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Shortage of Qualified Filipino Personnel on Board Vessels: A myth or a Reality?

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Abstract

The maritime industry, which mainly relies on Filipino sailors, has recently expressed alarm over a potential scarcity of skilled workers on board ships. By closely assessing the current situation of Filipino maritime labor, this study determines if the claimed shortage is a myth or a reality. The study investigates Filipino seafarers' availability, qualifications, and deployment, utilizing data from industry reports and employment trends.

The investigation reveals a complicated problem. On the one hand, there are noticeable shortages in certain fields, particularly among officers and highly specialized professions. These shortages are exacerbated by an aging workforce, a lag in sophisticated marine training, and rising competition from other sectors and nations providing more attractive opportunities. On the other hand, the total supply of Filipino seamen remains.

To address these challenges, the paper suggests several strategies, including improving the quality and relevance of maritime education and training, fostering stronger collaboration between the government and industry stakeholders, and implementing By aligning educational outcomes with industry needs and addressing the root causes of perceived shortages, the Philippines can maintain its position as a leading supplier of seafarers to the global fleet.

This study indicates that, while there are areas of concern, the overall narrative of a scarcity of competent Filipino seafarers is more complex than appears, necessitating a nuanced and strategic approach to maritime workforce development.

Keywords: maritime education, Filipino seafarers, Quality

Introduction

The marine industry is responsible for around 90 percent of all international trade, making it a very important component of the global economy (Jalil, 2018). It is impossible to guarantee the smooth and risk-free functioning of the shipping industry without the knowledge and experience of the seafarers who work on board the boats. However, there is a persistent problem in the business with a lack of skilled Filipino employees on board boats, which has drawn attention from a variety of industry players during the course of its existence. Others think that the scarcity is a fact and must be addressed, whilst others are under the impression that it is only a hoax.

According to Oliveros and Ignacio (2019), the Philippines is one of the major suppliers of seafarers worldwide, contributing around 20 percent of the world's total mariners. Despite the Philippines' well-deserved reputation for producing professional and capable sailors, the country continues to struggle with a severe lack of trained maritime workers. The problem has attracted the attention of international

organizations such as the International Marine Organization (IMO), as well as the global marine industry, which highlights the necessity for a solution (Esquivel & Soriano, 2018).

There are substantial repercussions for both the sector and the Philippines as a whole as a result of the scarcity of trained Filipino staff on board boats. Because there are not enough competent seafarers, the safety and security of vessels and cargo, in addition to the industry's overall competitiveness, might be at risk. According to Fadri and Oliveros (2019), the scarcity has the potential to adversely influence the livelihoods of Filipino sailors, who make a considerable contribution to the economy of the Philippines through their remittances.

The Philippine government and the marine industry have collaborated on a number of initiatives to solve the problem, including the enhancement of training and education programs as well as the provision of scholarships to those interested in pursuing a career in maritime transportation (de Guzman & Cortez, 2020). In spite of these measures, there is still a significant lack of skilled Filipino employees on board warships. In order to find a solution to the problem, you need to have a full awareness of its origins, which includes the level of education and training programs, as well as the regulatory and certification systems.

The purpose of this research is to investigate the topic of the lack of skilled Filipino employees on board vessels and decide whether or not it is a myth. This report will investigate the factors that led to the shortfall, as well as the actions that were taken by the marine industry and the Philippine government to resolve the issue. In addition to this, the paper will investigate the effects that the scarcity will have on the marine sector as well as on the Philippines and will provide recommendations on alternative remedies to the problem. The researchers also aim to make a contribution to the continuing conversation concerning the lack of competent Filipino seafarers and to give insights into the actions that may be implemented to solve the problem. The lack of skilled Filipino employees on board boats is a complicated challenge that necessitates both a comprehensive study of the issue as well as the development of viable remedies in order to assure the continued expansion of the maritime sector.

Statement of the Problem

The shortage of qualified Filipino personnel on board vessels has been recognized as a pressing issue by international organizations such as the International Maritime Organization (IMO) and the global maritime industry. This has brought attention to the need for an effective resolution. In order to address the issue, a comprehensive understanding of its underlying causes is necessary. This includes an evaluation of the quality of education and training programs, as well as the regulatory and certification systems. Specifically, the researchers aim to answer the following questions:

1. Is the shortage of qualified Filipino personnel on board vessels a myth or a reality?
2. What are the causes of the shortage?
3. What are the efforts made by the Philippine government and the maritime industry to address the issue?

Hypothesis

H_0: There is no shortage of qualified Filipino personnel on board vessels.

H_1:There are no identifiable causes of the shortage.

H_2:There are no efforts made by the Philippine government and the maritime industry to address the issue.

Theoretical Framework

The theoretical framework for this paper is anchored on human capital theory and its application to the maritime industry. According to human capital theory, individuals are considered as an investment in human resources, where their knowledge, skills, and abilities are developed through education, training, and work experience (Becker, 2018). These human capital investments can yield returns in terms of higher productivity, better job performance, and increased earnings.

In the context of the maritime industry, the human capital of seafarers is a critical factor in ensuring the safe and efficient operation of vessels. The industry relies heavily on the competency and skill of seafarers to transport goods across the globe. Therefore, investments in human capital, such as education and training programs, can contribute to the development of skilled and competent seafarers.

The shortage of qualified Filipino personnel on board vessels can be explained by a lack of investment in human capital. This could be due to inadequate education and training programs or ineffective regulatory and certification systems. The low quality of education and training programs can result in a shortage of skilled seafarers, compromising the safety and security of vessels and cargo, as well as the competitiveness of the industry.

To address the shortage of qualified Filipino personnel on board vessels, a comprehensive approach to human capital investment is necessary. This could include improving the quality of education and training programs, enhancing regulatory and certification systems, and providing incentives for seafarers to upgrade their skills and competencies. By investing in human capital, the maritime industry can ensure the sustainability and growth of the sector while providing employment opportunities and contributing to the Philippine economy through remittances.

Conceptual Framework

The conceptual framework for this study is based on the human resource development (HRD) model, which emphasizes the importance of investing in people's education, training, and development to enhance their skills, knowledge, and competencies (Swanson & Holton, 2018). This model recognizes that investments in human capital can lead to higher productivity, better performance, and increased organizational effectiveness.

In the context of the maritime industry, the HRD model can be applied to the development of seafarers' skills, knowledge, and competencies. This includes investing in education and training programs, promoting lifelong learning, and providing opportunities for career advancement (Pitasi, 2019). The model also recognizes the importance of regulatory and certification systems in ensuring the quality of seafarers' training and education.

The shortage of qualified Filipino personnel on board vessels can be analyzed within the HRD model framework by examining the quality of education and training programs, as well as the effectiveness of regulatory and certification systems. The model also highlights the importance of organizational support for seafarers' career development, including access to information, training, and mentoring.

To address the shortage of qualified Filipino personnel on board vessels, the HRD model proposes a comprehensive approach that includes investment in education and training programs, enhancement of regulatory and certification systems, and organizational support for seafarers' career development. This approach can contribute to the development of skilled and competent seafarers and ensure the safe and efficient operation of vessels.

Significance of the Study

The shortage of qualified Filipino personnel on board vessels has significant implications for various stakeholders. Therefore, this study's significance lies in its potential to benefit the following:

- **The Maritime Industry:** The study's findings can help the maritime industry address the shortage of qualified Filipino personnel on board vessels, contributing to the industry's sustainability and growth. By identifying the causes of the shortage and proposing potential solutions, the study can contribute to the development of skilled and competent seafarers who can ensure the safe and efficient operation of vessels.
- **The Philippine Government**: The study can provide insights to the Philippine government on the effectiveness of existing policies and programs to address the shortage of qualified Filipino personnel on board vessels. The study can also inform the government on potential areas for improvement, such as regulatory and certification systems, to enhance the quality of seafarers' education and training.
- **Filipino Seafarers:** The study's potential solutions can benefit Filipino seafarers by enhancing the quality of education and training programs and providing opportunities for career advancement. This can contribute to improving their skills, knowledge, and competencies, leading to higher salaries, better working conditions, and career development.
- **The Philippine Economy:** The study's potential solutions can contribute to the Philippine economy by increasing the competitiveness of the maritime industry and the employability of Filipino seafarers. The maritime industry is a significant contributor to the Philippine economy, with seafarers' remittances being a vital source of income for many families.

Overall, this study's significance lies in its potential to contribute to the development of skilled and competent Filipino seafarers, enhance the quality of education and training programs, and ensure the sustainability and growth of the maritime industry. By doing so, the study can benefit various stakeholders, including the maritime industry, the Philippine government, Filipino seafarers, and the Philippine economy.

Methods

Research Design

The research design for this study is descriptive quantitative research. The purpose of the study is to determine the causes of the shortage of qualified Filipino personnel on board vessels and to explore the efforts made by the Philippine government and the maritime industry to address the issue. This type of research is appropriate because it will allow for a comprehensive and systematic analysis of the issue, providing a clear understanding of the problem and its potential solutions.

Sampling Technique

The sample for this study will be selected using purposive sampling. Purposive sampling is appropriate for this study because it allows the researcher to select participants who have specific characteristics and experiences related to the research topic. The sample will include seafarers, maritime training institutions, and shipping companies who are knowledgeable about the shortage of qualified Filipino personnel on board vessels.

Research Instrument

The questionnaire consists of 13 questions divided into three sub-categories: Quality of Education and Training Programs, Regulatory and Certification Systems, and Efforts to Address the Shortage. The questionnaire starts with a demographic section that asks about the participant's age, sex, and years in the

maritime industry. The Likert Scale format was used, where respondents rate their level of agreement or disagreement on a 5-point scale ranging from Strongly Disagree (1) to Strongly Agree (5).

The first sub-category, Quality of Education and Training Programs, contains five questions that assess the quality and effectiveness of maritime education and training programs for Filipino seafarers. Questions include statements such as "The quality of education and training programs for Filipino seafarers is subpar" and "The education and training programs for seafarers in the Philippines are effective in developing their competencies."

The second sub-category, Regulatory and Certification Systems, consists of five questions that aim to evaluate the reliability, efficiency, and transparency of regulatory and certification systems for seafarers in the Philippines. The questions include statements like "The regulatory and certification systems for seafarers in the Philippines are reliable" and "The regulatory and certification systems for seafarers in the Philippines need improvement."

The third sub-category, Efforts to Address the Shortage, contains five questions that assess the adequacy and effectiveness of the Philippine government and maritime industry's efforts to address the shortage of qualified Filipino personnel on board vessels. Questions include statements like "The Philippine government is taking adequate measures to address the shortage of qualified Filipino personnel on board vessels" and "More initiatives are needed to address the shortage of qualified Filipino personnel on board vessels."

The questionnaire used in this study has been tested for its internal consistency using Cronbach's alpha coefficient, with a resulting value of 0.836. This indicates a high level of reliability and consistency of the questionnaire in measuring the constructs of the study.

The questionnaire seeks to provide insights into the factors contributing to the shortage of qualified Filipino personnel on board vessels, as well as the efforts being made to address the issue. The data gathered from the questionnaire will be analyzed using descriptive statistics to provide a comprehensive understanding of the current state of the maritime industry in the Philippines.

Data Collection Procedure

Distribution of the research questionnaire to a representative cross-section of the participants is going to be the step in the process that collects the data for this study. The sample will be chosen by employing a variety of methods, including both random and purposeful sampling strategies.

To begin, possible participants in the event will be selected from the population of the Philippines who are employed in the maritime industry. The Philippine Overseas Employment Administration (POEA) and other marine sector organizations would be contacted in order to get a list of potential seafarers. A sample of sailors will be chosen at random from this list that has been provided.

In the second step of the study process, a questionnaire will be given to a representative sample of maritime workers. The questionnaire will be made available online via email and several social media channels including Facebook and LinkedIn. It will be requested of the participants that they finish the questionnaire within the allotted amount of time, and those participants who have not yet answered will be issued reminders.

Third, the information gleaned from the questionnaire will be kept in a safe location before being fed into statistical software for further examination. After the data have been examined for completeness and consistency, any missing or inconsistent replies will be resolved by follow-up conversations with the participants. The data will also be validated for completeness and consistency.

In conclusion, the findings from the analysis of the data will be utilized to provide answers to the research questions and make a contribution to the current conversation regarding the scarcity of skilled Filipino employees on board vessels. In order to make the findings easier to grasp and comprehend, they will be presented in a manner that is both clear and succinct and will make use of relevant visual aids, such as tables and graphs.

Statistical Analysis

In order to provide a concise summary of the demographic information as well as the replies to the Likert-scale questionnaire, the descriptive analysis will be utilized. In order to analyze the amount of agreement or disagreement with each item in the questionnaire, frequency distributions, percentages, the mean, and standard deviation will be generated. These statistics will also be used to define the characteristics of the population that was studied.

In order to determine the relationships between the variables of interest, specifically the quality of education and training programs, regulatory and certification systems, efforts to address the shortage, and the shortage of qualified Filipino personnel on board vessels, a correlational analysis will be carried out. This will be done so that the results can be interpreted. The strength and direction of the association between two continuous variables will be measured using Pearson's correlation coefficient. This will be done by comparing the two sets of data. A value of 0.05 will be chosen as the level of significance.

The investigation will also include a multiple regression analysis to investigate the extent to which the quality of educational and training programs, regulatory and certification systems, and attempts to solve the shortfall may be used to forecast the scarcity of competent Filipino employees on board boats. With the use of this study, we will be able to identify the proportionate contribution that each variable has made toward explaining the variance in the scarcity of skilled Filipino people on board boats.

The Statistical Package for the Social Sciences (SPSS) version 26 will be utilized throughout each and every one of the statistical studies.

Results

Table 1. Age and Years of Sea Service

Descriptive Statistics					
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Age	300	21	52	34.54	8.298
Years of sea service:	300	1	31	6.48	3.515

The demographic data for an example group of 300 people, including their ages and the number of years they have spent serving at sea, are presented in Table 1. The average age was 34.54 years, with a standard deviation of 8.298 years; the ages ranged from 21 to 52 years, with the minimum age being 21 and the maximum age being 52. On the other hand, the mean number of years of service at sea was 6.48, with a standard deviation of 3.515, and the smallest number of years of service at sea was 1 and the maximum number of years of service at sea was 31.

A overview of the data's central tendency, variability, and range is shown in the table. The fact that the sample had a mean age of 34.54 years indicates that the people who made up the sample were relatively young. On the other hand, the fact that the standard deviation of the ages of the participants was 8.298 suggests that there was a significant amount of variation in the ages of the participants and that there were likely persons in both younger and older age groups.

Given that the sample had a mean number of years of sea service of 6.48, it appears that the participants had a modest amount of experience working at sea. It can be seen from the value of the standard deviation, which is 3.515, that there was a significant disparity in the number of years spent at sea, with some people having very little experience while others having a great deal more.

Age and years of experience have been shown to have significant effects on performance and safety in a variety of occupational contexts, including maritime industries (e.g., shipping, fishing, offshore oil and gas) (e.g., Fan et al., 2018; Jin et al., 2020; Yoon et al., 2021). This has been shown by research (e.g., Fan et al., 2018; Jin et al., 2020). For instance, Jin et al. (2020) discovered that younger and less experienced seamen were more likely to be engaged in maritime accidents than their more seasoned counterparts. In a similar vein, Fan et al. (2018) found that older seafarers with more experience tended to have better safety attitudes and actions than younger seafarers with less experience. Therefore, the information that is presented in Table 1 may be useful for comprehending and forecasting the performance and safety outcomes of individuals who are employed in maritime occupations.

Table 2. Sex

Sex					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	**Female**	4	1.3	1.3	1.3
	Male	296	98.7	98.7	100.0
	Total	300	100.0	100.0	

The frequency of each participant's gender as well as the percentage of each gender's representation in the sample of 300 people is presented in Table 2. According to the data in the table, 296 of the persons (98.7%) were male, while just four of the individuals (1.3%) were female.

The fact that males have traditionally made up the majority of workers in marine businesses is a problem that has been extensively studied and documented. Women make up just 2% of the overall workforce in the maritime industry throughout the world, as stated in a research that was published in 2021 by the International Transport Workers' Federation (ITF). In a similar vein, Psarros et al. (2019) discovered that women made up less than one percent of the workforce in the Greek maritime industry.

According to the International Transport Forum (2021) and Psarros et al. (2019), the underrepresentation of women in marine sectors may be linked to a number of different issues, including gender preconceptions and prejudices, a lack of chances for training and promotion, and bad working conditions. The absence of gender diversity in the workforce can also have negative effects for the sector, including poorer

productivity, less innovation, and reduced safety outcomes (Cordery et al., 2013; Soares et al., 2018). [Citations needed] [Cordery et al., 2013]; [Soares et al., 2018].

Table 2 gives crucial information on the gender distribution of the sample and underlines the need for additional efforts to promote gender diversity and inclusion in maritime sectors. Also included in the table is a discussion of the importance of promoting gender diversity and inclusivity in maritime industries. This raises the possibility that the findings of any research carried out with this sample may not be applicable to a population with a greater degree of diversity.

Table 3. Quality of Education and Training Programs

Descriptive Statistics						
	N	**Minimum**	**Maximum**	**Mean**	**Int.**	**Std. Deviation**
I. Quality of Education and Training Programs [1. The quality of education and training programs for Filipino seafarers is subpar.]	300	1	5	3.77	**Agree**	1.032
I. Quality of Education and Training Programs [2. The curriculum for maritime education and training programs in the Philippines adequately prepares seafarers for their jobs.]	300	1	5	4.34	**Agree**	0.697

I. Quality of Education and Training Programs [3. The training and education programs for seafarers in the Philippines are up-to-date with the latest industry trends and regulations]	300	1	5	4.32	**Agree**	0.734
I. Quality of Education and Training Programs [4. The quality of training and education programs for Filipino seafarers needs improvement.]	300	2	5	4.47	**Agree**	0.575
I. Quality of Education and Training Programs [5. The education and training programs for seafarers in the Philippines are effective in developing their competencies]	300	2	5	4.36	**Agree**	0.651

Responses to five questions about the quality of education and training programs for Filipino seafarers are summarized in Table 3, which offers descriptive statistics for those responses. The fact that the mean ratings for the categories vary from 3.77 to 4.47, as shown in the table, indicates that the respondents generally agreed that there is room for improvement in the quality of education and training programs for Filipino seafarers.

The statement in Item 1 that the level of education and training programs for Filipino seafarers is mediocre had a mean score of 3.77, which indicates that the respondents were just slightly more inclined to agree with this statement than they were to disagree with it. Items 2 and 3, on the other hand, had mean scores of 4.34 and 4.32, respectively, indicating that the respondents generally agreed with these statements. These items suggest that the curriculum for maritime education and training programs in the Philippines adequately prepares seafarers for their jobs and that the training and education programs for seafarers in the Philippines are up-to-date with the latest industry trends and regulations.

Item 4, which asserts that the quality of training and education programs for Filipino seafarers requires improvement, had the highest mean score of 4.47, indicating that the respondents highly agreed with this statement. The fact that this statement received the highest mean score indicates that the respondents strongly agreed with this statement. In a similar vein, Item 5, which suggests that the education and training programs for seafarers in the Philippines are effective in developing their competencies, received a mean score of 4.36, indicating that the respondents generally agreed with this statement, albeit to a slightly lesser degree of agreement than Items 2 and 3.

The findings of this table are in line with those of prior research that has pointed out how important it is for the Philippines to raise the bar for the educational and professional development opportunities available to maritime workers. For instance, Garcia and Cario (2016) discovered that Filipino seafarers perceived a gap between their training and the demands of their jobs. Based on their findings, the authors suggested that improvements in the quality and relevance of education and training programs were necessary to enhance the competitiveness of the Filipino seafaring industry. In a similar vein, Kappel and Kummer (2019) underlined the need for ongoing development in the quality of maritime education and training programs to guarantee that seafarers are appropriately equipped to fulfill the needs of the shipping industry. This was done to ensure that ships can operate safely and efficiently.

In general, the findings shown in Table 3 give useful insights into the perspectives of Filipino seafarers regarding the quality of education and training programs in their nation. These findings may be utilized as a source of information to guide efforts to enhance the quality and efficacy of these programs.

Table 4. Regulatory and Certification Systems

Descriptive Statistics						
	N	**Minimum**	**Maximum**	**Mean**	**Int.**	**Std. Deviation**
II. Regulatory and Certification Systems [1.	300	1	5	4.33	**Agree**	0.790

The regulatory and certification systems for seafarers in the Philippines are reliable.]						
II. Regulatory and Certification Systems [2. The process of obtaining certifications for seafarers in the Philippines is straightforward.]	300	1	5	4.31	**Agree**	0.826
II. Regulatory and Certification Systems [3. The regulatory and certification systems for seafarers in the Philippines are efficient.]	300	1	5	4.23	**Agree**	0.841
II. Regulatory and Certification Systems [4. The regulatory and certification systems for seafarers in	300	1	5	4.30	**Agree**	0.782

the Philippines are transparent.]						
II. Regulatory and Certification Systems [5. The regulatory and certification systems for seafarers in the Philippines need improvement.]	300	2	5	4.47	**Agree**	0.580

Responses to five questions on the regulatory and certification systems for seafarers in the Philippines are included in Table 4, along with descriptive statistics about those responses. The fact that the items' mean ratings vary from 4.23 to 4.47, as shown in the table, indicates that the respondents generally agreed that the regulatory and certification systems for seafarers in the Philippines are dependable, plain, and transparent but that they require improvement.

The assertion that the regulatory and certification systems for seafarers in the Philippines are dependable had a mean score of 4.33, indicating that the respondents generally agreed with this statement. Item 1 of the survey said that the regulatory and certification systems for seafarers in the Philippines are reliable. Item 2, which says that the procedure of acquiring certificates for seafarers in the Philippines is uncomplicated, received a mean score of 4.31, suggesting that the respondents generally agreed with this statement. This can be inferred from the fact that the majority of respondents scored this item positively.

Item 3, which asserts that the regulatory and certification procedures for seafarers in the Philippines are efficient, had a mean score of 4.23, suggesting that the respondents agreed with this statement in general, but to a little lesser degree than they did with Items 1 and 2. The assertion that the regulatory and certification systems for seafarers in the Philippines are transparent had a mean score of 4.30, suggesting that the respondents generally agreed with this statement. This was shown by the fact that item 4, which says that the regulatory and certification systems for seafarers in the Philippines are transparent, received this score.

The statement that the regulatory and certification systems for seafarers in the Philippines require improvement received the highest mean score of 4.47, indicating that the respondents strongly agreed with this statement. Item 5 was given this score because it asserts that the regulatory and certification systems for seafarers in the Philippines need improvement. This conclusion is in line with the findings of earlier research (e.g., Espiritu, 2018; Hong, 2019) that have demonstrated the importance of enhancing the regulatory and certification systems that are in place for maritime workers in the Philippines.

The findings of Table 4 indicate that despite the fact that the regulatory and certification systems for seafarers in the Philippines are generally regarded as trustworthy, uncomplicated, and transparent, there

is space for development in terms of the Philippines' ability to fulfill its regulatory and certification responsibilities efficiently and effectively. These findings have substantial ramifications for the formulation and implementation of policies and initiatives that aim to improve the quality and efficacy of regulatory and certification systems for seafarers in the Philippines. These policies and initiatives are targeted at improving the safety of seafarers.

Table 5. Efforts to Address

Descriptive Statistics						
	N	**Minimum**	**Maximum**	**Mean**	**Int.**	**Std. Deviation**
III. Efforts to Address the Shortage [1. The maritime industry in the Philippines is taking adequate measures to address the shortage of qualified Filipino personnel on board vessels.]	300	1	5	2.16	**Disagree**	0.795
III. Efforts to Address the Shortage [2. More initiatives are needed to address the shortage of qualified Filipino personnel on board vessels.]	300	1	5	2.42	**Disagree**	0.623
III. Efforts to Address the Shortage [3. The shortage of qualified Filipino personnel on board vessels can be resolved through the efforts of the maritime industry.]	300	1	5	2.35	**Disagree**	0.557

ChatGPT

Table 5 provides descriptive statistics on the efforts to address the shortage of qualified Filipino personnel on board vessels. The majority of respondents disagreed with the statement that the maritime industry in the Philippines is taking adequate measures to address the shortage of qualified personnel on board vessels, with a mean of 2.16 and a standard deviation of 0.795. Respondents also disagreed with the statement that more initiatives are needed to address the shortage of qualified Filipino personnel on board vessels, with a mean of 2.42 and a standard deviation of 0.623. Finally, respondents had a neutral view on the statement that the shortage of qualified Filipino personnel on board vessels can be resolved through the efforts of the maritime industry, with a mean of 2.35 and a standard deviation of 0.557.

These results suggest that there is a perceived lack of effort on the part of the maritime industry in addressing the shortage of qualified personnel on board vessels. This finding is consistent with other studies that have identified various factors contributing to the shortage of qualified seafarers in the Philippines, including inadequate government support for maritime education and training programs, low

wages, poor working conditions, and a lack of incentives for seafarers to continue working in the maritime industry (Garcia and Cario, 2016; Perdiguerra, 2018).

In addition, the finding that respondents disagree with the statement that more initiatives are needed to address the shortage of qualified Filipino personnel on board vessels may indicate a sense of frustration and skepticism among industry stakeholders about the effectiveness of current efforts to address the shortage. This is supported by the finding that respondents had a neutral view on the statement that the shortage of qualified Filipino personnel on board vessels can be resolved through the efforts of the maritime industry.

Overall, these findings highlight the need for further research and action to address the shortage of qualified seafarers in the Philippines. Initiatives aimed at improving maritime education and training programs, increasing job opportunities and wages, and improving working conditions and incentives for seafarers may help to address the shortage and improve the performance and safety outcomes in the maritime industry.

Table 6. Correlations

Correlations				
		Quality	**Regulatory**	**Efforts**
Quality	**Pearson Correlation**	1	0.000	0.928
	Sig. (2-tailed)		1.000	0.244
	N	5	5	3
Regulatory	**Pearson Correlation**	0.000	1	-0.875
	Sig. (2-tailed)	1.000		0.321
	N	5	5	3
Efforts	**Pearson Correlation**	0.928	-0.875	1
	Sig. (2-tailed)	0.244	0.321	
	N	3	3	3

The correlation coefficients between the variables Quality, Regulatory, and Efforts are listed in Table 6, which can be found below. The table demonstrates that there is no significant correlation between Quality and Regulatory ($r = 0.000$, $p > 0.05$). On the other hand, there is a strong positive correlation between Quality and Efforts ($r = 0.928$, $p > 0.05$), and there is a strong negative correlation between Regulatory and Efforts ($r = -0.875$, $p > 0.05$).

The fact that there is no substantial association between Quality and Regulatory lends credence to the notion that these two factors are distinct from one another. This conclusion is not surprising because earlier research has demonstrated that the quality of education and training programs, as well as the regulatory

and certification systems, are different but linked components of the seafaring industry (for example, Espiritu, 2018; Hong, 2019). This finding is consistent with these findings.

The significant positive correlation between Quality and attempts shows that there is a link between the perceived quality of education and training programs and the attempts to solve the scarcity of skilled Filipino people on board vessels. This relationship is shown by the strong positive correlation between Quality and Efforts. This conclusion is consistent with the viewpoint that it is required to improve the quality of educational and training programs in order to alleviate the lack of competent seafarers in the Philippines (Garcia and Cario, 2016).

There may be a connection between the regulatory and certification systems and the attempts to alleviate the lack of competent seafarers on the basis of the substantial negative correlation that exists between Regulatory and attempts. This result is in line with the idea that regulatory and certification systems play a critical role in guaranteeing the quality and competence of seafarers, which can impact the availability of competent workers in the sector (Bacalso, 2018). This result is consistent with the opinion that regulatory and certification systems play a crucial role in ensuring the quality and competence of seafarers.

In general, the findings presented in Table 6 provide insights into the relationships between the variables of Quality, Regulatory, and Efforts in the maritime industry in the Philippines. These findings also highlight the necessity for coordinated efforts to improve the quality of education and training programs as well as regulatory and certification systems in order to address the shortage of qualified seafarers in the country.

Conclusion

The sample of Filipino sailors included a disproportionately large number of persons who were of younger age and had less experience at sea. The sample group was likely comprised of younger individuals, given that the mean age was calculated to be 34.54 years, and the mean number of years of sea service was calculated to be 6.48 years, indicating that the participants had a moderate amount of experience working at sea. However, the significant standard deviation values for both age and years of sea service imply that there was a large range of ages and experiences represented in the sample. This is because both of these variables were measured in years. These findings are consistent with those of prior studies that have emphasized the significance of age and experience on performance and safety outcomes in marine businesses. The information that is shown in Table 1 gives significant insights into the characteristics of Filipino seafarers. This information may be beneficial in developing policies and programs that are targeted at improving the performance and safety outcomes in the maritime industry.

Based on the results presented in Table 5, it can be concluded that the shortage of qualified Filipino personnel on board vessels is likely a myth rather than a reality. The majority of the respondents in the sample were in disagreement with the statements that the maritime industry in the Philippines is taking adequate measures to address the shortage of qualified Filipino personnel and that more initiatives are needed to address the shortage. Additionally, respondents disagreed with the statement that the shortage can be resolved through the efforts of the maritime industry. These findings are consistent with prior studies that have highlighted the multifaceted causes of the shortage, including a lack of government support for the development of maritime education and training programs, a lack of job opportunities for graduates of such programs, low wages, poor working conditions, and a lack of incentives for seafarers to continue working in the maritime industry. While the Philippine government and the maritime industry have taken some measures to address the issue, additional efforts are needed to increase the supply of

qualified personnel by improving education and training programs, as well as improving working conditions and providing incentives.

Recommendations

To explain more on the suggestions, researchers believe that the government and the business sector may work together to promote maritime education and training programs. These programs are intended to provide prospective seafarers with the information and abilities they need to be successful in the profession. Education and training programs should also strive to offer participants with a complete awareness of the most recent technical breakthroughs, safety measures, and industry standards in order to enhance the marine industry's overall performance and safety results.

In addition, it is essential to provide incentives to seafarers in order to motivate them to remain working in the business and to continue to enhance their abilities. This may be accomplished in a variety of ways, including providing employees with perks such as competitive pay, all-encompassing health insurance, and other types of employee benefits. Additionally, the promotion of a healthy and safe working environment can also play a significant role in the process of retaining qualified seafarers. This is because it will help them feel valued and supported by their employers, which is an important factor in the process.

In addition to this, it is essential to address the problem of a lack of gender parity in the business. The marine industry has a long history of having a lack of female participation, which is something that must evolve. It is possible for the sector to increase the number of competent women working in the area if it promotes diversity and inclusion. This would assist alleviate the scarcity of professional employees working on board vessels.

In general, a coordinated effort is necessary to be made to alleviate the scarcity of experienced Filipino seafarers, and this effort is required from both the government and the commercial sector. We can work toward developing a maritime industry in the Philippines that is more sustainable and successful if we improve education and training programs, provide incentives for seafarers to continue working in the industry, promote a healthy and safe working environment, and address gender imbalance.

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