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SWOT Analysis in a Maritime Higher Education Institution: Strategic Planning Basis for Institutional Efficiency

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Abstract

Higher education institutions conduct strategic planning to attain their goals and enhance their operations. Aiming for improved institutional efficiency, the Philippine Merchant Marine Academy (PMMA) conducted SWOT analysis to help establish an effective strategic plan. This quantitative-descriptive study, contributes to the understanding of the Strengths, Weaknesses, Opportunities and Threats (SWOT) affecting the operations of PMMA as a maritime higher education institution. Using a Likert Scale survey questionnaire, the data gathered from 767 respondents revealed that deliberate changes must be made to facilitate institutional growth. The PMMA's strengths showed that the academy is meeting its objectives and its weaknesses are primarily process driven issues that need attention. The academy's opportunities are external essentials that provide better chances and options for midshipmen to progress through their academic and training experiences. Most of the respondents agreed that the Academy has threats related to the ongoing COVID-19 pandemic and other future health crisis. To face many challenges brought by the globalization and the pandemic, PMMA has to develop a strategic approach based on the SWOT Analysis leading to improved efficiency. This initiative is meant to institutionalize SWOT analysis at the PMMA and encourage the practice of SWOT analysis in other higher education sectors.

Keywords: SWOT Analysis, Strategic Planning, Institutional Efficiency,



SWOT Analysis in a Maritime Higher Education Institution: Strategic Planning Basis for Institutional Efficiency

A higher education institution delivers academic programs leading to an academic degree. It could either be non-profit or a profit-based unit and a public or private institution. It is an institution of higher learning which includes universities, polytechnic, agricultural colleges, which specialize in different fields such as engineering, agriculture, medicine, pedagogy, the arts, and economics among others.

The benefit of higher education in the 21st century is not just career-oriented. Being able to develop oneself is priceless, and taking higher education programs helps one do that. Higher education trains students in their chosen field, but it also teaches them to understand complex subjects by helping them develop and master the skill to think analytically, and communicate ideas effectively. Moreover, it also makes students learn important soft skills, such as self-discipline, organization, and other work-related skills, helping them become more professional. Evidently, the goal of higher education encompasses a wide variety of elements: public service to society labor; market success; and the development of students' social and critical thinking skills, empathy, and commitment to civic engagement.

There are various pillars for safe and efficient shipping, and one of the most important is the quality of maritime education system, particularly the maritime education at the university level and those guaranteeing seafarers' top rank qualifications in accordance with the Standards of Training, Certification, and Watch keeping (STCW) Convention. (Čampara et al., 2017)

The Philippine Merchant Marine Academy (PMMA), a quasi-military and one of the merchant marine academies in the Philippines, is operated by the government of the Philippines. Being the premier maritime institution in the country, PMMA is always aiming for improved institutional efficiency. For some time, the Academy has been conducting strategic planning to improve institutional efficiency so that the major goals of PMMA as a higher education institution will be successfully attained.

Strategic planning is a process wherein leaders of organization find out and establish their vision for the future and determine their organizational goals and objectives. The method also involves establishing the arrangement in which those goals should fall so that the organization will meet its goals and targets. (Pratt, 2016.) Strategic planning provides a sense of direction and outlines measurable goals, which makes it very vital to an organization. It is a tool beneficial for guiding daily decisions and also for assessing advancement and improvement and changing strategies when moving forward. It is about looking forward, beyond the future for the organization, to attain established set of goals. It also includes every step in attaining the organization's objectives and major final outputs. (Jackson, 2021)

Higher education strategic planning helps an institution focus on its success in responding to the changing world. This process aids the institution in determining the opportunities to make a difference and the changes required to do today to be ready for tomorrow. This should involve the effort and participation of the entire campus community—both internal stakeholders (faculty, students, administration, staff, alumni) and external



stakeholders (community members and employers). A strategic plan aids in defining what an institution intends to achieve when it comes to their student success objectives and organizational goals. Good planning and communication will ensure that all stakeholders including parents, teachers, administrators, board members and community are all aspiring for the same goals. The creation of high-output teams, proper management of budgetary and time resources, and the consistent monitoring of all progress lead to successful strategic planning. Universities and colleges devote time and effort in strategic plans to assist their institution's direction and differentiate appeal in an often-competitive marketplace of prospective students.

To ensure success in strategic planning, a company should give careful thought to the stated strategic objectives which are backed up with realistic, thoroughly researched, and quantifiable benchmarks for evaluating results. To support the successful implementation of a university strategic plan, the various levels of the strategic planning system should be clearly aligned with its goals and objectives, and the heads should keep a focus on the strategic plan's wide-ranging goals.

Aside from the helpful tips and techniques, another successful way of strategic planning is by doing SWOT (strengths, weaknesses, opportunities, and threats) analysis. This is a process for recognizing and examining internal strengths and weaknesses and external opportunities and threats that help develop strategic objectives and affect the existing and future operations. SWOT analysis is a framework for determining and investigating the strengths, weaknesses, opportunities and threats of an organization - which is what makes up the SWOT acronym. This tool, which is a source of data for strategic planning, uses a planning approach that assists organizations in establishing a strategic plan to attain goals, enhance operations and keep the business significant. (White, 2018)

The main aim of SWOT analysis is to help organizations to be more aware of the factors affecting a business decision by scrutinizing the internal and external factors that can influence the feasibility of a decision. SWOT Analysis is a simple but valuable framework for evaluating one's organization's strengths, weaknesses, opportunities, and threats because it helps to build on what should be done well, in order to address what is lacking, to minimize risks, and to take the greatest possibility for success. This is also beneficial in getting and understanding the competitors, which can give the insights needed to craft a comprehensible and successful competitive position. SWOT analysis are very advantageous for it contributes to building strengths, helping strategic planning through the information provided, helping to eliminate threats and capitalizing on opportunities as well as identifying skills. Thus, through a SWOT analysis, an institution can link resources and capabilities to the conditions and circumstances in which it functions. (Vitan, 2017)

This study focused on analyzing the strengths, weaknesses, threats and opportunities of the Philippine Merchant Marine Academy as basis for strategic planning towards institutional efficiency. Specifically, the study sought to answer the following questions:

1. What is the PMMA institutional strengths as perceived by the respondents in the following areas:
 - a. Management;
 - b. Personnel;
 - c. Academics;



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- d. Support Services;
 - e. Operations; and
 - f. External Relations?
2. What is the PMMA's distinct excellence as perceived by the respondents?
 3. What are the potential opportunities for PMMA as perceived by the respondents?
 4. What is the level of possibility that the identified external factors become a threat to PMMA?
 5. What are the recommendations to improve the institutional efficiency of the Academy?

The result of this study contributes to the understanding of strengths, weaknesses, opportunities and threats affecting the operations of a maritime higher education institution, specifically the Philippine Merchant Marine Academy. The data gathered could be utilized in the strategic planning in the Academy. The study intends to encourage the practice of SWOT analysis in higher education sectors and it is expected that the results of the study would be worthwhile in the decision making and strategic planning of higher education institutions.

Integrated Related Literature and Studies

SWOT Analysis, according to Gurel & Tat (2017), is a tool used for strategic planning and strategic management in organizations, which can be used effectively to build organizational and competitive strategy. In agreement with the System Approach, organizations consist of various sub-systems that are in collaboration with their environment. They added that an organization exists in two environments, one being in itself and the other being outside. Examining these two environments is a requirement for strategic management – and the process is termed SWOT Analysis.

In his study, Shvardak (2021) emphasized that the implementation of strategic planning needs to carry out a SWOT analysis, for it is a functional and reasonable tool for evaluating the condition of the problem and the management state in higher education. SWOT analysis gives the chance: (1) to organize the problems; better understand the organization of resources necessary in improving the actions and the future development of the institution; (2) monitor the general condition of the external and internal environment; (3) recognize and explore new abilities faster than competitors do; (4) select the ideal path of development and prevent threats; make up-to-date and clever decisions on the execution of educational procedures.

According to Tuncay (2015), the resources of a public institution will be actively and effectively utilized if status analyses of the physical, human and economic resources will be performed and strategic management will be applied effectively. Organizations which are lacking strategic points of view cannot have the visualization to create their goals for they cannot clearly define the purpose of their presence. Further, he mentioned that self-evaluation of organizations can be accomplished through strategic management by presenting and examining its strengths and weaknesses. Thus, organizations can see themselves as a whole and can realize accurately which goals they can and/or cannot achieve. In this manner, the organization can reasonably direct the personnel to act in accordance with their aims.

In the research of Wang et. al (2018) where SWOT analysis method was used to compare



the advantages and disadvantages and opportunities and threats between old and new campuses of a university in China, the results suggest that in the co-occurrence of strengths, weaknesses, opportunities and threats, new and old campuses should implement different development strategies to prevent continuous decline of students in the future. For the old campus, employing its integral advantages and thus changing the crowded space is the most significant feature of different development approaches. For the new campus, grabbing the external opportunities to tamp the campus culture is the best solution. Supposing that old and new campuses cannot co-exist due to decrease of students, the prime concern should be given to protecting old campuses.

After a comparative analysis was performed on the basis of the differentiations among the Higher Education Institutions (HEIs) in China, at different levels and of different types, Hu et.al (2018) found out that: (1) the surveyed HEIs attributed great significance to a five-year plan; however, there are differences in terms of framing an expert plan and a medium- and long-term plan; (2) the HEIs at the higher level are more determined in their corresponding undertakings; (3) vocational colleges and private HEIs concentrate more on the roles of students, alumnus, and external experts; and (4) vocational colleges and private HEIs appear to be more task-oriented compared with HEIs at other levels and of other types.

In their research, Aisyi & Zulkarnain (2020) gave a strategic suggestion to collect several plans that will be developed by coordinating with the government. They emphasized that careful planning definitely leads to best results, therefore, it is essential to have good planning to know how to make sound plans according to the direction of the government and considering the importance of mutual perception, mutual openness, and mutual respect.

The findings of the study of George et. al (2019) suggest that strategic planning should be part of the standard managerial approaches in contemporary organizations. Further, they mentioned that strategic planning has a positive, moderate, and significant impact on organizational performance in the private and public sectors, across international settings.

The study of Khalid et. al (2017) proposed SWOT analysis for the universalization of higher education in Pakistan, which shows the internal and external influences that have positive or negative impact to the higher education system. Moreover, the study suggests vital recommendations and activities useful for fast universalization process. The study is suitable for the higher education institutions to gain understanding on the important requirements of internationalization as well as it is beneficial for policy makers in developing long-term plans.

Amos et al. (2021) emphasized that for enhancement of operational efficiency, institutions should identify and build technological infrastructure for academic delivery, address the psychology and mental health of academic staff during pandemic in order to prevent disruption to institution's activities/services. Teleworking and teleschooling strategies in different contexts could be considered as innovative means of deploying technology in supporting institutions' continuity and sustaining social connection within the academic families and communities.

Adepoju & Okunola (2018) summarized their paper proposing for a shift in the paradigm of the processes and activities of Vocational Technical Education program in the educational



institutions in Nigeria to improve efficiency by utilizing SWOT analysis which has been an effective and useful tool for decision making as new vocational and technical education program are planned.

By comparing some of the items in the SWOT analysis with the current situation at the Maritime Department of the University of Dubrovnik in Croatia, it was reported in the study of Čampara et al. (2017) that Special Education Program (SEP) does not significantly affect the quality of the university Maritime Education and Training (MET) system. Due to the increasing level of interest for maritime professions, the number of students has been greater than in recent years.

Based on the SWOT analysis for the development of the Sekolah Tinggi Teknologi Angkatan Laut (STTAL) or Indonesian Naval Technology College curriculum, Apriyani et. al (2019) stressed that the Vision, Mission, STTAL Objectives and the present and future challenges of the industrial revolution 4.0. faced by STTAL, are the basis of the strategic goals that serve as a reference indicator for achieving strategic plan. The STTAL curriculum development scheme objectives become beneficial in developing strategic factors based on strengths, weaknesses, opportunities and threats.

Vitan (2017) concluded her study stating that each institution has a goal performance in the field which is viewed in different ways by each individual depending on the object of activity and the purpose tracked. The performance of pre-university education institutions is similarly related to quality and results. The SWOT analysis of the pre-university education system allows a summary of the quality of the actions of these institutions, as well as the performance in the resources management and the modern systems implementation required for the strategic and decision-making management.

Over-all, these presented studies emphasized the importance of SWOT analysis in performing strategic planning. It serves as the baseline to ensure that the plan to be laid will be responsive to the needs of the institution, which entails higher chance of improvement and success.

Theoretical Framework

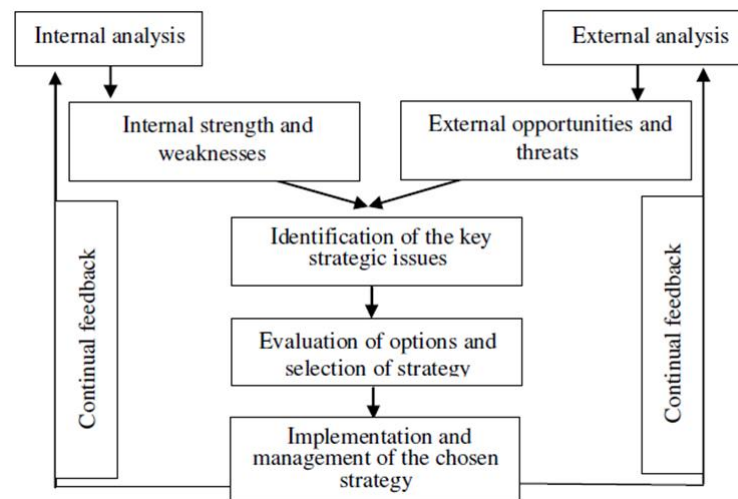
The success of the strategic planning decisions taken on the basis of the SWOT analysis depends on the most complete, comprehensive description of the organization interaction with the internal as well as the external environment factors. The factors accumulated from the results and experience being the basis of management also has a lot of weight and must be subjected to careful analysis, structuring, consideration, and discussion.

Figure 1 shows that SWOT analysis involves internal and external analysis of strengths, weaknesses, opportunities and threats. Through their identification, more responsive strategies can also be selected, implemented and managed. More importantly, the need for continuous feedback is a necessary factor in the development of any institution.

Figure 1



SWOT Matrix (Riston, 2008)



The SWOT analysis is one of the several strategic planning tools that are used by academic institutions to ensure that there are clear targets and objectives set. In the case of the PMMA, the SWOT focused on the following areas: (1) Management / Personnel, (2) Academics, (3) Support Services, (4) Operations, and (5) External Operations that are aligned to its mandate.

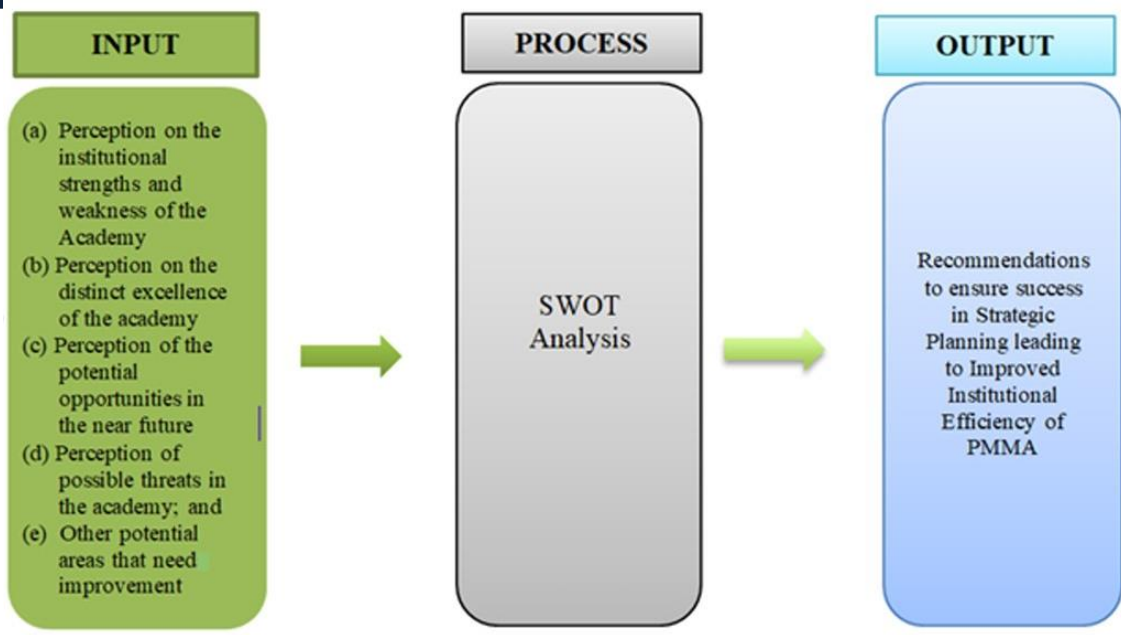
The strong and weak aspects of the Strength and Weaknesses of the institutions are identified by inspecting the internal elements in its environmental factors while environmental opportunities and threats are determined by examining the environmental, external elements. It also provides information helpful in corresponding with the institution's resources and abilities to the competitive environmental factors in which it operates. Strengths and Opportunities are helpful to achieve the organizational objectives while Weaknesses and Threats limit, even impede, the achievement of institutional goals and objectives.

Conceptual Framework

In relation to the SWOT Matrix (Riston, 2008), this research followed the input-process-output framework to identify and understand the strengths, weaknesses, opportunities and threats affecting the operations of the Philippine Merchant Marine Academy, as a maritime higher education institution.

Figure 2 illustrates that through a SWOT Analysis of the perceptions of the PMMA employees and cadets on the institutional strengths, weaknesses, distinct excellence, potential opportunities in the near future, possible threats and other potential areas that need improvement in the Academy, this research would yield recommendations to ensure success in strategic planning leading to improved institutional efficiency of PMMA.

Figure 2
Research Paradigm



Statement of the Problem

This study focused on analyzing the strengths, weaknesses, threats and opportunities of the Philippine Merchant Marine Academy as basis for strategic planning towards institutional efficiency.

Specifically, the study sought to answer the following questions:

1. What is the PMMA institutional strengths as perceived by the respondents in the following areas:
 - a. Management;
 - b. Personnel;
 - c. Academics;
 - d. Support Services;
 - e. Operations; and
 - f. External Relations?
2. What is the PMMA's distinct excellence as perceived by the respondents?
3. What are the potential opportunities for PMMA as perceived by the respondents?
4. What is the level of possibility that the identified external factors become a threat to PMMA?
5. What are the recommendations to improve the institutional efficiency of the Academy?

Definition of Terms

Accreditation. It refers to an action and process of official recognition to someone as having a particular status and ensuring that institutions of higher education meet acceptable levels of quality.



Augmented Reality (AR). The user is provided with additional computer-generated information or digital information such as images, sounds or text, that enhances their perception of reality.

Automated. A use of machines or computers that reduce human intervention in processes.

Counseling. It is a professional guidance that involves a trained counsellor helping individuals in resolving personal conflicts and addresses other emotional and social concerns.

COVID-19. CoronaVirus Disease is a contagious disease that causes severe acute respiratory syndrome characterized by fever, coughing and shortness of breath.

Curricula. A plural noun of Curriculum that refers to the subjects of study in a school, college or university.

Demographic Change. It refers to the change in the population in terms of average, age dependency ratios, family structures, birth rates, etc.

IMO. The International Maritime Organization (IMO) is a specialized agency of the United Nations that is responsible for measures to improve the safety and security of international shipping and to prevent marine pollution from ships. The IMO sets standards for the safety and security of international shipping. It oversees every aspect of worldwide shipping regulation, including legal issues and shipping efficiency.

Institutional efficiency. It is a continuous process by which an institution can guarantee that standards and quality of its educational provisions are being maintained or enhanced.

Marketing. The action or business of promoting, communicating, process of creating and delivering offerings that have value for clients, customers, partners and society at large.

Opportunities. It refers to favorable external factors or set of circumstances that could give an organization a competitive advantage.

Simulator. Is a device or machine that simulates a real-life situation and provides a realistic imitation of an operation, system or training purposes.

State of the Art. It refers to the level of development using the modern techniques and most recent ideas and methods.

STCW. It stands for 'Standards of Training, Certification, and Watchkeeping'. STCW came into force in 1978 as Governments agreed to standardize training around the world. STCW Basic Safety training, as it is known today, is required of all seafarers who are working onboard commercial ships or Superyachts.

Strengths. The capacity of an object or substance to withstand great force or pressure.

Threats. A situation or impending danger that has potential to cause serious harm.

Virtual Reality (VR). It is a simulated experience with a three-dimensional and computer-generated environment and the user's perception of reality is completely based on virtual information.

Weaknesses. It is the quality or state of being weak.

Method

Research Design



The study used a quantitative-descriptive research design to assess and analyze the Strengths and Weaknesses or internal factors and attributes, and Opportunities and Threats or external factors and attributes of the Philippine Merchant Marine Academy. This is a design that identifies the strong and weak aspects of the organization by examining the elements in the environment while the opportunities and strengths are determined as the elements outside its environment. The SWOT Analysis is the basis for strategic planning and to balance the Academy's strengths and weaknesses in the light of environmental opportunities and threats.

The variables of the study are as follows: (a) demographic profile of the respondents, (b) perception on the institutional strengths and weakness of the Academy in the following areas: Management/Personnel, Academics, Support Services, Operations, External Relations, (c) perception on the distinct excellence of the academy, (d) perception of the potential opportunities in the near future, (e) perception of possible threats in the academy and; (f) other potential areas that needs improvement

Respondents

The respondents of the study are the cadet/cadettes and the employees in the Academy. A total of 604 cadet/cadette composed of mostly male respondents participated in the study. Furthermore, a total of 146 employees and 17 more (unidentified) respondents participated through the printed survey form.

Convenience sampling was used. This method is done by collecting research data based on the availability and willingness of the respondents to take part in the survey.

Ethical Considerations

This research was conducted in observance of highest ethical standards. The researchers diligently follow the Academy's guidelines during the distribution of printed survey questionnaires to minimize the risk of viral transmission of COVID-19 and to maintain a safe workplace. All information collected in this study is for research purposes only and the respondents' information was kept with the utmost confidentiality. In addition, a notice was indicated in the questionnaire that survey responses will be aggregated and not be attributed to an individual respondent thereby ensuring anonymity. The authors of all the literatures, studies and references used in this study were properly cited, acknowledged and put in as references.

Instrument

The instrument used is a printed survey questionnaire administered to all employees and cadets of the Academy. As part of the preventive measures and to avoid close contact and chances of contracting COVID-19, the researchers prepared drop boxes for survey responses and placed them outside the respective buildings inside the academy. The availability of the drop boxes ensures that the survey questionnaires were secured and cannot be tampered.

The survey questionnaire consists of three parts: (1) demographics; (2) perception on strengths, weaknesses, opportunities, and threats; and (3) other comments/suggestions. It used a Likert Scale to measure respondents' insight. To identify the perception of the respondents on the



strengths and weaknesses in various areas and the distinct excellence of PMMA, the responses were scaled from (1) strongly disagree, (2) disagree, (3) agree and (4) strongly agree. The perception of the respondents to the potential opportunities for PMMA were scaled from (1) very unlikely, (2) unlikely, (3) likely and (4) very likely. Moreover, the possible threats to PMMA were rated from (1) Not Applicable, (2) Low, (3) Average and (4) High.

Procedure

With the restriction of movement and the need for social distancing, the researchers strictly adhered to the guidelines and protocols set by the Academy in the collection of data.

The following procedures were followed in gathering data for the study.

- The DRDE laid a plan for a research-based SWOT analysis and sought approval from the concerned heads/departments.
- The survey instrument was distributed to the target respondents.
- For the collection of floated questionnaires, drop boxes were placed outside the buildings inside the Academy.
- The collected data was processed and analyzed using Tables and Microsoft Excel. The Mean were also identified. The scale intervals were interpreted as follows:

Range	Qualitative Interpretation
3.26 - 4.00	Strongly Agree
2.51 - 3.25	Agree
1.76 - 2.50	Disagree
1.00 - 1.75	Strongly Disagree

Results and Discussion

Presented in this section are the results of the study, using the quantitative-descriptive research design. Results are discussed in reference to the aims of the study: to assess and analyze the Strengths and Weaknesses or internal factors and attributes, and Opportunities and Threats or external factors and attributes of the Philippine Merchant Marine Academy; and also, to contribute understanding of strengths, weaknesses, opportunities and threats affecting the operations of a maritime higher education institution. Through the descriptive analysis of the data gathered, the study has the following findings.

Profile of Respondents

As shown in Table 1, a total of seven hundred sixty-seven (767) respondents composed of mostly male cadets answered the SWOT survey questionnaire distributed to all PMMA employees and cadets/cadettes.

Table 1

Profile of Respondents



Category	Count	%
Teaching Staff	39	5.08%
Non-Teaching Staff	107	13.95%
Cadet/Cadette	604	78.75%
No Response	17	2.22%
TOTAL	767	100.00%
Sex		
Male	628	81.88%
Female	98	12.78%
No Response	41	5.35%
TOTAL	767	100.00%

Institutional Strengths and Weaknesses

PMMA's strengths lie in the fact that it is meeting its aims and objectives, - to lead, as a great specialized professional Academy in the era of internalization of higher education, in securing the country's comparative advantage in the future of global maritime industry. As Tuncay (2015) emphasized, through self- evaluation, organizations can see themselves as a whole and can realize accurately which goals they can and/or cannot achieve. In this manner, the organization can reasonably direct the personnel to act in accordance with their aims.

PMMA's weaknesses are primarily process driven issues that need attention. The importance of addressing these weaknesses needs to be underscored as these all pertain to services that the Academy should provide to the employees and students.

Table 2

Strengths and Weaknesses of PMMA

		SD	D	A	SA	NR	MEAN	RANK
M A N A G E M E N T	1. Supportive top management	25	101	546	90	5	2.92	18.5
	2. Conduct of strategic planning	17	113	521	113	3	2.96	11
	3. Cascading of PMMA's vision and overall objectives to Unit/Department Heads	18	116	521	102	10	2.93	14
	4. Well-defined organizational framework	27	141	458	134	7	2.92	18.5
	5. PMMA's organizational culture	23	123	513	102	6	2.91	22.5
	6. Data-based decision making	27	123	499	112	6	2.91	22.5



P E R S O N N E L	7. Facilities planning and development	31	132	492	105	7	2.88	30
	1. Highly-trained and competent faculty	15	147	460	139	6	2.95	12
	2. Quality of admin and support staff	24	127	501	110	5	2.91	20
	3. Personnel support and development	17	149	500	96	5	2.89	27
	4. Conduct of staff development programs	20	141	498	102	6	2.90	25
	5. Certification/Training/Sea-service of technical Faculty	19	102	495	142	9	3.00	6
	6. Competitive salary especially for technical faculty	24	133	499	105	6	2.90	24
	7. Student retention strategies	17	137	491	116	6	2.93	16
A C A D E M I C S	8. Regimental training of cadets for leadership and discipline development	32	109	460	160	6	2.98	7
	1. State-of-the-art facilities (e.g., simulators, Augmented/Virtual reality, etc)	64	193	341	137	32	2.75	40
	2. Quality of classrooms and laboratories	53	219	397	88	10	2.69	44
	3. Adequacy of classrooms and laboratories	50	211	403	90	13	2.71	41
	4. Career counseling	30	156	462	106	13	2.85	33
	5. Shipboard training program especially for cadettes	14	114	444	182	13	3.05	3
	6. Flexible learning readiness	21	146	457	128	15	2.92	17
	7. Updated curricula compliant with STCW and IMO guidelines	16	111	471	153	16	3.01	5
	8. Quality of instruction	21	138	467	127	14	2.93	15
	9. Effective training programs	19	139	439	156	14	2.97	8
	10. Research program	23	161	450	118	15	2.88	28
S S T U E	11. Availability of technology	33	175	417	126	16	2.85	36
	1. Quality of student support services	28	155	453	117	14	2.88	31



UPR DPV EOI NRC TTE S	2. Affordability of miscellaneous fees (i.e., haircut and laundry)	39	140	449	123	16	2.87	32
	3. Availability of financial aid for qualified students	62	199	406	90	10	2.69	43
	4. Mess services	78	185	389	110	5	2.70	42
	5. Safety	39	135	464	122	7	2.88	29
	6. Security of PMMA premises	33	120	486	120	8	2.91	21
	7. Procurement Process	39	132	488	98	10	2.85	35
	1. Sufficient budget for all programs, projects, and activities	48	184	419	108	8	2.77	39
O P E R A T I O N S	2. Simplified processes	37	180	433	108	9	2.81	38
	3. Automated processes (e.g., admission process)	32	143	485	96	11	2.85	34
	4. Clear admission and registration process	26	119	487	125	10	2.94	13
	5. Clarity of PMMA objectives cascaded to all employees and students	26	141	484	107	9	2.89	26
	6. Budgeting/resource allocation	39	162	441	115	10	2.83	37
	1. Partnership with shipping companies	12	43	462	239	11	3.23	1
E X T E R N A L R E L A T I O N S	2. Relationship with other government agencies (e.g., CHED, MARINA, DOTr, etc.)	13	61	446	234	13	3.19	2
	3. Community engagement/extension program	25	119	463	146	14	2.97	9
	4. Internal and External Communication	18	105	480	152	12	3.01	4
		33	104	470	144	16	2.97	10
	5. Marketing							

Table 2 shows the perception of the respondents in terms of the institutional strengths and weaknesses of the Academy. All variables were ranked. The top five (5) with the highest ratings were perceived as the Academy's strengths while the bottom five (5) were considered its weaknesses.

In terms of its strengths, 3 out of 5 were indicators on external relations. First is the partnership with shipping companies, with the mean score of 3.23. PMMA has been supported by multiple



shipping companies especially in implementing the mandatory shipboard training program for 2nd class cadets. To date, PMMA has a total of forty-eight (48) partner shipping companies wherein sixteen (16) are with Memorandum of Agreement (MOA), two (2) with Memorandum of Understanding (MOU) and thirty (30) without MOA or MOU. These partnerships with shipping companies ensure the smooth implementation of the Academy's shipboard training program, which is seen as an institutional strength of the Academy.

Shipboard training is a compulsory requirement and component of the BSMT and BSMarE programs that pertain to the required seagoing service as provided under Regulation 11/1 and Regulation III/1 of the STCW Convention. The Department of Shipboard Training (DST) ensures that all second class (3rd year) cadets are able to undergo a one-year training onboard ocean-going vessels wherein the cadets are provided with the opportunity to use a ship as a sea-going laboratory which also requires them to complete their Training Record Books. Moreover, the respondents perceived Shipboard training program especially for cadettes as another strength of the Academy, with the mean score of 3.05, which ranked 3rd. According to the International Maritime Organization (2019), women represent only 1.2% percent of the global seafarer workforce as per the BIMCO/ICS 2021 Seafarer Workforce Report. This represents a positive trend in gender balance, with the report estimating 24,059 women serving as seafarers, which is a 45.8% increase compared with the 2015 report. During School Year 2020-2021, the Class 2022, 200 out of 201 or 99.5% were able to undergo shipboard training.

The PMMA is constantly and closely collaborating and coordinating with various agencies. Being a higher education institution that complies with the curriculum released by the Commission on Higher Education (CHED) and being regulated by the Maritime Industry Authority (MARINA) as a maritime institution which is under the Department of Transportation responsible for integrating the development, promotion and regulation of the maritime industry in the Philippines, the Academy, with the joint efforts of MARINA and the CHED, developed in 2019, standard program for Bachelor of Science in Marine Transportation (BSMT) and Bachelor of Science in Marine Engineering (BSMarE), which will be implemented by all maritime schools across the country. The Academy also partnered with the Philippine Coast Guard and Philippine Navy for the Cadetship and Scholarship Program of respective agencies. Graduates of PMMA are automatically commissioned in the Philippine Navy and Philippine Coast Guard as Ensign (2LT) (<https://www.pmma.edu.ph/admission-process/>). Just recently, PMMA and the PCG have signed a MOA that aims to further strengthen the partnership of both institutions in terms of the development of its Human Resources.

Internal and external communications, with a mean of 3.01, are considered to be very important factor that would lead to support and teamwork within the academy and strong partnership especially with shipping companies. Internal communication helps employees in performing their work, and identifying and promptly dealing with the immediate and urgent matters. Special Orders, Memorandum Orders and Circulars are widely disseminated for the information of everyone. Moreover, the Academy is using the MS Outlook/Teams as one of the channels of internal communications. The employees and students were provided business e-mail addresses. Each Department/Unit head scheduled a meeting with their staff to exchange information, plan and coordinate activities regularly or if necessary. For the purpose of better information exchange and activities coordination, the OAS-ATRE launched the use of Google Calendar, while One Drive let the employees access the shared file or documents. Telephone was also provided in each office for internal communication. The Department/Unit Heads, Faculty members and other official regularly



receive communication allowance. In addition, PMMA has also partnered with Smart Communications, Inc. to board the PLDT wireless arm's Smart Infocast system, an SMS broadcast solution that will enable PMMA to send out advisories and alerts directly to students, employees, and staff. To date, however, the system has yet to be fully operational. Nonetheless, Smart also turned over Smart Bro LTE Pocket WiFi devices that will enable constant communication between and among key management and operations officials as they ensure the smooth conduct of PMMA operations.

External communication with its stakeholders goes both within the Academy and outside of it. Special attention is given to this regardless it is via letter, email, web, telephone or some other way. The Academy has a communication officer and other officers responsible in the external communications. Letters, reports, presentations or web pages were carefully created as these reflect the work and quality of the Academy.

In relation to the Academy's institutional strength on the presence of an updated curricula compliant with STCW and IMO guidelines, in September 2020, the two colleges in the Academy have started implementing a new curriculum which is based on Joint CHED – MARINA Memorandum Circular No. 01 Series 2019 entitled Policies, Standards and Guidelines for the Bachelor of Science in Marine Transportation and Bachelor of Science in Marine Engineering Programs. These policies, standards and guidelines implement the shift to learning competency-based standards/outcome-based education which adopts the competencies expected of BSMT and BSMarE graduates according to the STCW Convention, 1978. The faculty are also required to take further higher education in order to effectively facilitate the teaching of the various learner competencies required by the memorandum.

In terms of the indicators having the lowest ratings which were perceived as institutional weaknesses, quality of classrooms and laboratories garnered the lowest rating of 2.69. PMMA has two (2) academic buildings: the College of Marine Transportation and College of Marine Engineering buildings. The rooms are not all air conditioned but ventilated with electric fans, though the number of these fans would not be enough for the size of class accommodating the rooms. In addition, each room has a monitor and CPU installed to make classes more interactive and creative, although some units have missing accessories like remote control and adaptors. On the other hand, PMMA has the following laboratories: Chemistry laboratory, machine shop, Physics laboratories, AR/VR room, engineering room simulator, Global Maritime Distress and Safety System (GMDSS), Electronic Chart Display and Information System (ECDIS), and computer laboratories to provide cadets a hands-on experience of theoretical discussions. Although these classrooms and laboratories are present, the respondents perceived that the quality can be enhanced through some of the recommendations of the cadets like repainting of classrooms and provision of better classroom facilities.

Regarding the adequacy of classrooms and laboratories, with 2.71 mean score, which is one of the weaknesses of the Academy, it was stated in the study of Selvitopu and Kaya (2020) that one point of weaknesses is about infrastructure which most of Turkish universities stated in their SWOTs which, like in PMMA, includes the quality and inadequacy of classrooms and laboratories. The Academy has a laboratory but it is rarely being used by the cadets for it lacks apparatus and equipment. The number of classrooms in the two colleges became insufficient when the implementation of limited face-to-face classroom instruction began. The Academy needs to comply with the Inter-Agency Task Force (IATF) Protocols, so only 20 cadets can be accommodated in each classroom to maintain physical



distancing. The current maximum 20:1 ratio of cadets per classroom, which was 20-24:1 before, has required additional classrooms in the Academy.

Accordingly, availability of financial aid for qualified students got one of the lowest ratings with 2.69. As a state university, students of PMMA enjoy free tuition and other school fees as provided by Republic Act (RA) No. 10931, otherwise known as the Universal Access to Quality Tertiary Education Act. For SY 2020 – 2021. A total of 916 and 903 cadets during the first semester and second semester were qualified for this respectively. In addition, 42 cadets for Tertiary Education Subsidy (TES) *Listahanan* and 4 cadets for TES *Tulong-Dunong* Program were eligible for the CHED UniFAST scholarship.

However, aside from the tuition fee, the cadets/cadettes that enroll at PMMA need to pay for miscellaneous fees such as uniform, haircut, and laundry which range from Php 16,561.60 up to Php 32,783.85 for First Semester, SY 2020 – 2021. Thus, although tuition is free, there are cadets who struggle to pay for the miscellaneous fees. Providing free miscellaneous and other fees to deserving students would inspire and motivate them to do better in their studies. Liu (2019) strongly recommended that diverse ways to motivate students and stimulate their inner development should be reconsidered and explored. There should be more projects that are inspiring and motivating to students, especially to those who are outstanding in academics, sports, skills and voluntary services. Furthermore, as policy makers, governments and schools must be determined and enforceable to face and change the issue of student aids.

The Mess Hall is where the food is served and cadets eat together. The mess services ranked 3 as weakness perceived by the respondents. With the mean score of 2.70, most of the respondents agreed that the service in terms of tangibility is not satisfactory. This led them to recommend cleanliness of the mess hall including the utensils and food preparation and improvement in the variety of food.

The use of simulators in Maritime Education and Training is a vital component for developing seafarer competencies. Developed immersive technologies such as virtual reality (VR), augmented reality (AR) and mixed reality (MR) have created new and different possibilities for maritime education. The adoption and integration of these technologies into the education, training, and operations of maritime industries provide new possibilities and paradigms to support operators and operations both on land and at sea. (Mallam et al., 2019) However, the Commission on Audit has observed certain failures in the simulators delivered in the academy. This implies that the supposed state-of-the-art equipment cannot be fully utilized by the students to hone their practical skills, making this an institutional weakness of the Academy with 2.75 mean. (coa.gov.ph)

Perceived Distinct Excellence of PMMA

In terms of PMMA's distinct excellence, Table 3 shows that majority of the respondents agree that PMMA is distinctly excellent in different areas: management style, quality of education, training programs, research and development, student support services/programs, shipboard training program, and networking/partnership with external stakeholders. Shipboard Training Program got the highest rating of 3.22 which supports the identified strengths (Rank 1) and potential opportunities (Rank 1). According to Fan (2020), the Philippines is now the world's largest supplier of management-level seafarers; and its seafarers are generally well received and



well regarded around the world. In the course of their seafarers' training, the school and enterprise work closely together, and a special on-board training session has been set up.

Table 3
Perceived Distinct Excellence of PMMA by Respondents

	PMMA is distinctly excellent in...	SD	D	A	SA	NR	MEAN	RANK	QI
1)	Shipboard Training Program	12	57	336	218	144	3.22	1	Agree
2)	Networking/ Partnership with External Stakeholders	14	80	399	133	141	3.04	2	Agree
3)	Training Programs	16	86	390	136	139	3.03	3	Agree
4)	Research and Development	26	102	387	110	142	2.93	4	Agree
5)	Quality of Education	25	128	353	121	140	2.91	5	Agree
6)	Student Support Services/Programs	25	121	372	108	141	2.90	6	Agree
7)	Management Style	33	139	375	79	141	2.80	7	Agree
OVER-ALL MEAN							2.98		Agree

Potential Opportunities

PMMA's opportunities are external essentials that provide PMMA with areas of focus that will build on current strengths and provide improved opportunities and options for midshipmen/women to progress through their academic and training experiences.

Table 4
Potential Opportunities for PMMA as Perceived by Respondents



POTENTIAL OPPORTUNITIES	VU	U	L	VL	NR	MEAN	RANK	QI
a) Partnership with shipping companies	11	65	375	292	24	3.28	1	Strongly Agree
b) Accreditation/Membership to international maritime organization/s	9	66	413	252	27	3.23	2	Agree
c) Improvements in the maritime industry	9	71	420	253	14	3.22	3	Agree
d) Demand for international seafarers	9	71	422	248	17	3.21	4.5	Agree
e) Reputation of PMMA in the maritime industry	17	72	394	259	25	3.21	4.5	Agree
f) Articulation agreements with other maritime higher education institution/s	13	121	432	186	15	3.05	6	Agree
g) Technological Advancement	22	125	435	168	17	3.00	7	Agree
h) Government policies	20	114	472	149	12	2.99	8.5	Agree
i) Workplace flexibility	22	117	459	112	14	2.99	8.5	Agree
j) Socio-cultural changes	17	131	463	102	17	2.97	10	Agree
k) Demographic changes	16	132	488	115	16	2.93	11	Agree
OVER-ALL MEAN						3.10		Agree

Table 4 presents the eleven (11) potential opportunities to assess the conditions or situations that are considered to have positive impact. The respondents placed the partnership with shipping companies as rank one (1). This is evident with the trust elicited by the forty-eight (48) partner shipping companies of the Academy. Also, the result describes that the respondents consider accreditation/membership to international maritime organization/s, improvements in the maritime industry, demand for international seafarers, and reputation of PMMA in the maritime industry as opportunities. Clearly, despite the COVID-19's spread, "Filipinos remain to be preferred by foreign shipowners and principals." This was attested by the Maritime Industry Authority (Marina) Administrator Robert Empedrad. Just by the sheer volume of the Filipino seafarers sailing international waters, there is no question why the Philippines is a maritime giant dubbed as the manning capital of the world. (Cruz, 2021)

Potential Threats

PMMA's threats are external factors that must be understood and managed as PMMA implements improvements, new initiatives and continuous improvement processes.

Table 5

Potential Threats for PMMA as Perceived by Respondents



POTENTIAL THREATS	NA	LOW	AVERAGE	HIGH	NR	MEAN	RANK	QI
a) Ongoing COVID-19 Pandemic/Other future health crisis	14	144	377	205	27	3.04	1	Agree
b) Partnership with shipping companies	30	159	338	208	32	2.99	2	Agree
c) Reputation of PMMA in the maritime industry	31	159	381	160	36	2.92	3	Agree
d) Government Regulation	19	155	449	113	31	2.89	4	Agree
e) Lack of financial support for qualified students who passed the PMMA admission process	19	209	357	153	29	2.87	5	Agree
f) Competition from other MHEIs	18	193	402	123	31	2.86	6	Agree
g) Accreditation/membership requirements	15	193	427	99	33	2.83	7.5	Agree
h) Economic crisis	18	203	402	112	32	2.83	7.5	Agree
i) Natural disasters	21	241	383	95	27	2.75	9	Agree
OVER-ALL MEAN						2.89		Agree

As seen in Table 5, the result shows that most of the respondents agreed that the Academy has threats related to the ongoing COVID-19 pandemic/other future health crisis. The COVID-19 pandemic has created the largest disruption of education systems in history, affecting nearly 1.6 billion learners in more than 190 countries and all continents. (United Nations Sustainable Development Group, 2020) The rapid spread of COVID-19 pandemic has had a major impact on global shipping markets (Oshavillo, 2020). This is evident with the highest mean of 3.04.

Dr. Tedros Adhanom Ghebreyesus, WHO Director-General said that, “Schools play a vital role in the well-being of students, families and their communities, and the link between education and health has never been more evident” (World Health Organization, 2021). The ongoing COVID-19 and other future health crisis ranked one as threat faced by the Academy, as it experienced its peak to 309 COVID-19 cases in the month of May 2021 (Paraggua, et al., 2021).

Another threat about which the majority of the respondents agreed were partnership with shipping companies, reputation of the PMMA in the maritime industry, government regulation, and lack of financial support for qualified students who passed the PMMA admission process. Since the Academy is supported only by government funds with help from the shipping industry, financial support might be insufficient to assist all the educational needs of the qualified students of the Academy. PMMA is regarded as the pioneer institution in maritime education in the country, and this reputation poses threat and challenge to the Academy due to the existence of other maritime institutions in the Philippines.

It is important to note that there were two areas identified by the respondents as both an opportunity and a threat, namely *Partnership with Shipping Companies* and *Reputation of PMMA in the Maritime Industry*. Good reputation would lead to great opportunities. PMMA, holding public pride in the maritime industry, attracts various shipping companies which demand for more competent graduates from the Academy. The good name of PMMA also

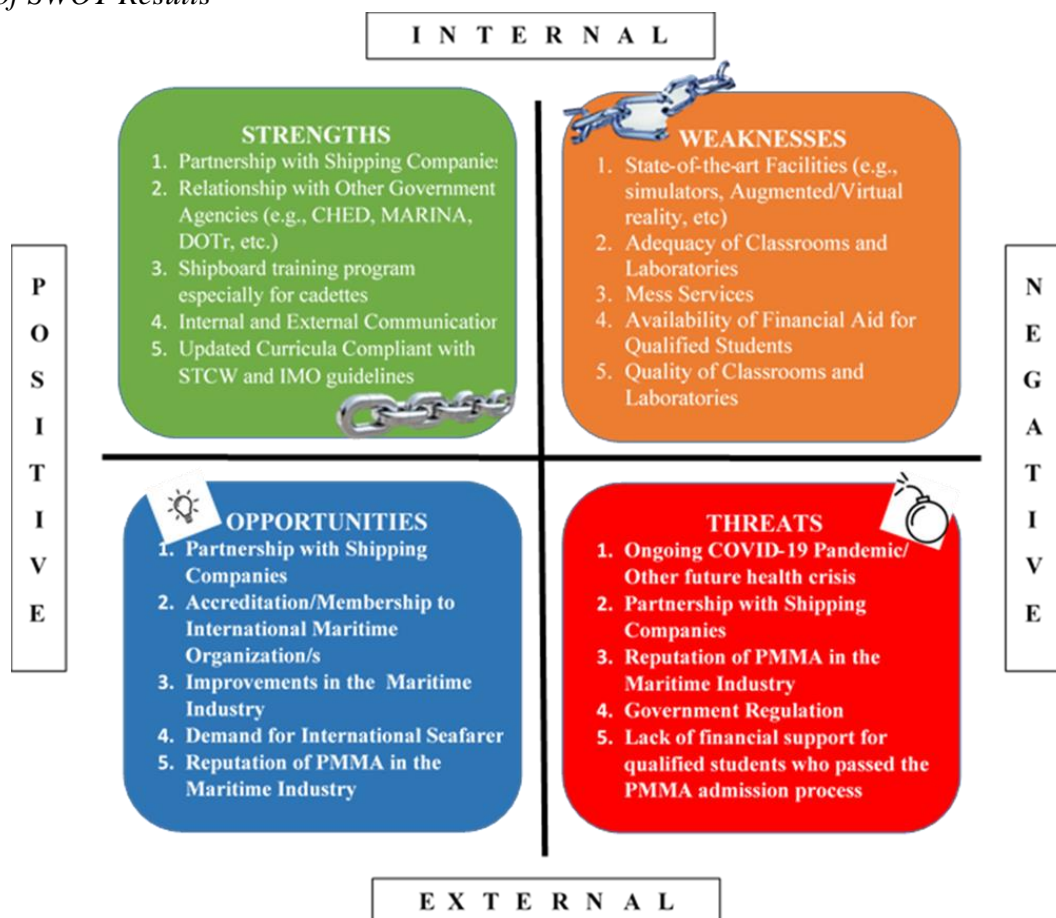


results in a more solid partnership with top international shipping companies that offer effective training to the cadets and possible employment to the PMMA graduates. Reputation would also bring threats to the academy once the good name is destroyed and this would lead to lack of trust from the stakeholders. When this happens, there will be lesser cadet applicants and fewer partnerships with shipping companies.

Summary of Results

Figure 3 summarizes the strengths, weaknesses, opportunities, and threats of the Academy. From the forty-four (44) items listed, the respondents were asked about the extent of their agreement/disagreement on the PMMA institutional strengths in terms of management, personnel, academics, support services, operations, and external relations. Of the responses, the top five (5) with the highest ratings were perceived as the Academy's strengths whereas the bottom five (5) were considered its weaknesses. Out of eleven (11), five (5) items were considered as the most potential opportunities.

Figure 3
Summary of SWOT Results



Recommendations on Areas to be Improved



Respondents were also asked to comment/suggest areas that the Academy may improve on to better manage its operations and achieve its goals. They have identified improvements on areas such as human resource management, academics, leadership and top management, operations, technological advancement, facilities, students' welfare, research and development, admissions, extension services, housing area, marketing/advertising, mess services, partnership with other HEIs, membership to international maritime organization, transparency and good governance, and provision of COVID-19 related supplies. On the contrary, some of these were identified as perceived distinct excellence of the Academy.

They have suggested that PMMA must:

1. Focus for marketing/advertising strategy for improvement of the institution;
2. Level up the technology/advancement of process especially in filling documents for the student;
3. Improve the procurement of supply;
4. Look into delays in salaries;
5. Provision of transportation for everyone;
6. Improve and strengthen its Extension services to the community;
7. Develop and offer new BS courses in according to maritime and marine specialization;
8. Improve the academic profile of its technical faculty;
9. Engage/encourage the technical faculty to make competent and national/international research study;
10. Enter into MOA/MOU for international accreditation/membership maritime organization;
11. Produce more officers to serve in PCG & PN & Maritime Police;
12. Accept and enter into exchange students to other countries;
13. Hire more training staffs who can provide actual experience for cadets.
14. PMMA should have an annual representation in IMO-London to serve as one of the Philippine delegates, working with MARINA;
15. Enter into MOA/MOU with other MHEI to create & be the center of research for both marine and maritime field;
16. Improve internet connection;
17. Install CCTV at respective battalions in order to monitor the activities of midshipmen inside the building especially those that involve possible violations of the Academy's Regimental Rules and Regulations;
18. Improve mess services especially on cleanliness and orderliness; and
19. Hire more teaching staff from outside of the Academy or graduate outside especially in the General Education subjects in order to improve and develop more our academics. Not only one instructor in all sections of each class.

Conclusion and Recommendations

Carrying out a SWOT analysis is relevant for the implementation of strategic planning. The SWOT Analysis reveals that the aims of the Academy for utmost customer satisfaction and



compliance to all requirements and guidelines were perceived as strengths. The partnership with shipping companies is considered the most prominent as Academy's asset. The deployment of midshipmen for shipboard training was unfazed by the pandemic (Abutal, 2021).

On the other hand, there still exist some weaknesses. While finite resources are always a factor in addressing weaknesses or threats, it should not be assumed that the reason for the weakness or threat is due to finite resources. Institutions make resource allocation decisions continuously and prioritize how and whether to address certain strategic priorities. In addressing strategic priorities, it will be important for the Academy to address the core issues and not just assume it is a resource problem. The Academy may propose and request additional funds for the improvement of the state-of-the-art facilities, adequacy, and quality of classrooms and laboratories. Trainings and workshops for using simulators, AVR, and other equipment for the faculty are also encouraged. The Academy may also seek assistance and sponsorship for financial aid for qualified students. Also, the quality operation procedure of the Mess Unit should be reviewed as mess services were perceived as weakness. In addition, the Strategic Planning Committee may help set overall goals for these identified weaknesses and develop a plan to achieve them.

For the opportunities, the Academy should explore advantages despite the pandemic and competition in the maritime industry. At the same time, much attention has to be given to the threats confronting the Academy.

SWOT analysis is an essential part of the strategic planning process to help institutions to understand their strengths, weaknesses, opportunities, and threats. For PMMA to face the challenges brought by globalization and to withstand the obstacles to the maritime industry brought by the pandemic, the Academy has to develop a responsive strategic planning approach, and SWOT should be the first systematic attempt to establish strategic planning. Institutional leaders and their planning partners now have to think and plan strategically. In the context of the rapidly changing world, this will be a prerequisite for any organizational survival and prosperity.

Finally, this SWOT Analysis provides an essential baseline of the feedback received from the employees and students that concisely targets issues to be addressed in the PMMA Strategic Plan and operationalize that plan. In the end, recognizing strengths and weaknesses, and factoring opportunities and threats into concrete actions through the strategic planning process will help PMMA in its continuous pursuit on the premier maritime institution.



References

- Adepoju, T., & Okunola, P. (2018). The Application of Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis for Managing Vocational and Technical Education (VTE) Programmes for Improved Efficiency in Nigeria. *Educational Research and Reviews*, 5(7). <https://globaledunet.org/wp-content/uploads/2018/09/Paper-2-Okunola.pdf>
- Aisyi, G., & Zulkarnain, L. (2020). SWOT Analysis in an Educational Institution (Case Study: Baitul Qur'an Islamic Boarding School, Depok). *Jurnal Ekonomi Dan Perbankan Syariah*, 8(1). <https://doi.org/10.46899/jeps.v8i1.177>
- Amos, N. B., Dogo, E. B., Egwakhe, J. A., & Umukoro, J. E. (2021). Operational Resilience and Efficiency of Private Universities in Southwest Nigeria: The COVID-19 Pandemic Experience. *Journal of Business and Entrepreneurship*, 10(1), 1–14. <https://ojs.sampoernauniversity.ac.id/index.php/JOBE/article/view/203/125>
- Apriyani, R., Bandono, A., Purnomo, J., & S. (2019). Development Strategy of Education Curriculum in STTAL. *International Journal of ASRO*, 10(3), 99–104. <http://asrojournal-sttal.ac.id/index.php/ASRO/article/view/165/120>
- Campara, L., Francic, V., & Bupic, M. (2017). Quality of maritime higher education from seafarers' perspective. *Scientific Journal of Maritime Research*, 31(2). <https://doi.org/10.31217/p.31.2.8>



CIO from IDG. (2018, December 19). *What is SWOT analysis? A strategic tool for achieving objectives* [Press release]. <https://www.cio.com/article/3328853/swot-analysis-defined.html>

Fan, L. (2020). Research on the method of seafarers' competence assessment in China based on Delphi Method and Swot Analysis. *Maritime Commons: The Digital Repository of the World Maritime University*. https://commons.wmu.se/cgi/viewcontent.cgi?article=1286&context=msem_dissertations

George, B., Walker, R. M., & Monster, J. (2019). Does Strategic Planning Improve Organizational Performance? A Meta-Analysis. *Public Administration Review*, 79(6), 810–819. <https://doi.org/10.1111/puar.13104>

Gurel, E., & Tat, M. (2017). SWOT Analysis: A Theoretical Review. *The Journal of International Social Research*, 10(51). <https://doi.org/10.17719/jisr.2017.1832>

Hu, J., Liu, H., Chen, Y., & Qin, J. (2018). Strategic Planning and the Stratification of Chinese Higher Education Institutions. *International Journal of Educational Development*, 63, 36–43. <https://doi.org/10.1016/j.ijedudev.2017.03.003>

International Maritime Organization. (2019). *Women in Maritime*. IMO. <https://www.imo.org/en/OurWork/TechnicalCooperation/Pages/WomenInMaritime.aspx>

Jackson, T. (2021, September 27). *Strategic Planning: The Ultimate Guide To Preparing*,



Creating, & Deploying Your Strategy. ClearPoint Strategy. Retrieved October 28, 2021, from <https://www.clearpointstrategy.com/strategic-planning-ultimate-guide/>

Khalid, J., Ali, A., Khaleel, M., Islam, M., & Shu, Q. (2017). Towards Global Knowledge Society; A SWOT Analysis of Higher Education of Pakistan in Context of Internationalization. *Journal of Business*, 2(2). <https://doi.org/10.18533/job.v2i2.65>

Liu, J. (2019). A Quantitative Study on Student Financial Aid of a Local Undergraduate College in China. *World Journal of Education*, 9(6). <https://files.eric.ed.gov/fulltext/EJ1235340.pdf>

Mallam, S., Nazir, S., & Renganayagalu, S. (2019). Rethinking Maritime Education, Training, and Operations in the Digital Era: Applications for Emerging Immersive Technologies. *Journal of Marine Science and Engineering*, 7, 428. <https://doi.org/10.3390/jmse7120428>

Oschavillo, G. (2020). A Paradigm Shift of Learning in Maritime Education amidst COVID-19 Pandemic. *International Journal of Higher Education*, 9(6), 164–177. <https://files.eric.ed.gov/fulltext/EJ1277930.pdf>

Pratt, M. K. (n.d.). *Strategic Planning*. <https://Searchcio.Techtarget.Com>. Retrieved October 28, 2021, from <https://searchcio.techtarget.com/definition/strategic-planning>

Selvitopu, A., & Kaya, M. (2020). Looking Inside the Strategic Plans: Strengths and Weaknesses of Turkish Higher Education Institutions. *Qualitative Research in*



Shvardak, M. (2021). SWOT-Analysis as a Strategic Management Tool of the Quality Training of the Future Educational Institution Head. *Ilkogretim Online - Elementary Education Online*, 20(1), 958–967. <https://doi.org/10.17051/ilkonline.2021.01.96>

Tuncay, M. (2015). SWOT Analysis in Strategic Management and a Sample Application in Public. *International Research Journal of York University*, 2(3), 276–301. <https://mpa.ub.uni-muenchen.de/67213/>

Wang, X., Li, M., & Cao, J. (2018, June). SWOT Analysis of the Old and New Campus of the University and Its Countermeasures. *Advances in Social Science, Education and Humanities Research, Proceedings of the 2018 2nd International Conference on Education, Economics and Management Research (ICEEMR 2018)*. <https://doi.org/10.2991/iceemr-18.2018.81>

Vitan, D. (2017). The SWOT Analysis of Pre-university Education. “Ovidius” University Annals, *Economic Sciences Series*, 17(1). <https://stec.univovidius.ro/html/anale/ENG/2017/Section-V/38.pdf>

