- Gekara, V. (2009). Understanding attrition in UK maritime education and training. *Globalisation, Societies and Education*, 7(2), 217-232. doi:10.1080/14767720902908190
- GG WP. (n.d.). In *Urban Dictionary*. Retrieved from <http://www.urbandictionary.com/define.php?term=GG+WP>
- Gotzamani, K. D., & Tsiotras, G. D. (2001). An empirical study of the ISO 9000 standards' contribution towards total quality management. *International Journal of Operations & Production Management*, 21(10), 1326-1342
- Gustafsson, A., Nilsson, L., & Johnson, M. D. (2003). The role of quality practices in service organizations[pdf]. Retrieved from Cornell University, School of Hospitality Administration site: <http://scholarship.sha.cornell.edu/articles/700>
- Guasch, J. L. (2007). *Quality systems and standards for a competitive edge*. Washington, D.C.: World Bank.
- Hadiyati, E. (2014). Service Quality and Performance of Public Sector: Study on Immigration Office in Indonesia. *IJMS International Journal of Marketing Studies*, 6(6). doi:10.5539/ijms.v6n6p104
- Harvey, L. (2016, January 26). Glossary index. Retrieved from <http://www.qualityresearchinternational.com/glossary/>
- Haughton, C. J. (2012). *From ships to leaderships: The leadership of maritime education and training (MET) institutions in the United Kingdom*. Unpublished PhD dissertation, The University of Birmingham, United Kingdom
- High level group on the modernisation of higher education: Report to the European Commission on improving the quality of teaching and learning in Europe's higher education institutions.* (2013). Luxembourg: Publications Office of the European Union.
- Holder, L. A. (2002). *Training and assessment on board: A guide for Seafarers and Managers on how to make best use of opportunities for practical training and assessment of competence on board ship*. London: Witherby and.
- ICS. (2015). Number and Nationality of World's Seafarers. Retrieved December 02, 2015, from

- <http://www.ics-shipping.org/shipping-facts/shipping-and-world-trade/number-and-nationality-of-world's-seafarers>
- IMarEST: Shipping's looming skills gap must be tackled now -. (2016, May 06). Retrieved from <http://splash247.com/imarest-shippings-looming-skills-gap-must-be-tackled-now/>
- International Maritime Organization [IMO]. (2013). Guidance on the preparation, reporting and review of independent evaluations and steps taken to implement mandatory amendments required by Regulation I/7 of the STCW Convention: MSC.1/Circ.1449. London: Author
- Johnson, R., & Onwuegbuzie, A. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher*, 33(7), 14-26. Retrieved from <http://www.jstor.org/stable/3700093>
- Joint CHED-MARINA Memorandum No. 1, Series of 2016. (2016, July 19). Retrieved from <http://stcw.marina.gov.ph/joint-ched-marina-memorandum-no-1/>
- Jørgensen, T. H. (2008). Towards more sustainable management systems: Through life cycle management and integration. *Journal of Cleaner Production*, 16(10), 1071-1080. doi:10.1016/j.jclepro.2007.06.006
- Kanev, D. (2014, June). The New Characteristics of Seafarers' Labor Market and their Requirements to the Maritime Education. Retrieved from http://iamu-edu.org/?page_id=1399
- Kerpen, D. (2014, February 12). 15 Quotes to Inspire Great Teamwork. Retrieved from <http://www.inc.com/dave-kerpen/15-quotes-to-inspire-great-team-work.html>
- King M.L., Jr. (n.d.). BrainyQuote.com. Retrieved September 17, 2016, from BrainyQuote.com Website: <http://www.brainyquote.com/quotes/quotes/m/martinluth402936.html>
- Klefsjö, B., Bergquist, B., & Garvare, R. (2008). Quality management and business excellence, customers and stakeholders. *The TQM Journal*, 20(2), 120-129. doi:10.1108/17542730810857354
- Kowalski, P., Gonzalez, J. L., Ugarte, C., & Ragoussis, A. (2015). Participation of Developing Countries in Global Value Chains. *OECD Trade Policy Papers*. doi:10.1787/5js331fw0xxn-en
- Loginovsky, V., General Assembly of the International Association of Maritime Universities, International Association of Maritime Universities., & Nihon Zaidan. (2009). *MET trends in the XXI century : Shipping industry and training institutions in the global environment, area of mutual interests and cooperation*. [Place of publication not identified]: International Association of Maritime Universities.
- Manghani, K. (2011). Quality assurance: Importance of systems and standard operating procedures. *Perspect Clin Res Perspectives in Clinical Research*, 2(1), 34. doi:10.4103/2229-3485.76288

- Maringe, F., & Gibbs, P. (2009). *Marketing higher education: Theory and practice*. Maidenhead: Open University Press.
- Martinez-Fernandez, C., & Choi, K. (2012). Skills Development Pathways in Asia. *Technical and Vocational Education and Training: Issues, Concerns and Prospects Skills Development for Inclusive and Sustainable Growth in Developing Asia-Pacific*, 155-179.
doi:10.1007/978-94-007-5937-4_9
- Matchett, K., Dahlberg, M. L., & Rudin, T. (2016). *Quality in the undergraduate experience: What is it? how is it measured? who decides? summary of a workshop*. Washington: National Academies Press. <http://dx.doi.org/10.17226/23514>
- McLeod, S. (2008). Likert Scale. Retrieved from <http://www.simplypsychology.org/likert-scale.html>
- Ministry of Foreign Affairs. (2013). *Japan's Official Development Assistance White Paper 2012* [Pamphlet]. Tokyo, Japan: Ministry of Foreign Affairs
- Mwangura, A. (2016, March 08). Kenya needs modern ship to boost maritime training. Retrieved from <http://www.businessdailyafrica.com/Kenya-needs-modern-ship-to-boost-maritime-training-/-/1248928/3108752/-/12nh588z/-/index.html>
- Nagao, S., & Collin, K. (2016, February 16). Toward a Japan-Singapore-India maritime partnership. *Japan Times RSS*. Retrieved May 04, 2016, from <http://www.japantimes.co.jp/opinion/2016/02/16/commentary/japan-commentary/toward-japan-singapore-india-maritime-partnership/#.Vyn7ffl97IV>
- Nakazawa, T. (2015). Developing seafarer skills through quality maritime education and training [PDF document]. Retrieved from <http://www.imo.org/en/About/Events/WorldMaritimeDay/Documents/2015%20WMD/Mr.%20Takeshi%20Nakazawa,%20Secretary-General,%20International%20Association%20of%20Maritime%20Universities.pdf>
- Nas, S. and Köseoğlu, B. (2012). Maritime Education and Training Quality (METQUAL); An Application on Dokuz Eylül University Maritime Faculty, *Journal of Marine Technology and Environment*, Volume I, pp. 115-122
- Nehati, M. (2010). Global Business and Management Research: *An International Journal* , 2(1), 58.
- OECD Paris. (2012). India: Sustaining High and Inclusive Growth. *Better Policies*.
doi:10.1787/9789264201651-en
- Open-ended questions. (n.d.). Retrieved September 11, 2016, from <http://www.mediacollege.com/journalism/interviews/open-ended-questions.html>
- Osborn, D., Cutter, A., & Ullah, F. (2005). The United Nations Millennium Development Goals. *Journal of International Affairs*, 58(2), Financing Development: Challenges for the

- Millennium Development Goals).
- Patrinos, H., Velez, E., & Wang, C. Y. (2013, November). Framework for the Reform of Education Systems and Planning for Quality. Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/11/14/000158349_20131114130408/Rendered/PDF/WPS6701.pdf
- Pike, R. W. (2003). *Creative training techniques handbook: Tips, tactics, and how-to's for delivering effective training*. Human Resource Development.
- QMET PSB Standard for quality maritime education and training*. (2002). PSB Certification Pte.
- Resnik, D. B., J.D., Ph.D. (2015, December 01). What is Ethics in Research & Why is it Important? Retrieved from <http://www.niehs.nih.gov/research/resources/bioethics/whatis/>
- Reuters (2016, July 08). WTO's new trade index suggests sluggish third quarter world trade growth. Retrieved from <http://www.businessinsider.com/r-wtos-new-trade-index-suggests-sluggish-third-quarter-world-trade-growth-2016-7?r=US&IR=T>
- Rickman, P. (2016, August/September). Education versus training.
- Helen Sampson , Victor Gekara & Michael Bloor (2011) Water-tight or sinking? A consideration of the standards of the contemporary assessment practices underpinning seafarer licence examinations and their implications for employers, *Maritime Policy & Management*, 38:1, 81-92, DOI: 10.1080/03088839.2010.533713
- Sargeant, J. (2012, March). Qualitative Research Part II: Participants, Analysis, and Quality Assurance. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3312514/>
- Siva, V., Gremyr, I., Bergquist, B., Garvare, R., Zobel, T., & Isaksson, R. (2016). The support of Quality Management to sustainable development: A literature review. *Journal of Cleaner Production*. doi:10.1016/j.jclepro.2016.01.020
- SkyMark Corporation. (2016). Dr. W. Edwards Deming. Retrieved from <http://www.skymark.com/resources/leaders/deming.asp>
- Staff, J. (2012, January 01). The Coca-Cola Company - Quality. Retrieved from <http://www.coca-colacompany.com/stories/quality>
- System [Def. 2]. (n.d.). In *BusinessDictionary.com*. Retrieved from <http://www.businessdictionary.com/definition/system.html>
- System [Def. B1]. (n.d.). In *Cambridge Dictionary*. Retrieved from <http://dictionary.cambridge.org/dictionary/english/system>
- Tatsumi, Y. (2016, March 10). Why Japan's Defense Deal with the Philippines is Unique. *The Diplomat*. Retrieved May 4, 2016, from

- <http://thediplomat.com/2016/03/why-japans-defense-deal-with-the-philippines-is-unique/>
- Thiruvassagam, G., Col. Dr., & Rengamani, J., Dr. (2015). Maritime education in India – a study on productivity enhancement. *International Journal of Advanced Research in Management (IJARM)*, 6(3), sep-dec, 29-35.
- Top management commitment. (n.d.). In *BusinessDictionary.com*. Retrieved from <http://www.businessdictionary.com/definition/top-management-commitment.html>
- Tricker, R. (2005). *ISO 9001*. Burlington: Elsevier.
- UNICEF. (n.d.). Defining quality in education. Retrieved from <http://www.unicef.org/education/files/QualityEducation.pdf>
- United Nations. (n.d.). Retrieved from <http://www.un.org/en/index.html>
- Usman, A. (2010). The Impact of Service Quality on Students' Satisfaction in Higher Education Institutes of Punjab. *Jmr Journal of Management Research*, 2(2). doi:10.5296/jmr.v2i2.418
- World Maritime Day 2015: Maritime education and training //. (2015, September 24). Retrieved September 11, 2016, from <http://www.imo.org/en/MediaCentre/PressBriefings/Pages/39-WMD-2015-.aspx>
- Wyatt, D. (2012, June 27). Voluntary IMO Member State Audit Scheme (VIMSAS) 12th North Indian Ocean Hydrographic Commission Conference, Colombo, Sri Lanka. Retrieved from http://iho.int/srv1/index.php?option=com_content&view=article&id=432&Itemid=391&lang=en

APPENDIX 1 - Letter to the respondents

Dear Respondent,

Thank you for taking the time to consider the attached questionnaire. We will be grateful if you will take a few minutes to complete it.

The purpose of the questionnaire is to collect data for a Master of Science Dissertation at the World Maritime University (WMU) about how a quality standards system is implemented in different maritime jurisdictions. The World Maritime University (WMU) is the apex educational institution of the International Maritime Organization (IMO).

Data derived from this questionnaire is solely for the purpose of the dissertation and we hereby assure complete confidentiality. Your name (if given) will be anonymised in the final report. Further, the anonymised data will be stored until 12 October 2016 after which the electronic files will be deleted and hard paper copies shredded.

*We consider you an important part of this survey. Your participation—though purely voluntary—is **critical to the success of the survey and is very much appreciated.***

*If you have any questions, you are welcome to send them to **Katrina Marie Gravador** for a prompt reply:*

Email: s16078@wmu.se

Thank you very much for your assistance and participation in this survey.

APPENDIX 2 - Questionnaire completion and return

Please answer by checking the tick boxes or writing in the spaces provided for text.

For the electronic version, text (words) can be filled in directly in the shaded blanks - _____- which expand to fill in the amount of text you want to input. The check boxes are marked by clicking on them. To deselect a particular option, click on the box again.

Kindly follow the specific instructions for each section and question.

There are no right or wrong answers. We are interested in your opinion. Any additional comments you may have – where the question asks for this – will be especially welcome.

The time and effort in answering the questions are very much appreciated and we would like to thank you very much for your input and cooperation.

RETURN OF QUESTIONNAIRES:

- If you received the electronic version of this questionnaire, kindly save your completed questionnaire under a suitable name of your choosing and then send it to the email address indicated below.

s16078@wmu.se

- If you were handed the questionnaire by a facilitator, kindly return it to the facilitator.

APPENDIX 3 – Research Questionnaires

(MARITIME ADMINISTRATION)

Section A

Respondent's Profile:

1. Name (optional):
2. Age:
3. Gender:
4. Nationality:
5. What position do you hold in the Administration? (if not the Administrator, kindly specify the department or section)

6. How long have you been working in your organization?

7. Do you deal with the International Convention on Standards of Training Certification and Watchkeeping for Seafarers (STCW) in your daily official functions? If yes, in which way? (e.g. certification, quality standards, training, etc.).

Section B

This section is intended to help us gain insights into how your administration defines the role and objectives of the quality standards system in your national maritime education and training (MET) system. In this part of the questionnaire, you are being asked to express your agreement or disagreement with the following statements by choosing the appropriate box or answer yes/no as required. This will be followed by a few questions to which we would appreciate as comprehensive an answer as is possible.

	Strongly Agree	Agree	Neutral	Disagre e	Strongly Disagree
1. The policies, aims and objectives of your administration in respect of MET are clearly stated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The top management is familiar with the policies, aims and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The whole staff is familiar with the policies, aims and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The objectives are measureable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The objectives are attainable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. There is a mechanism to disseminate these kinds of information to all concerned.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. The management exercises total control of the system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. The job description of each employee is well-defined.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. There is a monitoring system that ensures full implementation of quality policies for the following:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.1 Administration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2 Maritime Education and Training Institutions (METIs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.3 Seafarers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.4 Shipping Companies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Your administration conducts internal audits periodically.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Your administration employs a third party evaluation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Your organization implements a quality standard.			Yes <input type="checkbox"/>	No <input type="checkbox"/>	

13. How do the policies of your Administration apply to and are implemented in

respect of shipping companies? Please explain briefly.

14. If your answer to question 12. is yes, have you encountered some challenges in the implementation of a quality standards system in your administration? Please explain in details. If your answer to question 12. is “no”, please proceed to question 17.

15. Kindly indicate the factors that cause or influence these challenges.

16. How in your opinion can these challenges be addressed?

17. How does your Administration exercise control and monitoring of your own MET system in terms of:

17.1 Resources

17.2 Legislation and administrative frameworks

17.3 Processes

17.4 Outputs

We appreciate your completion of this questionnaire.

Thank you very much.

(SHIPPING COMPANY)

Section A

Respondents Profile:

1. Name (optional):
 2. Age:
 3. Gender:
 4. Nationality:
 5. What is the name of your company? (optional)
-

6. Please tick the appropriate bullet

- Local company
- International company
- Multinational company

7. Name the types of ship you operate. (Please indicate the GT and kW):

Type of ship	GT	kW
1		

2		
3		
4		
5		

Section B

This section is intended to help us gain insights into how you think the maritime education and training (MET) is implemented in your country (or the country where you are currently operating, in case of an international/multinational companies).

You are being

asked to express your agreement or disagreement with the following statements by choosing the appropriate box or answer yes /no as required. This will be followed by a few questions to which we would appreciate as comprehensive an answer as is possible.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The policies, aims and objectives of the maritime administration in respect of shipping companies are clearly stated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The policies are accessible to the companies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. There is a policy provision for the companies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Your company is monitored by a national maritime organization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. There is a platform in which the government and the companies have the opportunity to discuss the implementation, review, and revision of policies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. There is a strong partnership between the maritime education and training institutions (METIs) and your company.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. There is a strong collaboration among the companies, the METIs, and the maritime administration.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. There is a feedback mechanism for the companies by the METIs in case of partnership.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Your company relies on the administration for the seafarers' training requirement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. Your company has its own list of training requirements on top of the requirements from the administration.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Your company assists the seafarers to get certification.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Your company accommodates cadets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. There is enough manpower in your company to cater for the cadet training.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Are you satisfied with the current MET system in your country? If not, kindly let us know how, in your opinion, it can be improved.

15. As a company, how do you think you can help the administration improve in these areas?

We appreciate your completion of this questionnaire.

Thank you very much.

(MARITIME EDUCATION AND TRAINING INSTITUTION)

Section A

Respondents Profile:

1. Name (optional):
2. Age:
3. Gender:
4. Nationality:
5. What position do you hold in the METI? (if not the top management, kindly specify the department or section)

-
6. How long have you been working in your institution?

-
7. Do you deal with the STCW in your daily official functions? If yes, in which way? (e.g. certification, quality standards, training, etc.).

Section B

This section is intended to help us gain insights into how in your point of view does the maritime administration of your country define its role and objectives of the quality standards system in your national maritime education and training (MET) system. In this part of the questionnaire, you are being asked to express your agreement or disagreement with the following statements by choosing the appropriate box or answer yes /no as required. This will be followed by a few questions to which we would appreciate as comprehensive an answer as is possible.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The policies, aims and objectives of the maritime administration in respect of MET are clearly stated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. The METIs and the staff are all familiar with the policies, aims and objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The objectives are measurable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The objectives are attainable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. There is a mechanism to disseminate these kinds of information to all concerned.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The maritime administration exercises total control of your MET system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Your institution has control of your own system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. The job description of each employee is well-defined.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. There is a monitoring system that ensures full implementation of the policies for the following: 9.1 Institutional management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2 Qualification of Instructors and Assessors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9.3 Shipboard training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.4 Training and assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.5 Examination and certification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Your institution conducts internal audits periodically.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Your institution employs a third party evaluation other than the maritime administration.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Your institution implements a quality standard.				Yes <input type="checkbox"/>	No <input type="checkbox"/>

13. If your answer to question 12. is yes, have you encountered some challenges in the implementation of a quality standards system in your own institution? In which area in MET? Please explain in details. If your answer to question 12. is “no”, please proceed to question 16.

14. Kindly indicate the factors that cause or influence these challenges?

15. How in your opinion can these challenges be addressed?

16. In the absence of a quality standards system, on what basis does the maritime administration allow your institution to provide MET? Please explain in details. (Kindly disregard this question if your answer in question 12. is “yes”.)

We appreciate your completion of this questionnaire.

Thank you very much.

(SEAFARER)

Section A

Respondents Profile:

1. Name (optional):
2. Age:
3. Gender:
4. Nationality:
5. What is your highest level of education?

6. From which university/institution did you gain your highest seafaring qualification? (Please specify if it is a private institution or an institution run by the government.)

7. How long did the program last?

8. Did it include shipboard training? For how long?

9. What is your most recent position/rank on board?

10. How long have you been working as a seafarer?

11. What is the name of your last company?

12. Have you undergone STCW training programs to get your certification? (If yes, please list the last 7; if no, please state how you obtained certification.)

12.1 _____

12.2 _____

12.3 _____

12.4 _____

12.5 _____

12.6 _____

12.7 _____

Section B

This section is intended to help us gain insights into how you think the maritime

education and training (MET) is implemented in your country. You are being asked to express your agreement or disagreement with the following statements by choosing the appropriate box or answer yes /no as required. This will be followed by a few questions to which we would appreciate as comprehensive an answer as is possible.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. The policies, aims and objectives of the maritime administration in respect of seafarer training and certification are clearly stated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The policies are accessible to the seafarers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Feedback from seafarers is encouraged/welcome by the Administration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Seafarer feedback to the Administration is acted on.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Please think about your last training session in a maritime education and training institution (METI).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.1 The METI provided quality service.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2 The education and training programs was relevant and useful to my work on board ship.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3 The education and training facilities are adequate (in number and quality).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4 The instructors and assessors are appropriately qualified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5 The time allocated for the subjects is sufficient.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.6 There is a feedback mechanism for the seafarers after the training.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.7 There is a mechanism for retaking examinations in case of failure in the assessment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.8 There are clear procedures on certification.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.9 The assessment system is fair and objective.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. It is easy to find a job after	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

graduation.					
7. The METIs provide assistance to ensure the employability of their graduates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. The knowledge and skills you obtained from your education are very useful in your current job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. There is a platform wherein the seafarers can directly communicate to the maritime administration.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. Are you satisfied with the current MET system in your country? If not, kindly let us know how, in your opinion, it can be improved.

We appreciate your completion of this questionnaire.

Thank you very much.

