



## Maritime Technology and Research

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Research Article

# Employment Status of Bachelor of Science in Marine Engineering Graduates at the University of Antique, Philippines

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### Article information

Received: February 21, 2021

Revised: April 27, 2021

Accepted: April 30, 2021

### Keywords

Tracer study,  
Employment status,  
Province of Antique,  
University of Antique,  
Marine Engineering Graduates

### Abstract

Quality maritime graduates attract better employment opportunities. This descriptive survey study aimed at determining the employment status of Bachelor of Science in Marine Engineering (BSMarE) graduates of the University of Antique from 2013 - 2016 as the basis for proposing an action plan. The descriptive survey research method was used in this study. A Commission on Higher Education (CHED) graduate tracer survey was adopted and modified to ensure appropriateness in the maritime setting. The computer-processed statistics used were weighted means, frequency counts, and rank for descriptive analysis. The findings revealed that, generally, the BSMarE graduates were dominated by males, 24 years and older, and who graduated in 2013. The majority of the graduates were employed in 2014 and 2016 as contractual workers. A large number of the graduates were enlisted with the help of the university's career and placement officer. Opportunity for career growth, salary, benefits, and the job-related course were their most predominant reasons in applying for the job, while flexible schedule, telecommunication arrangement, and proximity to their residence were the least principal reasons. The majority of the graduates are employed part-time, and most of their employers come from the private sector. Most of the graduates have been working in their current job for between 2 to 3 years. The majority of the graduates are employed in domestic shipping companies and earn between PhP 30,000 - 49,999. The proposed action plan aims to improve the employment rate of BSMarE graduates by enhancing shipboard familiarization, workshop skills training, and engine watchkeeping courses. Further, it improves maritime students' soft and life skills needed in a stressful and prison-like environment like a ship. It revisits the BSMarE curriculum and fully implements Outcome-Based Education in all professional courses. Finally, it provides an enrichment training workshop on teaching strategies and classroom management of maritime instructors.

## 1. Introduction

The Manpower Report (2015) from the Baltic and International Maritime Council (BIMCO) and the International Chamber of Shipping (ICS) reported that the Philippines is no longer the largest single source of seafarers qualified for international trade, as China and Russia were seen as equally important sources of officers and ratings, followed closely by Ukraine and India. The report

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revealed that maritime education plays a significant role in supplying quality maritime graduates that will fill the shortage of almost 150,000 officers by 2025.

The Philippines, through the Maritime Industry Authority (MARINA) and the Commission on Higher Education (CHED), crafted the Joint CHED Memorandum - MARINA Circular to address a more responsive policy to ensure the competitiveness of the Philippines' maritime graduates and compliance with international standards (Maritime Industry Authority, 2019). In promoting maritime graduates' quality, CHED was authorized to set standards and monitor maritime education programs and higher learning institutions under Section 8 [d] and [e] of Republic Act (RA) 7722. On the other hand, MARINA was authorized to monitor maritime education programs under Section 3 and Section 4 [c](4) of RA 10635 (Joint CHED-MARINA Memorandum Circular No.1, 2018).

Following the Policies, Standards, and Guidelines (PSG) for the Bachelor of Science in Marine Transportation and Bachelor of Science in Marine Engineering Programs, all maritime higher education institutions (MHEIs) adhere to and comply with all the requirements in this PSG. A joint Commission and Maritime Administration conducts inspection and evaluation to verify the compliance status of the concerned MHEI (JCMMC No. 1, 2019).

Kabir (2014) revealed that soft skills, quality graduates, qualified instructors with appropriate training facilities, and socio-economic and external factors influenced the employability of maritime graduates. Human relations and communication skills, integration of basic safety in maritime curriculum, acquired technical knowledge, and professional course competencies are factors relevant onboard ship (Orense & Laguador, 2013; Ampong, 2016; Gonzales, 2019). Garcia et al. (2016) showed that learning provisions and conditions associated with employability, skills and knowledge, critical thinking, and managerial/leadership skills are relevant to jobs. Galicia (2019) stressed knowing the relevance of medical examination among maritime graduates to seafaring jobs.

As a maritime higher education institution, and as the only State University and College (SUC) in Region 6 offering maritime programs, the University of Antique (UA), through the College of Maritime Studies, provides quality education to its stakeholders to prepare them in the maritime industry. To ensure UA graduates' employability, the researcher conducted a graduate tracer study among Bachelor of Science in Marine Engineering graduates from batch 2013 - 2016 to gather valuable information for the continual improvement of curricula, the acquisition of competencies in professional courses, and the production of quality graduates.

### **1.1 Objectives of the study**

This study aimed at determining the demographic profiles of the Bachelor of Science in Marine Engineering graduates of the University of Antique in the Province of Antique from 2013 - 2016. Specifically, this study aimed at determining the employment profiles of the respondents in terms of the year graduated, job application, reasons for applying for the job, year of employment, nature of employment, type of employer, number of years in the current job, type of establishment, classification of shipping company, and salary level. The findings of this study served as the basis for proposing an action plan in improving the employment rate of BSMarE graduates and enhancing BSMarE curricula in the University of Antique - College of Maritime Studies.

## **2. Materials and methods**

### **2.1 Research design**

The descriptive survey method of research was employed in this investigation as the data were collected through a structured questionnaire. According to Gay et al. (2018), descriptive research involves collecting data to answer questions and determine and report the way things are.

## **2.2 Participants**

This study used 100 BSMarE graduates from the College of Maritime Studies at the University of Antique as respondents, retrieved from the College of Maritime Studies - Onboard Training Office (OBT), formerly known as the Shipboard Training Office (STO), in charge of onboard training monitoring, assessment, and evaluation (Joint CHED, 2019).

The convenience Sampling Technique was used to gather data from the BSMarE graduates due to the difficulty of sending and retrieving questionnaires.

## **2.3 Instrument**

Data was collected using a survey questionnaire which posed various questions surrounding the employment status of BSMarE graduates. This survey questionnaire was adopted from the CHED graduate tracer study form and constructed based on the past onboard experiences of validators as senior marine officers, manning various types of vessels, and working with different nationalities.

The instrument consisted of 2 parts: Part I elicited the personal information of the respondents, such as age, sex, year graduated, and year employed. Part II elicited data of the respondent's employment status in terms of the job application, reasons for applying for the job, nature of employment, type of employer, number of years in the current job, type of establishment, and shipping company classification and salary level.

## **2.4 Procedure**

The researcher administered the survey questionnaire with the Onboard Training Office's, formerly the Shipboard Training Office's, assistance through online social media like Facebook and email. Due to limited contacts and difficulty in reaching the graduates, the researcher obtained 100 BSMarE graduates from four (4) batches from 2013 to 2016.

## **2.5 Data analysis**

The data were scored, tabulated, and subjected to appropriate computer-processed statistics using the Statistical Package for the Social Sciences (SPSS) software version 23. Weighted means, frequency count, and rank were the statistical tools employed in the study.

# **3. Results and discussion**

## **3.1 Graduates' demographic profile**

**Figure 1** presents the graduates' demographic profile.

The results revealed that the majority (97 or 97 %) of participants were males, while (3 or 3 %) were females. In terms of age, the majority (83 or 83 %) were older (24 years old up), and 17 (17 %) were younger (23 years old and below). In terms of graduation, the highest number of students graduated in the year 2013 (50 or 50 %). The rest graduated in 2014 (17 or 17 %) and 2015 (33 or 33 %). In terms of year of employment, the highest number of students were employed in the year 2014 (33 or 33 %) and 2016 (33 or 33 %). The rest were employed in 2013 (14 or 14 %) and 2015 (20 or 20 %). This means that the marine engineering graduates were dominated by men, older than 24 years old, who graduated in 2013, and were employed as contractual workers.

## **3.2 Graduates' employment status**

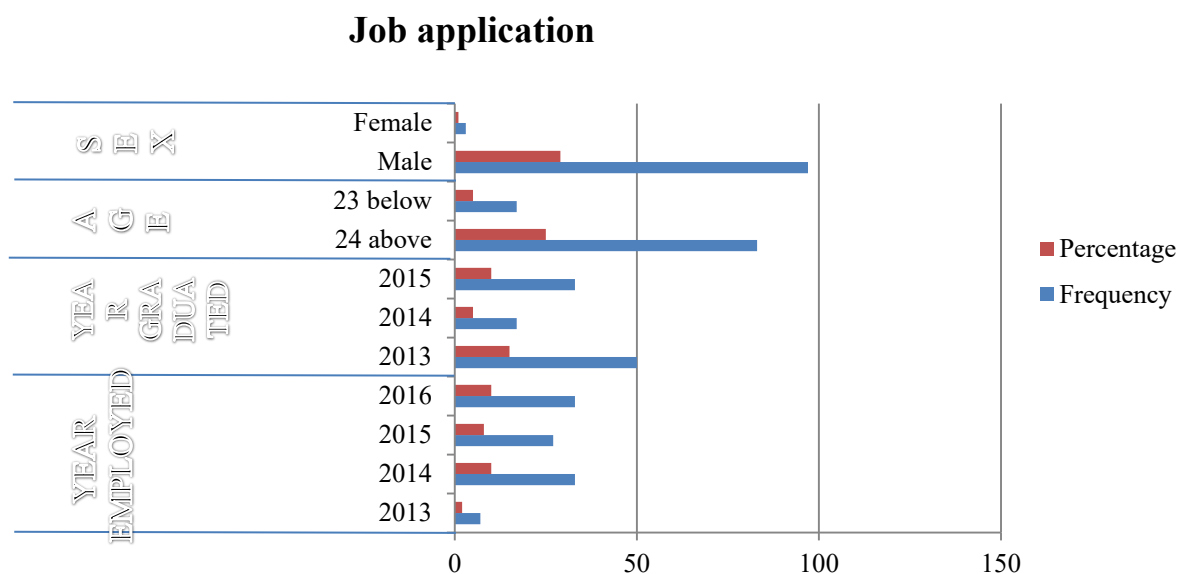
### **3.2.1 Job application**

**Figure 2** shows that most of the graduates were enlisted with the help of the university's career and placement officer (30 or 30 %) in the job application. The rest applied for an advertised vacancy (20 or 20 %), contacted the employers to inquire about vacancies (17 or 17 %) or attended job fairs (17 or 17 %), posted/advertised professional skills on job-search sites (7 or 7 %) or enlisted the help of university staff (7 or 7 %), and were approached by an employer (2 or 2 %). It means

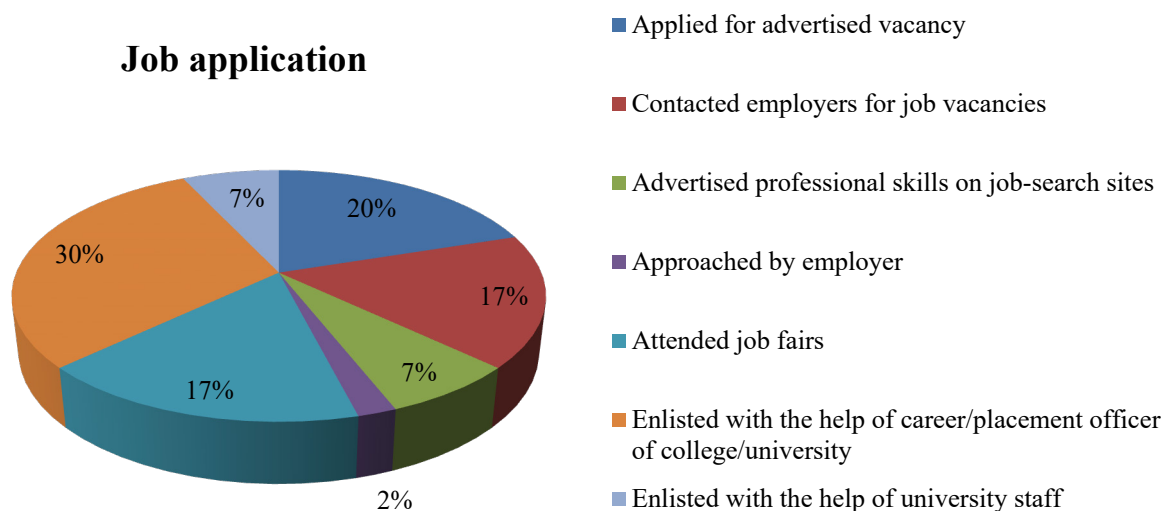
that a large number of the graduates were enlisted with the help of the university's career and placement officer.

### 3.2.2 Reasons in applying for the job

The data in **Table 1** shows that the graduates' top three reasons for applying for the job were: the opportunity for career growth ( $f = 60$ , Rank 1), salary and benefits ( $f = 40$ , Rank 2), and being related to the course ( $f = 30$ , Rank 3). The last three reasons were: flexible schedule ( $f = 2$ , Rank 9), telecommunication arrangement ( $f = 4$ , Rank 8), and proximity to residence ( $f = 6$ , Rank 7). Other reasons for applying for the job were: job-related to special skills ( $f = 16$ , Rank 4), multi-cultural workforce ( $f = 12$ , Rank 5), and opportunity to travel ( $f = 10$ , Rank 6). This means that opportunity for career growth, salary, benefits, and the job-related course were their most predominant reasons in applying for the job, while flexible schedule, telecommunication arrangement, and proximity to their residence were the least principal reasons.



**Figure 1** Graduates' demographic profile.



**Figure 2** Graduates' employment status in terms of job application.

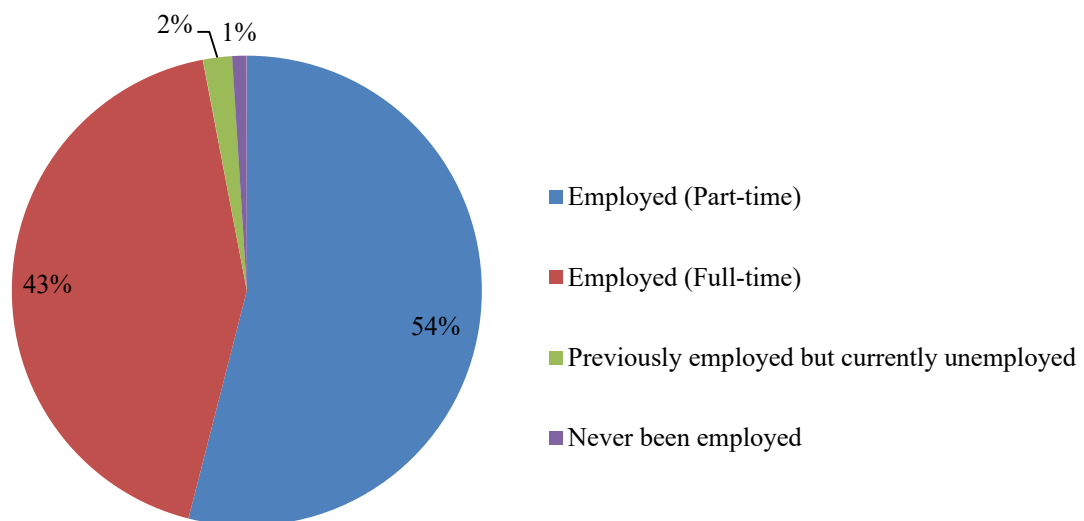
**Table 1** Rank of graduates' reasons in applying for the job.

| Reasons in applying for the job | <i>f</i> | Rank |
|---------------------------------|----------|------|
| Opportunity for career growth   | 60       | 1    |
| Salary and benefits             | 40       | 2    |
| Job related to course           | 30       | 3    |
| Job related to special skills   | 16       | 4    |
| Multi-cultural workforce        | 12       | 5    |
| Opportunity to travel           | 10       | 6    |
| Proximity to residence          | 6        | 7    |
| Telecommunication arrangement   | 4        | 8    |
| Flexible schedule               | 2        | 9    |

### 3.2.3 Nature of employment

In terms of nature of employment, **Figure 3** presents that the graduates were generally employed part-time (54 or 54 %), while 43 (43 %) were employed full-time, and 3 (3 %) was made up of graduates who were previously employed but currently unemployed and those who had never been employed. This means that the majority of the graduates are employed as part-time workers.

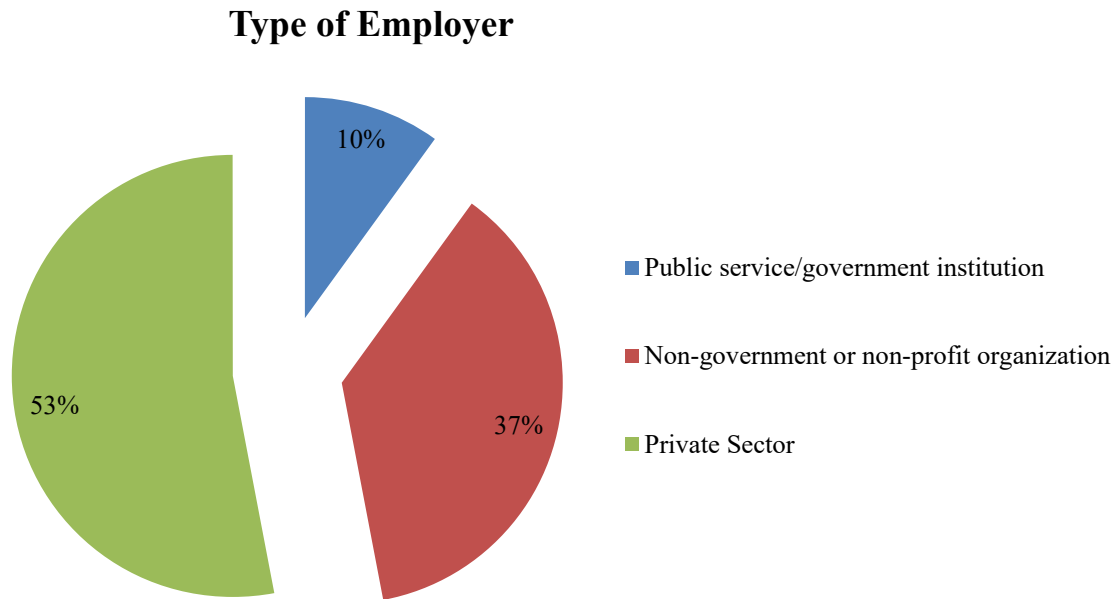
**Nature of employment**



**Figure 3** Graduates' nature of employment.

### 3.2.4 Type of employer

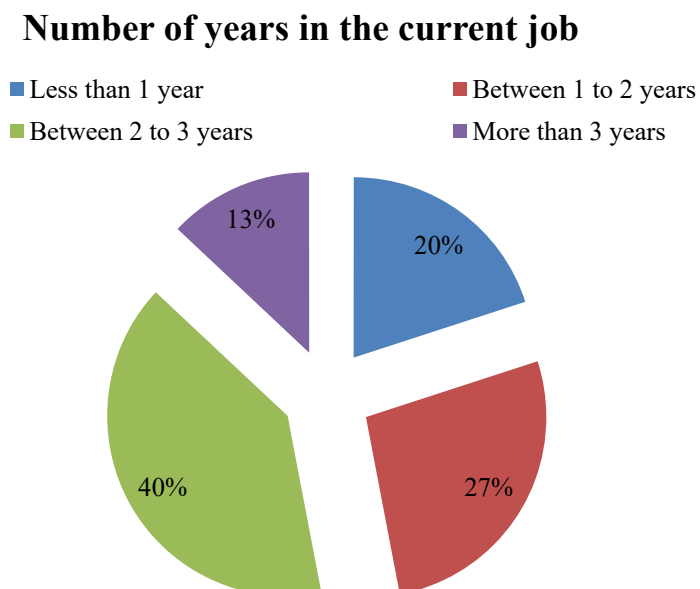
**Figure 4** displays the graduates' type of employer. Generally, 53 (53 %) of the graduates were employed in the private sector, 37 (37 %) were employed in non-government or non-profit organizations, and 10 (10 %) were employed in the public service or in government institutions. This means that most of their employers come from the private sector.



**Figure 4** Graduates' type of employer.

### ***3.2.5 Number of years in the current job***

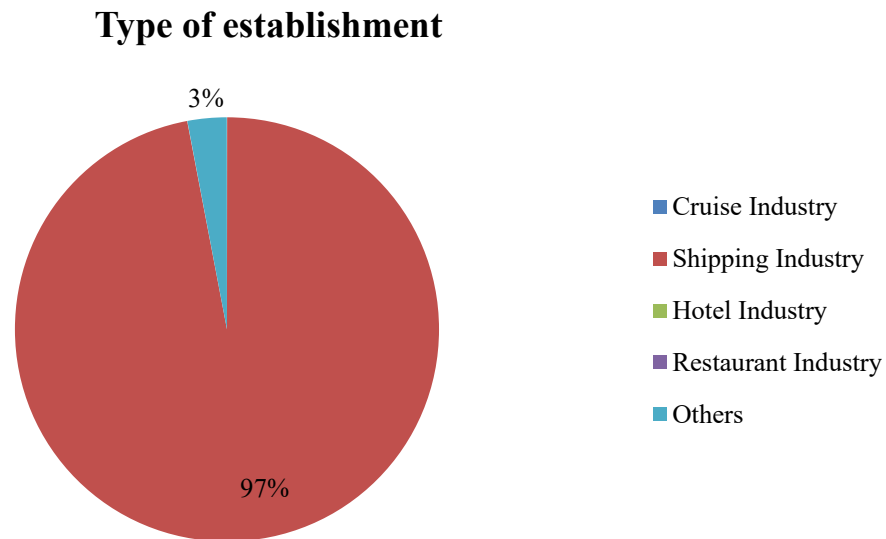
**Figure 5** shows most graduates have stayed between 2 to 3 years (40 or 40 %) in terms of the number of years in their current job. Others have stayed between 1 to 2 years (27 or 27 %), more than three (3) years (20 or 20 %), and the smallest percentage have stayed for less than one year. This means that most of the graduates have been working in their current job for between 2 to 3 years.



**Figure 5** Graduates' number of years in their current job.

### 3.2.6 Type of establishment

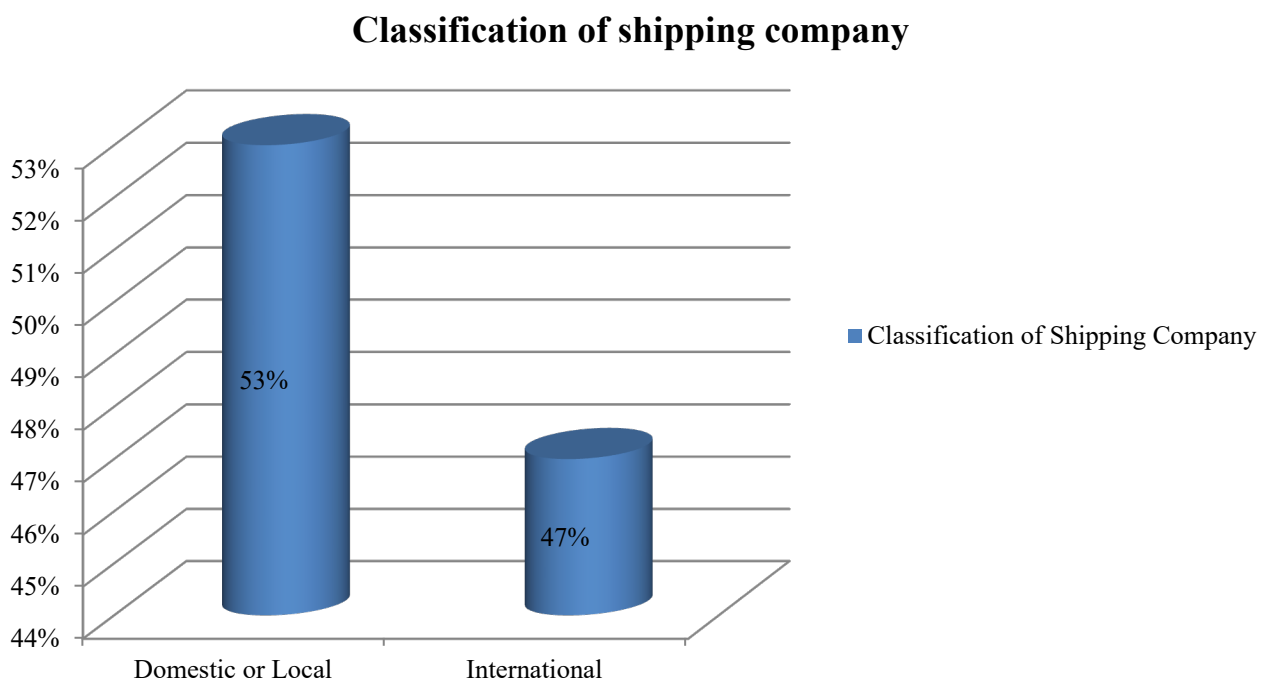
**Figure 6** reveals that 97 or 97 % of the graduates worked in the shipping industry (merchant ships) while 3 or 3 % worked in other establishments. This means that the majority of the graduates are employed in shipping industry.



**Figure 6** Graduates' employment establishment.

### 3.2.7 Classification of shipping company

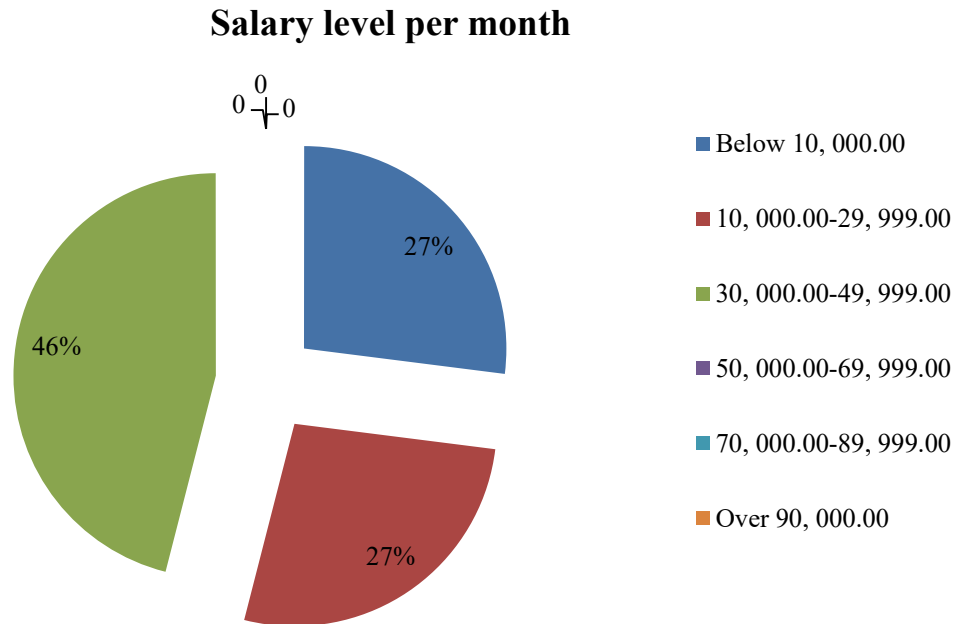
**Figure 7** reveals that most of the graduates were employed in domestic or local shipping companies (53 or 53 %), and 47 (47 %) were employed in international shipping companies. This implies that international shipping companies employ seafarers with previous seafaring experience. This means that most of the graduates are employed in domestic shipping companies.



**Figure 7** Classification of shipping companies for graduates' employment.

### 3.2.8 Monthly salary

**Figure 8** reveals that, in terms of monthly salary, most graduates earn PhP 30,000 - 49,999 (46 or 46 %), and few earn 10,000 - 29,000 (27 or 27 %) or below 10,000 (27 or 27 %). It means that the majority of the graduates earn between PhP 30,000 - 49,999.



**Figure 8** Graduates' monthly salary level.

### 3.3 Proposed action plan

*“UsAD Marino”: Producing Quality Graduates for a better Employment Opportunities*

It is a proposed action plan of the University of Antique - College of Maritime Studies (UA-CMS) to address the employment status of BSMarE graduates. It aims to improve the employment rate of BSMarE graduates by enhancing shipboard familiarization, workshop skills training, and engine watchkeeping courses. Further, it improves maritime students' soft and life skills needed in a stressful and prison-like environment like a ship. It revisits the BSMarE curriculum and fully implements Outcome-Based Education in all professional courses. Finally, it provides an enrichment training workshop on teaching strategies and classroom management of maritime instructors.

In the next three (3) years, from 2021 to 2023, a proposed action plan will achieve the specific objective of improving the employment status of BSMarE graduates at the University of Antique.



**Table 2** Presentation of proposed action plan.

| Program/Components   | Name of agency   | Key responsibilities  |
|--|--|---|
| “UsAD Marino”: Producing Quality Graduates for better Employment Opportunities                             | College of Maritime Studies<br>Maritime Industry Authority                   | Ensure inclusive and equitable quality education and promote lifelong learning opportunities among maritime students at the University of Antique |
| United Nations’ Sustainable Development Goals (SDGs) 2030: SDG 4 - Quality Education and Lifelong Learning | National Government<br>Local Government Unit<br>Higher Education Institution | United Nations’ Sustainable Development Goals (SDGs) 2030: SDG 4 - Quality Education and Lifelong Learning  |

#### 4. Conclusions

The BSMarE program at the University of Antique attracts male and older individuals. The graduates have a relatively shorter wait after graduation, which implies that the shipping industry has a high demand for seafarers, and that the graduates are adequately prepared for seafaring work. The career and placement office of the college/university is functional. It performs effectively in its role in helping graduates find jobs. People seek employment for career growth, earning, and applying what they have learned in school. The private sector caters to the needs of the graduates of the Bachelor of Science in Marine Engineering. Generally, the graduates have been in their current jobs since the time of employment. The field is suited to their preparation and training. Domestic shipping companies absorb most of the BSMarE graduates. The earning of marine engineering graduates can adequately provide for their basic family needs.

#### 5. Recommendations

The College of Maritime Studies should intensify efforts to link with international shipping companies through its Career and Placement Office and should continuously review its course offerings, enhance its faculty's skills, and improve its equipment and facilities to provide quality education to meet international standards. The program may admit female applicants, who will have to meet the entrance requirements. A similar study may be conducted that would include areas not covered by this present study. These recommendations align with the United Nations' Sustainable Development Goals (SDG) 2030: SDG 4 - ensuring inclusive and equitable quality education and promoting lifelong learning opportunities.

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