



# An Empirical Study on Design of Career Path Mapping for Female Officers

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## 여성해기사 경력경로도표 설계에 관한 실증적 연구

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### Abstract

This research is to design of Career path mapping for female officers. To complete the purpose, the research has firstly conducted a survey of 781(91%) graduates from KMOU. This consisted of descriptive statistics that aggregated the response results and presented the frequency. Through the survey, Career path mapping is drawn by dividing the having a boarding experience, boarding period, occupational type and so on. In regardless of whether or not they have boarding experience, it is necessary to draw up a road map combining the comprehensive solution of educational institutions necessary for female officers to manage their long-term career paths and the step-by-step implementation plan to engage in their own maritime sector. To fulfill these, further research needs that consideration should be given to new ways to upgrade the career path map and to coordinate with the various constituent parts of the maritime sector, training curriculum and promotion of more assistance and support with their career in maritime sector.

**Key words** : Career path mapping, Female officer, Boarding experience, Maritime sector

### I. Introduction

In the maritime sector, seafaring has been predominantly a male industry. The industry had developed its own culture which denied or precluded women's participation. People are traditionally superstitious about women on board, as many believed that women would be a potential source of malevolence or bad luck (Zhao M. et al, 2017). Still such superstition against women remains in seafaring communities in the 21<sup>st</sup> century.

However, maritime college opened their doors to women despite this prejudice and negative

circumstance in Korea in 1991. Korea Maritime and Ocean University(KMOU) has turned out 1,001 female graduates who has qualified in accordance with IMO Standards of Training, Certification and Watchkeeping Convention (STCW) until Feb. 2019. This was the international movement, which highlighted women's roles in and contribution to the world economy and promoted gender equality and empowerment of women across economic sectors. Also, the promotion of gender equality has been a goal of the United Nations (UN) and its specialized agencies, including the International Maritime Organization (IMO). In 2000, The UN adopted the Millennium Development Goals(MDGs).

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Amongst these ‘goals’, MDG3 aims to ‘promote gender equality and empower women’(UN, 2015). In 2000, responding to the UN MDGs, the IMO started a process to establish regional support networks for women around the world and announced its plan to develop a ‘Global Strategy for Women Seafarers’ in order to improve the diversity of seafarers(Froholdt et al., 2015). In July 2010, The United Nations (UN) General Assembly created UN Women the United Nations Entity for Gender Equality and the Empowerment of Women(Jack, 2015).

In terms of what assistance would be of most help to female officers in their future careers, active seafarers considered that more companies offering jobs at sea for seafarers with their qualifications, a job guarantee with their current company, more funding for studying/training for shore jobs, and more information about shore job availability were the priorities. For trainees, they have to choose getting on board or not, and both are not easy to decide because going to sea is very narrow gateway and working ashore is that they feel useless their training and qualification in university. For female officers, the main problems actually experienced were that their maritime experience and qualifications, they were not valued, there were too few jobs available in the maritime sector for those of their age and qualifications, they needed to move those to find work. Both of them, difficulties in finding information about jobs related their major were main problem frequently mentioned.

There should be a solution on possible new maritime occupational structures involving the integration of at sea and ashore members within a management and operational structure that will maximize career path mobility and job opportunities

for them.

This paper attempts to explore and find the way for them who have potential power to be used as officers and specialized workers qualified IMO STCW. It draws on the data and analysis of the collection of the empirical data based on questionnaires and interviews. The main goal is the design of Korean Career Path Mapping for Female Officers.

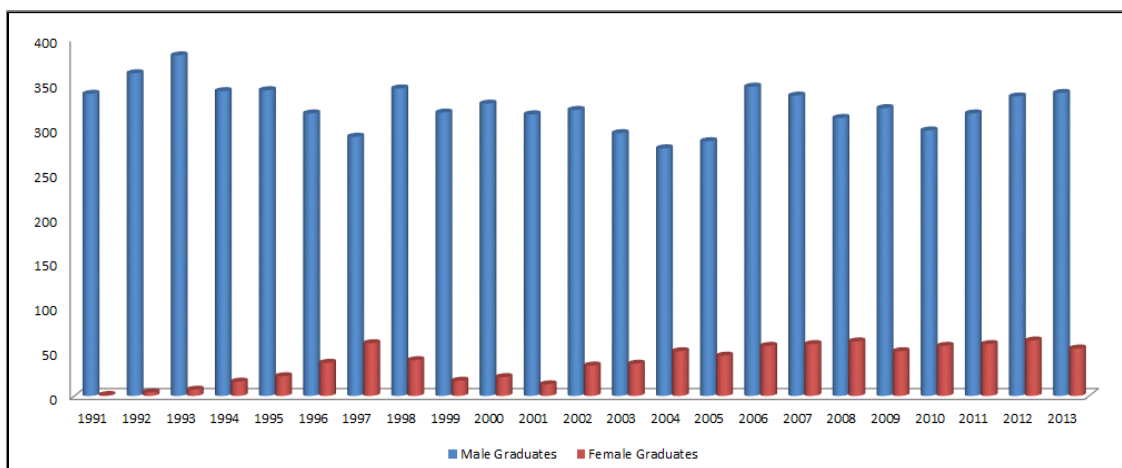
## II . Methodology

### 1. Methodology

The research was conducted from 1st Nov. to 17<sup>th</sup> Nov. 2017 by phone or in face-to-face interviews of female graduates in the red bar of [Fig. 1] below. Total of 856 female graduates who studied in KMOU from 1991 to 2017 were surveyed, and 781(91%) were effective.

This survey is to collect their career path maps from KMOU graduates so that they can be an empirical study for the preparation of career paths for female seafarers and to compare any differences based on their experience on board. The analysis consisted of organizing the survey for preparation of career path maps, extracting samples, obtaining responses to the survey, and then performing the necessary analysis using the collected data and interpreting the analysis results which consisted of descriptive statistics that aggregated the response results and presented the frequency.

In this paper, a survey was conducted on graduates in a wide range of fields through a telephone interviews, including shipping companies, manning agencies, ship management companies, government officials and others. Both qualitative and quantitative methods, a questionnaire survey



[Fig. 1] Number of Graduates per Year

and semi-structured interviews were employed in primary data gathering and analysis. The survey details consist of entry grade, boarding or not, boarding period, current job, job changes after boarding, personal opinion, future prospect of maritime industry as female seafarers, opinions to younger people in the maritime industry and so on.

At the same time, the research conducted 23 in-depth interviews with female graduates including some in senior positions; managers of shipping companies, maritime lecturers, research Institutes, and governmental agency through a telephone and face-to-face interviews as shown in <Table 1> below.

<Table1> Individuals Contacted for the Interview

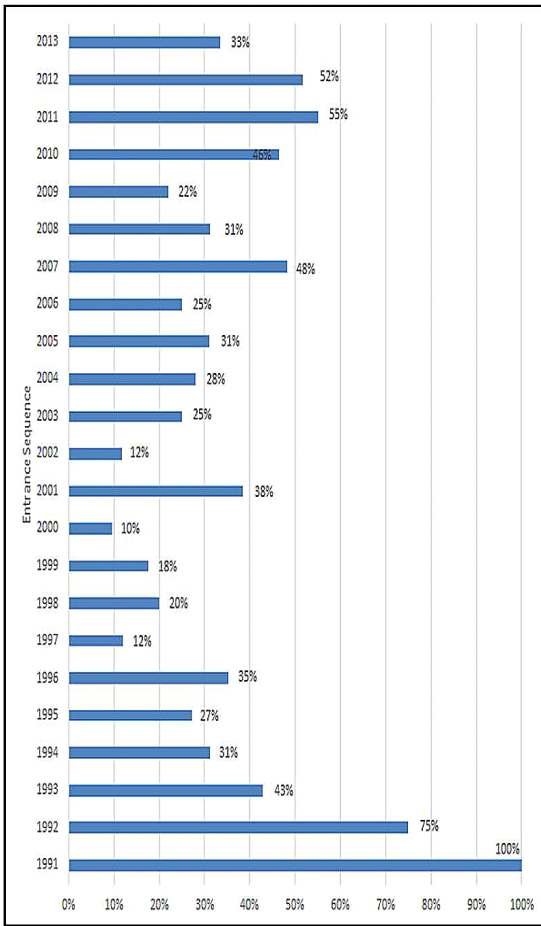
Category	Person
Shipping company	18
Maritime lecturers	3
Research Institute	3
Governmental agency	9
Total	23

Many graduates welcome interviews of this nature and they are usually open in sharing experiences, observations and opinions in the interview. They empathized issues of the difficulties finding information for female trainee, active seafarer and ex-seafarer in maritime sector. A few simply avoided the interview, as happened in this kinds of survey.

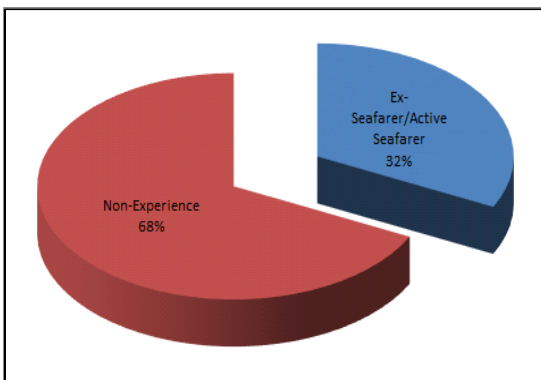
## 2. Research Findings

The questionnaires used for this research were not long and in several questions additional comments were invited to supplement the information. In addition, a total of 781 questionnaires were received from active and ex seafarers. The data collection and analysis tool that was used provided both a summary analysis of the answers to the principal questions and a detailed record of each individual answer to each question. The detailed contents of survey returns by response category was as shown in Figures below.

According to [Fig. 2] and [Fig. 3], an average of 32 percent of graduates were on board, and the

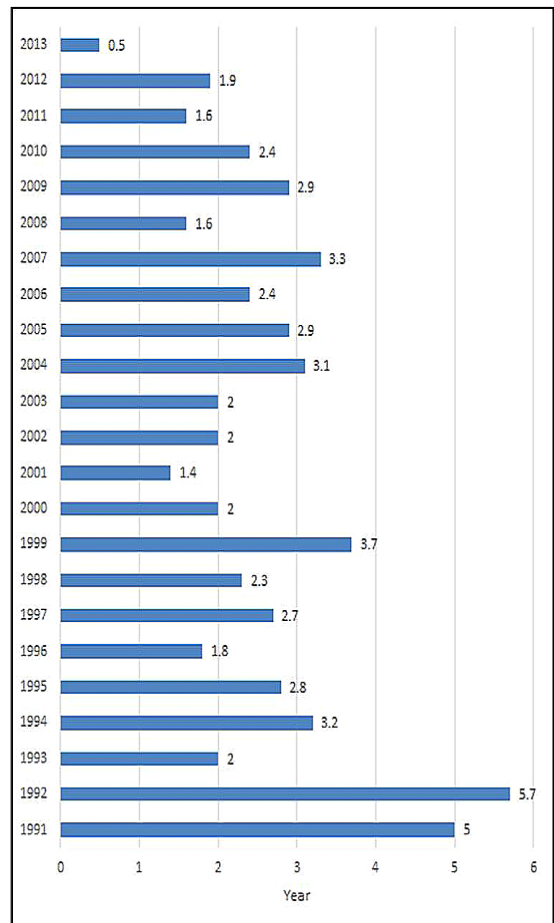


[Fig. 2] Percentage of Working Experience at Sea by Year



[Fig. 3] Percentage of Working Experience at Sea vs Non-experience

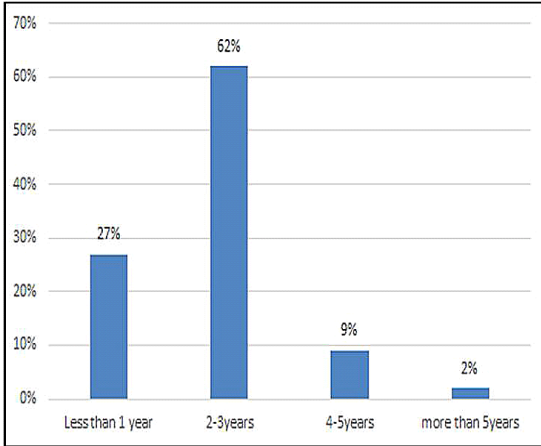
deviation of the boarding rate each year can be attributed to external factors, such as the 1997 foreign exchange crisis and the 2008 global financial crisis, as well as internal factors due to changes in the number of male and female officers by shipping company. From 1991 to February 2017, a total of 278 female graduates with experience on board, excluding apprentice officer, were counted. The average boarding period for the 278 of them came to 2.6 years, and 69<sup>th</sup> who graduated on February 2017 were found to have a very low boarding period of 0.5 years because of the time of survey as shown in [Fig. 4].



[Fig. 4] Average Boarding Period by Year

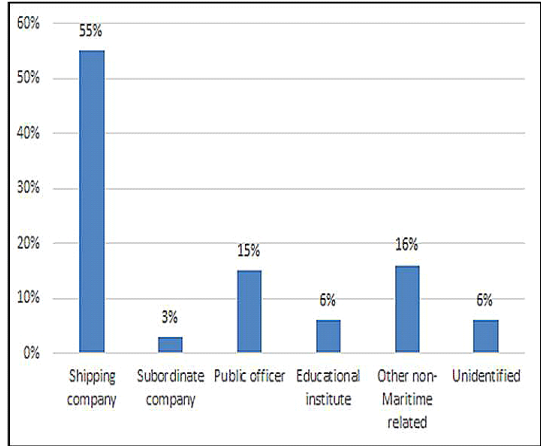
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Most ex-seafarers, more than half had served at sea for 2-3years, and as many as 2% of total ex/active seafarers have spent at sea for more than 5 years as shown in [Fig. 5].



[Fig. 5] Time Spent at Sea

without boarding experience. Workers with boarding experience for shipping companies are showing a high portion because of figures including active seafarers.



[Fig. 6] Distribution Percentage by Occupation

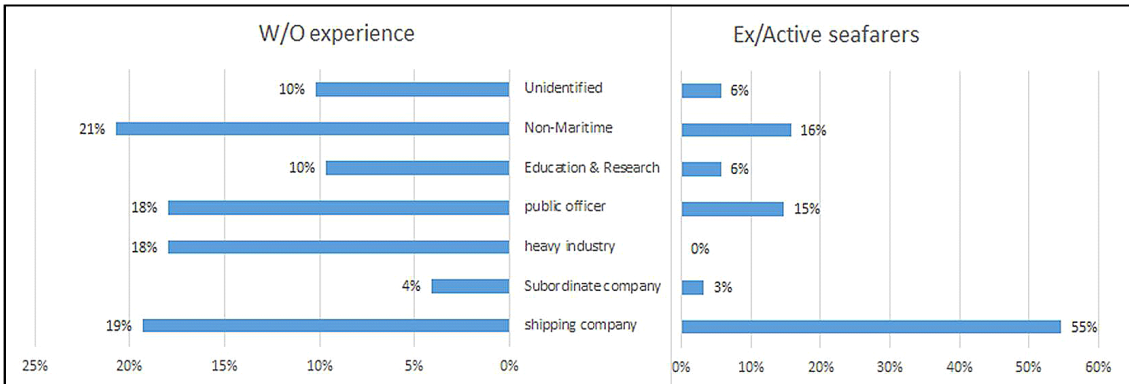
The distribution chart for each occupation of graduates from Feb. 1995 to Feb. 2017 is shown in [Fig. 6], and the occupational groups were divided into shipping companies, subordinate companies, public officers, heavy industry, education and research institutes, and non-maritime industry.

[Fig. 7] shows the occupational distribution of graduates with boarding experience and graduates

3. Discussion

The above survey results show that graduates are evenly distributed across the entire career group, regardless of whether they actually have been on board.

To sum up, the results of survey for the design of career path mapping for female seafarers' are followings.



[Fig.7] Female Officers' vs Without Experience Distribution Percentage by Occupation

### 1) At sea vs Ashore

Some graduates expressed a strong wish for opportunities to go to sea in merchant ship. Unfortunately, such opportunities are rare for women. They make an appeal difficult in finding ships to sail for their future career. The fact that their working circumstances are very isolated compared to shore is another barrier. Most people are vulnerable to loneliness and emotional isolation (Lim, 2015). Especially when they were placed on board as the only female member in the crew, they used to discourage their passion for working and overcoming social isolation and separation from their families and friends. Though this narrow gateway, more than 30 percent of the graduates were working at sea, while half of graduates in 2015(67th) and 2016(68th) went to sea as shown in [Fig. 2] and [Fig. 3].

### 2) Boarding period

According to [Fig. 4] and [Fig. 5], the time spent at sea is shown to be 2 to 3 years on average, with many graduates making long-term boarding over time. In addition, there are cases of re-boarding after a certain period of time after moving to shore. This seems to have served as an important career opportunity for reemployment in sea and shore, using the boarding experience, even after a career break as a woman. Also, some ex-seafarers have clear goals for the future career and filled the required short-term boarding period for that. As a typical example, some public officers (VTSO, PSCO etc.) were found to have a period of preparation ashore to meet additional requirements in addition to one to two years of boarding experience rather than a long term of boarding.

### 3) Occupational category

The occupational structure is largely divided into the Maritime and non-Maritime industry, and Maritime industry is divided into shipping companies, subordinate companies, heavy industry, public officers, education and research institutes. This is the occupational structure for 781 graduates who are qualified for IMO STCW. It differs from the occupational structure of Korean Industry. In this structure, workers for shipping companies include female seafarers, and subordinate companies mean agents, brokers and ship suppliers. Public officers include workers such as Korea Coast Guard, Maritime administrations, and Education and research institutes include high schools, universities and marine-related research institutes.

According to [Fig. 7], regardless of whether they have been on board or not, the jobs of the graduates are distributed evenly across the board. In the case of some shipping companies and subordinate companies, they put their boarding experience as a compulsory requirement or preferential condition, and it has been found that the scope of the work might be different but not significantly different. Public officers can apply for Coast guard and some maritime administration without a boarding experience, while PSCO, VTSO etc. require mandatory certain boarding experience.

A few ex-seafarers have the idea about the particular type of work they wish to do if they transfer to shore. The most popular shore jobs specified by them were those positions most familiar to them from their sea experience, rather than other jobs in the maritime sector they were less familiar with.

### 4) Barriers and limitations

These comments best encapsulate the challenges

and dilemmas the male and female officers are facing in respect of maritime career progression and mobility. Based on previous figures, it is clear that a bright and rewarding future exists in maritime-related shore employment if they decide to stay in maritime sector.

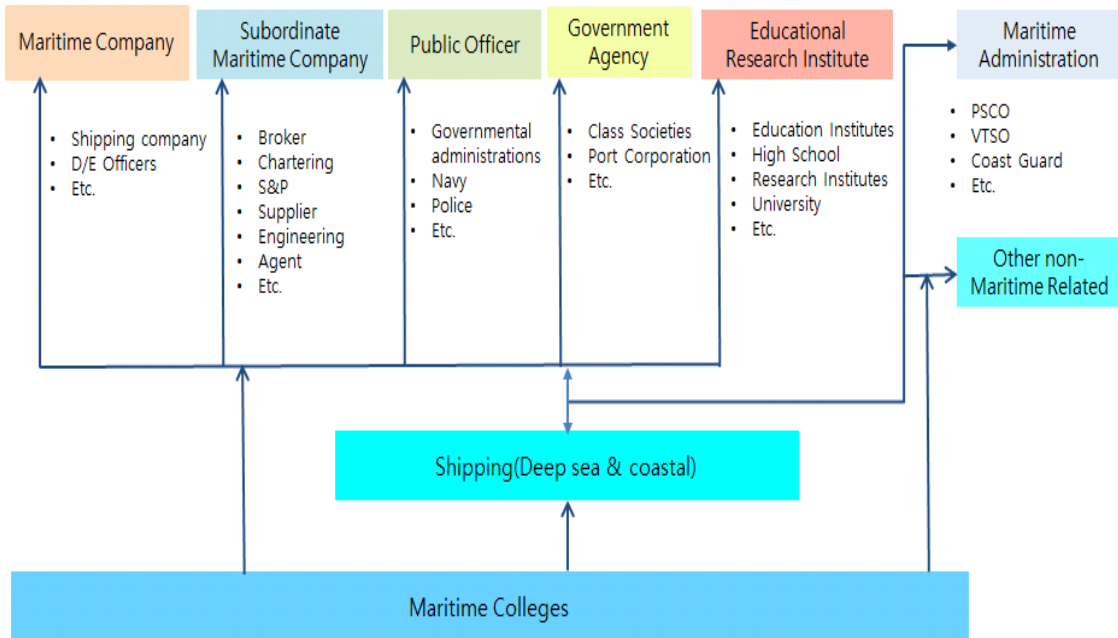
However, the lack of available information about suitable maritime jobs and about training courses that are available was mentioned by active and ex-seafarers. Seafarers were often very poorly informed about the functions of different shore-based occupations for which they were qualified because they had not come into contact with them during their sea service. All of the commercial recruitment companies announce their job vacancies through their web site. Although most of the organizations mentioned also use other forms of promotion, such as the maritime press

and attendance at conferences or exhibitions, by far the most important medium for them is through use of the internet, either a web site or dedicated social media sites or both.

### III. Suggestion

This paper would design Career Path Mapping for female officers as shown in [Fig. 8] below, based on a personal career path map for graduates of Korea Maritime and Ocean University from 1995 to 2017(ETF and ECSA, 2013). Based on this figure, they pointed out the following 4 findings, focusing on their survey comments.

- 1) How narrow to go to sea
- 2) How suitable to spend at sea
- 3) How difficult to get occupational information
- 4) How to design career path map



[Fig. 8] Career Path Map for Female Officers

To solve these problems, further studies could be suggest followings.

1) Upgrade Career Path Map

In the maritime sector, female officers, especially those with the qualifications demanded by IMO STCW, need to upgrade the required advanced and organized occupation structure. It is necessary to present occupational structure that reflects the demand of the shoreside shipping industry instead of pushing them into narrow at sea. In other words, it is necessary to explore areas where female seafarers can challenge in the midst of technological changes in the shipping industry, such as the fourth industrial revolution, and the changing job environment, and present not only in the existing frame, but also in various areas such as global ship management and international organizations. The policy direction for developing a map and applying it to the development of education courses will be intended to standardize education and training courses by readjusting the occupational system, which is intended to raise the level of education and vocational training to the level demanded by the industry, to resolve any mismatch in the job performance process, and to enhance their own competitiveness by improving the effectiveness of various human resources policies.

2) Optimized Curriculum

A specialized maritime college can be applicable to establish the new standard and to bridge the gap between industries that may arise in the course of employment. In relation to women's issues throughout the industry, the biggest part of the issue is the lack of human and material skills in the mid-to long-term female vocational training programs to develop the detailed career path map

as a curriculum. Moreover, it is highly likely that women in maritime sector have limited job training opportunities and access to them differently than other industries. In this regard, specific alternatives need to be developed for Career path map based training for educational institutes including university.

3) Long-term Work Force

It is necessary to check the level of awareness and understanding of the IMO STCW based training course of the training institutes that actually operated the officer's courses, and the seek new directions so that they can further upgrade the level of female training in response to changes in the occupational market in the future. In addition, there is a need to systematize the support process for the implementation of the vocational world in which experienced women who participate in training are required to analyze their understanding and desire for IMO STCW-based training courses. They will also need to check how vocational training can function in the future under the new qualification system and discuss the improvement of the women's vocational training process in the wake of the renewal of the qualification system.

## IV. Conclusion

According to Jeong(2013), female maritime officers should incorporate and maximize the positive career strengths revealed by the research and should also place increased emphasis on job opportunities at sea. It stressed that female reserve officers should try harder to become a "Seafarer" by appealing more to shipping companies and educational institutions.



However, there should be a debate on possible new maritime occupational structures involving the integration of at sea and ashore members within a management and operational structure that will maximize career path mobility and job opportunities for female seafarers. Through the survey, this research was identified 1) how narrow to go to sea, 2) how long spend the time at sea, 3) how to design career path map, and 4) how difficult to design career path map to be suitable for female seafarers. From 1995 to 2017, this paper presented their career path mapping to them, and it recognized the need for female seafarers to come up with measures to make inroads into the whole maritime sector, rather than focusing on going to the sea. Regardless of whether or not they have boarding experience, it is necessary to draw up a road map combining the comprehensive solution of educational institutions necessary for female officers to manage their long-term career paths and the step-by-step implementation plan to engage in their own maritime sector. In order to fulfill those, further studies require 1) advancement and upgrade of career path map for female seafarers, 2) Improvement of curriculum in maritime education institutes, and 3) Improvement of training process for long-term occupational life.

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