Seafarer contribution to Malaysia economy

Ahmad Shuha Bin Abu Samah
SEAFARER CONTRIBUTION TO MALAYSIA ECONOMY

By

AHMAD SHUHA BIN ABU SAMAH
Malaysia

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

MASTER OF SCIENCE

In
MARITIME AFFAIRS
(MARITIME EDUCATION AND TRAINING)

2018
DECLARATION

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views and, are not necessarily endorsed by the University.

Signature : Ahmad Shuha Bin Abu Samah
Date : 18th September 2018

Supervised by : Assoc. Prof. Momoko Kitada
Supervisor’s affiliation : Maritime Education and Training
World Maritime University
ACKNOWLEDGEMENT

Alhamdulillah. Thank you to Allah the Almighty thou had given me opportunity to pursue my education at World Maritime University (WMU). I would like to extend my gratitude to MISC Berhad for providing me with a scholarship back then and employing me for 17 years during my sea career.

To my mother Nazaam Suhaili binti Ramli and my late father Abu Samah bin Saaid, I greatly indebted to both of you in providing me with the early education and guiding me in my life and career. This whole journey had been a roller coaster ride with various surprises and many great opportunities along the way.

Heartfelt appreciation to my school friend and beloved wife; Siti Hajar Binti Mohd Jalil, my daughters Husna, Hanis, Hani and Hana which had sacrifices a lot and unnecessarily having many financial restrictions while I am away completing the postgraduate program. Without the constant support from all of you, this effort might be unsuccessful and surely will not be meaningful. Thank you to my extended families at home whom looking after my wife and my daughters while I am away during my sea career and now pursuing my education.

My deepest appreciation to all Maritime Education & Training specialization faculty members, specially to head of specialization Dr. Michael E. Manuel and my dissertation supervisor Dr. Momoko Kitada. With all MET faculties’ effort and commitment, my investment in education at WMU had proven to be a great decision which I am very proud of.

Thank you to all library staff whom assisting and guiding me in my researches, World Bistro owner and operator whom very generous to all students and Henrik Smith Resident staff which had been very helpful and responsive to students’ need.

Finally, my sincere gratitude and appreciation to International Maritime Organization (IMO), Government of Sweden, City of Malmo, Nippon Foundation and various Donors supporting WMU, its faculties and staff. Without them, my dream will not be possible. THANK YOU.
Title of dissertation: **Seafarer Contribution To Malaysia Economy**

Degree: **Master of Science**

This dissertation is a research on **how to produce more future seafarer** especially deck officer and ship engineer in Malaysia. It also promotes seafarer as a career of choice because of potential good contribution to the country maritime transport sector. Shipping is important to Malaysia, aspired by its government to turn the country into industrialized nation. It produces various goods for exports, participates in the world trades and becoming a transshipment hub for the region. The government also had a vision to further develop the country moving towards the modernization which later leads to higher income generation by its citizens. This to be achieve by developing its human capital and encouraging Malaysian to participate in economic activity such as the shipping industry within the country.

In depth **review of MSO 1952**, related Acts and Directives under purview of MARDEPT was carried out. The author looking for the possible gaps which can be pursue by the **MOT, MARDEPT and Malaysia ship owner** working towards producing more future **seafarer with valid COC** to participate in shipping. Not only the shipowner gets direct benefit from the seafarer, the whole Malaysia shipping industry will indirectly prosper as the spillover effect when the seafarer progress in their career becoming professionals working for the industry.

A questionnaire was used for collecting data for analysis. The concluding chapter highlighted contributions of seafarer to Malaysia **economy, social and**
Finally, several recommendations were put forward for consideration by the stakeholders for the benefit of the Malaysia shipping industry.

**KEYWORDS:** Trade, MSO 1952, Malaysia ship, MOT, MOE, MARDEPT, DSL, Shipping, Education, Training, Seafarer, COC, Trainee/cadet, Economy, Social, Environment.
# Table of Contents

DECLARATION ........................................................................................................................................ i

ACKNOWLEDGEMENT .......................................................................................................................... ii

ABSTRACT ................................................................................................................................................ iii

LIST OF FIGURES .................................................................................................................................... viii

LIST OF ABBREVIATIONS ....................................................................................................................... ix

CHAPTER 1 - Malaysia As Maritime Nation ......................................................................................... 1
  1.1. Introduction ................................................................................................................................... 1
  1.2. Problem Statement ....................................................................................................................... 2
  1.3. Research Objective ..................................................................................................................... 5
  1.4. Research Questions .................................................................................................................... 5
  1.5. Research Methodology ................................................................................................................ 5
  1.6. Potential Research Limitations and Ethics .................................................................................... 6
  1.7. Use of Words and Definitions ..................................................................................................... 6

CHAPTER 2 - Malaysia Economy and Trade ..................................................................................... 8
  2.1. Economy Development ............................................................................................................... 8
  2.2. Trade Development ..................................................................................................................... 9
  2.3. Trade Effort ................................................................................................................................ 11
  2.4. Productivity Improvement .......................................................................................................... 13
  2.5. Maritime Transportation ............................................................................................................. 14
  2.6. Maritime Dependence .................................................................................................................. 15
  2.7. Development of Malaysian Fleet ............................................................................................... 16
  2.8. Government Incentives ................................................................................................................. 19
Appendix 2 - Total number of licensed boats until July** 2018............................................. 71
Appendix 3 - List of ratified conventions by Malaysia................................................................. 72
Appendix 4 - Safe Manning Document / Certificate issued until July** 2018.............................. 74
Appendix 5 - Registered seafarer (new application) until July** 2018 ........................................ 75
Appendix 6 - Seafarer category and rank / sub-division on board Malaysia......................... 76
Appendix 7 - Mate Domestic (Restricted) course and participant until July** 2018 ............... 77
Appendix 8 - Seafarers Certificate of Competency (COC) oral exam. until July** 2018....... 78
Appendix 9 - Seafarers Certificate of Competency (COC) issued until July** 2018 ............. 79
Appendix 10 - Seafarers Certificate of Recognition (COR) Issued until July** 2018 ............. 80
Appendix 11 - Respondent feedback to research questionnaires............................................. 81
LIST OF FIGURES

Figure 1  Malaysian shipping industry overview  4
Figure 2  Total value of Malaysia export in 2017  10
Figure 3  Total value of Malaysia export in 2017 to ASEAN  12
Figure 4  Total number of registered ships in Malaysia  17
Figure 5  Total number of registered boats in Malaysia  18
Figure 6  Agencies under Ministry of Transport (MOT)  22
Figure 7  Organization chart for Industrial Control Division (ICD)  23
Figure 8  Safe manning certificate issued in Malaysia  28
Figure 9  Total number of seafarers registered in Malaysia  29
Figure 10  Domestic trade (officer) course participants  34
Figure 11  COC Oral examination conducted  35
Figure 12  Organization chart for Seafarer Affair and Port Division (SAPD)  37
Figure 13  COC Issuance in Malaysia  38
Figure 14  COR Issuance in Malaysia  39
Figure 15  Comparison between COC and COR issuance in Malaysia  40
Figure 16  Research questionnaire No.1  44
Figure 17  Research questionnaire No.2  44
Figure 18  Research questionnaire No.3  45
Figure 19  Research questionnaire No.4  46
Figure 20  Research questionnaire No.5  47
Figure 21  Research questionnaire No.6  49
# LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>APEC</td>
<td>Asia Pacific Economy Cooperation</td>
</tr>
<tr>
<td>ASA</td>
<td>ASEAN Shipowner Association</td>
</tr>
<tr>
<td>ASEAN</td>
<td>Association of South East Asian Nation</td>
</tr>
<tr>
<td>CMMF</td>
<td>Central Mercantile Marine Fund</td>
</tr>
<tr>
<td>COC</td>
<td>Certificate of Competency</td>
</tr>
<tr>
<td>COR</td>
<td>Certificate of Recognition</td>
</tr>
<tr>
<td>CPTPP</td>
<td>Comprehensive and Progressive Trans-Pacific Partnership</td>
</tr>
<tr>
<td>CSR</td>
<td>Corporate Social Responsibility</td>
</tr>
<tr>
<td>DCL</td>
<td>DSL Consent Letter</td>
</tr>
<tr>
<td>DSL</td>
<td>Domestic Shipping License</td>
</tr>
<tr>
<td>DSLB</td>
<td>Domestic Shipping License Board</td>
</tr>
<tr>
<td>DWT</td>
<td>Dead Weight Tonnage</td>
</tr>
<tr>
<td>E&amp;E</td>
<td>Electrical and Electronic</td>
</tr>
<tr>
<td>FDI</td>
<td>Foreign Direct Investment</td>
</tr>
<tr>
<td>FTA</td>
<td>Free Trade Area</td>
</tr>
<tr>
<td>FTAAP</td>
<td>Free Trade Association Asia Pacific</td>
</tr>
<tr>
<td>GDP</td>
<td>Growth Domestic Product</td>
</tr>
<tr>
<td>ICD</td>
<td>Industrial Control Division</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
</tr>
<tr>
<td>IMO</td>
<td>International Maritime Organization</td>
</tr>
<tr>
<td>ISPS</td>
<td>International Ship and Port Security</td>
</tr>
<tr>
<td>LNG</td>
<td>Liquefied Natural Gas</td>
</tr>
<tr>
<td>MARDEPT</td>
<td>Marine Department Malaysia</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Form</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>MASA</td>
<td>Malaysia Shipowner Association</td>
</tr>
<tr>
<td>METI</td>
<td>Maritime Education and Training Institute</td>
</tr>
<tr>
<td>MIDA</td>
<td>Malaysia International Development Authority</td>
</tr>
<tr>
<td>MISR</td>
<td>Malaysia International Ship Registry</td>
</tr>
<tr>
<td>MITI</td>
<td>Malaysia International Trade and Industry</td>
</tr>
<tr>
<td>MLC</td>
<td>Maritime Labor Convention</td>
</tr>
<tr>
<td>MOE</td>
<td>Ministry of Education</td>
</tr>
<tr>
<td>MOT</td>
<td>Ministry of Transport</td>
</tr>
<tr>
<td>MPB</td>
<td>Malaysia Productivity Blueprint</td>
</tr>
<tr>
<td>MSMP</td>
<td>Malaysia Shipping Master Plan</td>
</tr>
<tr>
<td>MSO</td>
<td>Merchant Shipping Ordinance</td>
</tr>
<tr>
<td>NMIT</td>
<td>Netherland Maritime Institute of Technology</td>
</tr>
<tr>
<td>OSV</td>
<td>offshore Support Vessel</td>
</tr>
<tr>
<td>O&amp;G</td>
<td>Oil &amp; Gas</td>
</tr>
<tr>
<td>SEA</td>
<td>South East Asia</td>
</tr>
<tr>
<td>STA</td>
<td>Strategic Trade Act</td>
</tr>
<tr>
<td>TPPA</td>
<td>Trans-Pacific Partnership Agreement</td>
</tr>
<tr>
<td>UMT</td>
<td>University of Malaysia Terengganu</td>
</tr>
<tr>
<td>UNCTAD</td>
<td>United Nation Conference of Trade and Development</td>
</tr>
<tr>
<td>UTM</td>
<td>Universiti Teknologi Malaysia</td>
</tr>
<tr>
<td>WEF</td>
<td>World Economic Forum</td>
</tr>
<tr>
<td>WTO</td>
<td>World Trade Organization</td>
</tr>
<tr>
<td>10MP</td>
<td>Tenth Malaysia Plan</td>
</tr>
<tr>
<td>11MP</td>
<td>Eleventh Malaysia Plan</td>
</tr>
</tbody>
</table>
CHAPTER 1 - Malaysia As Maritime Nation

1.1. Introduction

Malaysia is a coastal country largely surrounded by sea, and its shipping industry had continuously evolved from the Malacca Sultanate era founded between 1344 – 1414 years ago (Braginsky, 2013) Malacca Straits had always been an important shipping lane for the movement of cargo for the past decades (UNCTAD/RMT, 2017, p. 101). The shipping activities in Malaysia can be classified into 3 major categories which is:

(i) The domestic shipping is defined as vessels suitable for inland navigation, but which are authorized to navigate at sea (mixed seagoing and inland waterways vessels) are included. This category excludes harbor craft, seaport lighters and seaport tugs, ferries, fishery vessels, dredgers, vessels performing hydraulic work and vessels used exclusively for storage, floating workshops, houseboats and pleasure craft (INLAND WATERWAYS TRANSPORT (IWT) VESSEL, 2003).

(ii) The near coastal shipping or short sea shipping (known in Europe), marine highway (known in United States) is referring to the historical terms of coastal trade, which encompass the movement of cargo and passengers mainly by sea along a coast, without crossing an ocean (Short Sea Shipping Definition, 2018).

(iii) The international shipping also known as ‘deep-sea shipping’, 'international voyage' or 'ocean shipping' refers to maritime traffic movement of cargo and passengers mainly by sea that crosses the oceans from one country to another (Merchant Shipping Ordinance (MSO) 1952, Ordinance 70, 2010, p. 33).

The different types of shipping activities in Malaysia were influence by the national Ministry of Transport (MOT) policy, cabotage law policy, seafarer’s
availability, financing facility and tax incentive (Othman, 2011, pp. 73-74) These had led to numerous developments of shipping and maritime assets together with creations of various jobs (UNCTAD/RMT, 2017). For the past few years, the industry had fall back and facing a continuous decline in revenue. To be competitive, we need to formulate strategies and action plans to address the decline in Malaysian ship¹, increasing dependence on foreign ships, multinational seafarers, and maritime services (MIMA, 2017).

1.2. Problem Statement

According to Malaysia Shipping Master Plan (MSMP) 2017 to 2022, “Malaysia shipping industry² is facing a decline with the steady reduction in registered shipping tonnage and an increasing numbers of shipping related businesses were in serious distress. The Malaysia Shipowners’ Association (MASA) has attributed this to the weak global shipping market. The lack of early pre-emptive steps emphasizing on credit availability and legislative measures needed to mitigate domestic shipping vulnerabilities had worsen the situation (MIMA, 2017). This had resulted to a continuation of the nation’s fiscal deficit, as shippers in Malaysia increasingly depend on foreign ships while Malaysia ship owners decided to reflag their ship into foreign open registry (MIMA, 2017). Besides, those experienced ex-seafarers and maritime professionals started to leave their jobs in the country looking for better job offerings, especially in Singapore. These poses major strategic losses through tax income and possible implications to national security in time of conflict.

Development and expansion of shipping industry will need many professionals and suitable talents supporting the activities directly or indirectly (MIMA, 2017). Human resource development requires time and capital investment since the after effect can only be seen several years down the road of committing to such ideas. Seafarer play important role in shipping since with the right experiences, they usually

¹ Malaysia ship referred as ship registered in Malaysia according to MSO 1952
² Shipping industry referring to figure 1, as define under Malaysia Shipping Master Plan (MSMP) 2017-2022
venture out leaving the sea career into more diverse sectoral related activities and services which not only related to ship operation.

Qualified Malaysian seafarer onboard ships had greatly reduced in numbers and Malaysia ship owner now highly depends on multinational crew to operate their ships. This is evidence from the issuance of higher numbers of Certificate of Recognition (COR) by the Marine Department of Malaysia (MARDEPT). Unfortunately, ships need to meet their minimum manning requirement to trade and the only way the shipowner and ship manager can comply with this regulation is by hiring multinational crew regardless the adverse effect towards the development of seafarers in the country. Malaysia shipping industry supports a multitude of ancillary services and by-activities. The ship building, ship repair industry, maritime legal services and ports operation rely on the well-being of the shipping industry (figure 1) to sustain their business and possibly expand for the benefit of the nation (MIGHT, 2015).

The influx of foreign owned offshore support vessels (OSV) on Malaysian waters from the effect of oil companies demanding higher technical specifications had resulted in less Malaysia ship OSV qualified to participate in the oil and gas (O&G) activities in Malaysia territorial water. This situation led to the loss of employment opportunities and in a long term reducing the number of experienced Malaysian seafarers needed in the future. This indirectly poses a significant loss of potential human capability to support the nation aspiration becoming maritime nation providing shipping and maritime services to selected markets and regions.
The lack of business competitiveness in shipping had caused Malaysian shipowners to re-flag their ships into foreign open registry\(^3\). While doing so, ship owners had no more obligations to support the national aspiration and development of future seafarers. This includes other human capital needed to improve the shipping in the country (MIMA, 2017). Malaysia has lost significant registered deadweight tonnage (DWT) which needed to influence decision making at international arena, especially their representation in International Maritime Organization (IMO). As Malaysia ship owners outsource their ship management to foreign companies, more local talent development opportunities will eventually be lost.

\(^3\) Also known as flag of convenience.
1.3. Research Objective

To find ways on how to produce more seafarers with valid Certificate of Competency (COC)\(^4\) in Malaysia and to identify constructive solution for better implementation of current policies\(^5\) with a view that seafarer is important to Malaysia economy. Additionally, to present a direction where MOT can pursue, encouraging shipowner engaged in domestic trade to provide more training opportunity onboard their ship for trainee/cadet\(^6\). Lastly to evaluate barriers preventing graduates from non-maritime universities and colleges from getting COC if they decided and interested to become seafarers. Finally, to analyze how seafarers holding COC are viewed by the public and private sectors in Malaysia.

1.4. Research Questions

1. How is it possible to produce more seafarer in Malaysia with valid COC and retaining them in shipping and maritime?
2. How can MARDEPT ensure more trainee/cadet able to access training opportunity onboard ship in Malaysia water?
3. What negative impact can be anticipated if seafarers with valid COC in Malaysia are not produced?

1.5. Research Methodology

Qualitative and quantitative approaches will be used as a research methodology. Various literatures will be reviewed such as national\(^7\) economic and education policies, national and maritime education systems, national education and shipping laws and international convention\(^8\) related to seafarer education and training to gather more information on the research topic. To achieve the research objectives, 

\(^4\) Professional license for seafarer
\(^5\) Ministry of International Trade & Industry, Ministry of Transport and Ministry of Education.
\(^6\) Referred as tertiary level education students.
\(^7\) Malaya Federation 1957 and later known as Malaysia in 1963.
\(^8\) International convention under the International Maritime Organization (IMO).
questionnaires were prepared while further focal contacts was established in Malaysia. The research will be conducted by sending out specific and approved questionnaires using English as communication medium to several pre-determined target groups in Malaysia such as trainee/cadets, university students, active seafarers and lastly shore-based maritime professionals in private and public sectors. From the responses received, data obtained will be analyzed for discussions, drawing final conclusion and recommendations.

1.6. Potential Research Limitations and Ethics

This research focused on seafarer contribution to Malaysia economy. The limiting factors were identified as needing large size of primary data from survey questionnaires, limited financial resources for multiple visits to several organizations in Malaysia for discussion requesting their assistance distributing questionnaires to targeted groups and strict timeframe for primary data collection. These three factors greatly affect the accuracy, direction and outcome of the research.

Apart from that, participants in decision-making positions whom responded to research questionnaires were assumed having a vast knowledge about the shipping industry in Malaysia, and willing to share their insight. They are honest in answering the questionnaires and there are enough respondents participating in the research to draw appropriate discussion and conclusions.

1.7. Use of Words and Definitions

**Competence:** The ability to do something successfully or efficiently.

**Economy:** The state of a country or region in terms of the production and consumption of goods and services and the supply of money.

**Education:** The process of receiving or giving systematic instruction, especially at a school or university.

---

9 Experts in shipping industry.
Government: The group of people with the authority to govern a country or state; a particular ministry in office.

Maritime: Connected with the sea, especially in relation to seaborne trade or naval matters.

Policy: A course or principle of action adopted or proposed by an organization or individual.

Seafarer: A person who regularly travels by sea or work at sea; a sailor.

Shipping: Ships considered collectively, especially those in a particular area or belonging to a particular country.

Training: The action of teaching a person a particular skill or type of behavior.

(English Oxford Living Dictionaries, 2018)
CHAPTER 2 - Malaysia Economy and Trade

2.1. Economy Development

Malaysia is in the south east of Asia continent with 29.9 million populations (UNU-WIDER/WIID3.4, 2017) with land area of 328 550 km² (UNCTAD/RMT, 2017). Malaysia had made a great effort to transform itself to become high income nation (UNU-WIDER/WIID3.4, 2017) by participating in trades and services needed by the world markets. Malaysia GDP in 2017 stands at USD 314 486 million with a growth of 5.9% (UNCTAD/RMT, 2017). Manufactured products were the country highest export at 67% followed by fuels at 15% Malaysia biggest trading partners is Singapore and followed by China, United State of America, Japan and lastly Thailand (UNCTAD/RMT, 2017). From 2005 until 2017, manufactured product exports had consistently increased at a steady rate and created positive trade balance for the country at USD 22 690 million (UNCTAD/RMT, 2017).

For year 2017, the manufactured product exports growth rate showed a double-digit number at 14.9% (UNCTAD/RMT, 2017). It was predicted that the growth will be around 5.3% in 2018 and 2019 (Peter, 2018). In 2018, Malaysia had agreed to participate in Comprehensive and Progressive Agreement for the Trans-Pacific Partnership (CPTPP) (MITI, 2008) to boost exports and free trades movement between the eleven participating Member States. This confirmed Malaysia is a very reliable business partner, having dynamic industrial sectors and robust consumer market which suitable for foreign investment, underpinned by great human resources (UNCTAD/RMT, 2017). This was achieved by continuous evolving education (The process of receiving or giving systematic instruction, especially at a school or university) and training (The action of teaching a person a particular skill or type of
behavior) system, developing quality workforce to be among the best in the region (MIDA, 2018a).

2.2. Trade Development

Malaysia total trade valued at RM 1774 trillion (+19.4%) with trade balance of RM 97.25 Billion (+10.3%). The country value of export was RM 935.39 billion (+18.9%) while import stand at RM 838.14 billion (+19.9%) (MITI, 2018) from the previous year. Based on figure 2, Malaysia was ranked as 25th largest exporter and holding position of 25th in the group of largest trading nations (MITI, 2018). Growth in exports were mainly driven by manufactured products valued at RM 767.64 billion which shown an increase of 18.9% which reflected to 82.1% of country total exports (MITI, 2018). According to UNCTAD trade and development report 2017, world seaborne trade volumes grew by 2.6% in 2016, increasing from 1.8% in 2015. Although remained positive, the growth rate is less than the previous historical average of 3% recorded over the past four decades (UNCTAD/TDR, 2017, p. 7).
Since year 2000, the world economy had been focusing on globalization and information technology revolution. This is good for the emerging and developing countries as they participate in the expansion and discourse of trade’s liberalization (UNCTAD/TDR, 2017, p. v). Trend is moving in upward direction, and this allow developing and emerging country access to better market for their manufactured products and services (MITI, 2008).

The world trade had shown trends that goods and products consumptions were dominated by three biggest markets which is North America, European Union and the Middle East. Global trade had shown signs of recovery in early 2017. The upturn is modest, and the strength is low but consistent (UNCTAD/TDR, 2017, p. 6). Malaysia had been putting many efforts towards strengthening and improving the export capabilities and increasing the country market share in global trades (MITI, 2008). Foreign Direct Investment (FDI) played an important role leveraging industrialization and manufacturing capabilities in the country. Malaysia had strived
continuously to maintain its attractiveness as a better FDI destination seen by current and future potential investors (MITI, 2010).

Technological development had been steadily moving up in tandem with globalization and trade liberalization (MITI, 2010). World economy has transformed itself towards more technology based and knowledge-based to create greener product with lower carbon footprint. This provide an opportunity to Malaysia developing and offering this kind of products through more research and development (MITI, 2008). Development of human capital is a major factor to achieve this aspiration. The government (The group of people with the authority to govern a country or state; a particular ministry in office) acknowledge that more cooperation and integration between academician and the industry is needed to ensure curriculum development is suitable and moving towards the need of the industrialization (MITI, 2008).

Malaysia had been providing good business environment to operate which is conducive and competitive enabling companies focusing more in developing quality products efficiently, thus creating higher productivity (MITI, 2008). Various policies, legal matters and infrastructures were review and constructive actions were taken to improve many situations towards development of trade liberalization and participation in the world economy (The state of a country or region in terms of the production and consumption of goods and services and the supply of money). Information and Communication Technology (ICT) infrastructure was upgraded as it is an important tool for accessing the world market, progressing in research and development, increasing the level of manufacturing automations and developing more human capital needed through education and training (MITI, 2010).

2.3. Trade Effort

To facilitate more international trades, Malaysia amended the Strategic Trade Act (STA) in 2017. This encouraged companies to register under STA, approving more imports and exports permit under the STA and evaluating more companies to verify compliance with the STA (MITI, 2018). ASEAN remain the key trading partner
for Malaysia with total trades valued at RM 487.42 billion in 2017, an increase of 21%. ASEAN took up 27.5% of total trades with Malaysia (MITI, 2018) and this encourage efforts in regional shipping (Ships considered collectively, especially those in a particular area or belonging to a particular country) activities to remove several trade barriers (cabotage policy) within ASEAN (Ezeoke, 2017). In ASEAN, Singapore was Malaysia largest trading partner (figure 3) with total trade stand at RM 228.31 billion, followed by Thailand (RM 98.69 billion), Indonesia (RM 72.63 billion), Vietnam (RM 50.24 billion) and the Philippines (RM 25.51 billion) (MITI, 2018). As the trade war increases between China and the US, ASEAN will probably reap the benefits of higher transshipment of containerized cargo (Peter, 2018).


Malaysia participated in the Asia Pacific Economy Cooperation (APEC) to enhance its trades between the Asia Pacific countries. APEC primary goal was to support sustainable economic growth in the Asia-Pacific region through trades and
investments liberalization, business facilitations and economic-technical cooperation’s (MITI, 2018). Malaysia had benefited by becoming an APEC member, and this was reflected at 76.8% of Malaysia total trades, valued at USD 317 billion between the organization Member States. Total FDI inflow to Malaysia from the Member States was 57.1% or USD 81.7 billion as in 2017. Malaysia will benefit further when APEC start working towards establishing Free Trade Association in the Asia Pacific (FTAAP) (MITI, 2018).

The country had been aggressively participating in World Trade Organization (WTO) meetings and forums to raise the country profile and advancing in more trades and FDI’s (MITI, 2018). These had complemented Malaysia economic agendas while providing the policies (A course or principle of action adopted or proposed by an organization or individual) maker insights through World Economic Forum (WEF) prestigious platforms (MITI, 2018). More Free Trade Association (FTA) agreement is currently under negotiation with seven bi-lateral agreement had been concluded between Malaysia and Turkey, Japan, Pakistan, New Zealand, India, Chile and Australia. Being part of ASEAN, Malaysia also indirectly benefited from regional FTA concluded between the organization with other countries especially with People Republic of China and Republic of South Korea (MITI, 2018). Malaysia total trades with its FTAs partners valued at RM 1,122.73 billion in 2017, with exports valued at RM 590.15 billion while imports totaled RM 532.57 billion. FTA partner countries contributed 63.1% of Malaysia’s total exports in 2017. The main exports to FTA partner countries in 2017 were electrical & electronic (E&E) products, petroleum products, chemical products and Liquefied Natural Gas (LNG) (MITI, 2008).

2.4. Productivity Improvement

According to Malaysia Productivity Blueprint (MPB) launched in May 2017 (MEA, 2017), there are five strategic efforts to address the challenges influencing productivity growth across all sectors. These includes building talented workforce, driving digitalization through optimizing new technology, developing competitive incentive structure, building robust business environment ecosystem and emphasizing productivity mindset through good governance (MEA, 2017, p. 3).
Government committed in reducing the unnecessary regulatory burden for FDI and trades facilitation to increase the competitiveness of the country industrialization (MEA, 2017, p. 4). It was done by identifying more economic friendly tools for achieving regulatory ends without slowing economic uptrend momentum, innovation, job creation and competitiveness. A committee was set up for MPB implementation for organizing forums to identify possible solutions, reviewing regulations and regulatory processes; and providing recommendations for improvement (MEA, 2017, p. 21) to the ministry and other stakeholders.

2.5. Maritime Transportation

The Malaysia Government had identified five strategic initiatives to boost long term industrial viability of the marine transport sub-sector which is important for the country maritime (Connected with the sea, especially in relation to seaborne trade or naval matters) dependence. It includes enhancing domestic capabilities in the building of smaller vessels, ship repairing and maintenance activities; intensifying the upgrading of skills and engineering capabilities; strengthening infrastructure and support facilities; strengthening the institutional support; and expanding activities in the fabrication of offshore structures (MITI, 2006, p. 371).

The above initiatives mostly focus on building the capabilities, expertise and facilities which have already been developed apart from encouraging facilities upgrading through the installation of equipment with advanced technologies and the enhancement of the competency (The ability to do something successfully or efficiently) of existing skilled personnel. More integrated efforts are being put to develop better technical programs to upgrade worker technical skills, promoting the engagement of experts in existing training institutes, collaborating with successful shipbuilder in various countries, upgrading and transferring skills in marine transport equipment technologies and promoting the development of new skills in the design and fabrication of offshore production platforms (MITI, 2006, p. 372).
2.6. Maritime Dependence

Maritime transport continues to be the main mode of transport for the imports and exports for developing country such as Malaysia (UNCTAD/RMT, 2017, p. 9). The geographical position of Malaysia implies strong shipping dependence (UNCTAD/RMT, 2017, p. 111). According to UNCTAD, Malaysia would be among strategic maritime nations because of Malacca Straits located in the middle of important shipping route and its capability as regional transshipment hub for the liner services (UNCTAD/RMT, 2017, p. 102).

The development of the Malaysian shipping is the result of a national policy which emphasizes a greater self-sufficient utilizing local service. In line with this, the government felt a need to promote the growth of a national merchant fleet. As a result, the Malaysia ship fleet continues to expand, according to the statistics compiled by UNCTAD. From a total of 8,708 (thousand DWT) in 2005, the local fleet has grown to 9,841 (thousand DWT) or +13%, by 2017 (UNCTADSTAT, 2018). The country share about 0.528% of the total world merchant fleet as of 2017 (UNCTADSTAT, 2018). This is significant and important for seafarer (A person who regularly travels by sea or work at sea; a sailor) career in the country since fleet expansion will create more jobs opportunity. As the demand of seafarer especially operational and management level in the world fleet increase (Drewry, 2018, p. 3), METI should take this opportunity to train and produce more competent ship officer and engineer. With the support of shipowner through allocation of training expenditures (Drewry, 2018, p. 11), this is possible and directly benefitting them and the economy.

Limitations to domestic cabotage shipping can lead to unnecessary inefficiencies and loss of shipping connectivity (UNCTAD/RMT, 2017, p. 111). The lack of transport options and a monopoly of shipping industry has led to consumers paying the price of a cabotage policy (UNCTAD/RMT, 2017, p. 109). In 2009, under the gazette of P.U. (B) 179 (Merchant Shipping Ordinance (MSO) 1952, Ordinance 70, P.U. (B) 179, 2009), Malaysia allowed international shipping lines to participate in domestic trade for carrying cargo between Peninsular to Sabah and Sarawak (Merchant Shipping Ordinance (MSO) 1952, Ordinance 70, 2010, p. 73). This effort
targeted to enhance both the competitiveness of a Malaysia seaports and the access of importers and exporters to domestic and international shipping services (UNCTAD/RMT, 2017, p. 111).

Malaysia is one of the important transshipment hubs in South East Asia (SEA) for Asia- Europe Liner services together with Singapore for the movement of containers (UNCTAD/RMT, 2017, p. 102). Government had played a role in supporting ports in adapting to the new situation, including through policy work and other facilitative arrangements that would support the improvement of their services (MITI, 2018). Government also encouraged Malaysia ship to participate more in the regional and international trades by creating second registry in 2006 known as Malaysia International Ship Registry (MISR) in accordance to MSO 1952, Part IIC (MISR, n.d.). Better maritime transportation system for the country will enable exporters to access more markets, in-line with government intention to increase trades through MITI initiatives (MITI, 2018).

2.7. **Development of Malaysian Fleet**

The Malaysia fleet is composed of 1,690 ships in 2017. This total number involved all kinds of ships and represent a total figure of 10,058,653 DWT which shown an increase of 4.7% from 2016 (UNCTAD/RMT, 2017, p. 32). The DWT of the merchant fleet has been on a declining trend for the past 11 years (figure 4) and valued at USD 10,193 million as at 2017 (propelled seagoing merchant ships of 1,000 gross tons and above) (UNCTAD/RMT, 2017, p. 33). Malaysia had been in the top 25 position in term of leading flags of registration by value in 2017 (UNCTAD/RMT, 2017, p. 32).
As in the grouping ownership of world fleet in 2017, Malaysia was ranked at 23 according to DWT whereby 644 of ships owned by the country registry reflect to 18,351,283 DWT (UNCTAD/RMT, 2017, p. 28). According to UNCTAD, world fleet by principal vessel type from 1980–2017 (Percentage share of DWT) had seen an increase in all type of ships except general cargo ship which is declining (UNCTAD/RMT, 2017, p. 24).
Looking at figures 4 and 5, Malaysia ship numbers had been in-line and reflecting the world fleet growth which had been decelerating and decreasing for the past few years. The world commercial shipping fleet grew only by 3.15% in 2016, compared to 3.5% in 2015. Global overcapacity and downward pressure on freight rates (UNCTAD/RMT, 2017, p. 21) had caused a mixed reaction to Malaysia economy. Export cost is lower but with FTA and cabotage policy in place, this may cause more Malaysia ship owner to be out of business and potentially scrapping their ships in relation to basic micro-economics concept; variable and fix cost effect in a perfect competition environment (Ma, 2016).

UNCTAD data also confirms a continued trend of industry consolidation. Seaborne trade remains strategically economic importance, as it accounts for over 80% of world merchandise trade by volume and more than 70% of its total value (UNCTAD/RMT, 2017, p. 16). Unfortunately, strong correction of global trading
activities trend might not be somehow possible soon due to concerns over potential rise of trade protectionism especially in the North America and the failure of regional trade agreements such as the Trans-Pacific Partnership Agreement (TPPA) (UNCTAD/RMT, 2017, p. 15). An excerpt from UNCTAD Review of Maritime Transport report (UNCTAD/RMT) 2017:

“According to UNCTAD projections, world GDP will expand by 2.6% in 2017, up from 2.2% in 2016. This growth is not expected to reflect a sustained recovery in global demand, but rather factors such as the end of the e-stocking cycle in the United States; ...Projected growth in the least developed countries (4.4%) remains below the Sustainable Development Goal target. In line with GDP growth, world merchandise trade volumes are also expected to expand: The World Trade Organization forecasts an increase of 2.4% in 2017, up from 1.9% in 2016. Projected growth is, however, placed within a range of 1.8% to 3.6%.” (UNCTAD/RMT, 2017, p. 14).

2.8. Government Incentives

Malaysia shipping is expected to grow further with the continuous incentive given by the government (Khalid, Ang and Hasan, 2011). Given the importance of the shipping, the government realized that this sector needs to be assisted while not being counterproductive against all the FTAs and bilateral trade agreement within ASEAN (MITI, 2018) and globally (MITI, 2006, pp. 24-27). As other maritime transport sub-sector such as O&G continue to grow, it requires more sophisticated support and transportation ships to enable it executing task and services efficiently (Khalid et al., 2011).

The government had set up several funds to assist Malaysia ship owner to tap the potential of shipping under the cabotage policy (Khalid et al., 2011). Unfortunately, these initiatives still unable to boost trades with Malaysia ship participation within certain demographic parts of the country, thus the government had to choose between protecting national shipping line from foreign competition or increasing trade
competitiveness by improving connectivity and reducing trade costs (UNCTAD/RMT, 2017, p. x) (Merchant Shipping Ordinance (MSO) 1952, Ordinance 70, P.U. (B) 179, 2009).

The development of human capital is important for the shipping and maritime to progress in the country. Seafarers were incentives by tax relief under Income Tax Act, Section 54(A) for income derived onboard Malaysia ship engage in trades plying international voyage (Income Tax Act 1967 (Act 53) Sect. 54A, 2006). This showed government valued the contribution of seafarer and expecting further supports from other stakeholders to increase the number of future seafarers taking part in shipping activities in the country.
CHAPTER 3 - Malaysia Maritime Transport Sector

3.1. Marine Department of Malaysia

In the Ministry of Transport (MOT), the responsible unit in charge of all matter related to maritime transport sector is the Maritime Division. It looks after The Malaysian Ports; Shipping Services; Maritime Security; Domestic Shipping license (eDSL); Convention & International; Human Capital Development; and Acts/Ordinances/The Gazette (MOT, 2018a).

According to figure 6, Marine Department of Malaysia (MARDEPT) is an agency under the MOT Malaysia (MOT, 2018b). It directly responsible for all matter related to maritime security and safety of navigation (SOLAS 2002 Conference res.2 Adoption of the International Code for the Security of Ships and of Port Facilities, 2002) in Malaysian water (MARDEPT, 2018a). Based on figure 7, Industrial Control Division (ICD) is responsible in all matters concerning ship registry management, ship safety management, ship standard management & accreditation and lastly port facilities & port areas security management. MARDEPT was led by Director General of Marine whom oversee all its activities (MARDEPT, 2018a).
The objectives of ICD are to ensure Malaysian ships comply with the minimum safety and security standards as stipulated in various national laws and international conventions. This was done by having 4 separate units looking into specific task prescribed by MARDEPT (MARDEPT, 2018a). Ship Registry Unit responsible for ensuring efficient management of ships registry in accordance with the rules and regulations stipulated under the Merchant Shipping Ordinance (MSO) 1952 and all related Acts in force as well as complying with the instructions given by the Registrar General of Malaysia Ship (MARDEPT, 2018a).
Ship Accreditation Unit responsible for ensuring ship seaworthiness in compliance with safety standards and environmental care as prescribed under the national regulations and international conventions (MARDEPT, 2018a). International Ship and Port facility Security (ISPS) Code Unit responsible for ensuring the standards of area and port facilities operating in Malaysia comply with resolutions under Chapter XI-2 of SOLAS Convention, 1974, as amended (SOLAS 2002 Conference res.2 Adoption of the International Code for the Security of Ships and of Port Facilities, 2002) and MSO 1952. Lastly Ship Safety Management Unit is responsible for ensuring ships and shipping management companies complied with the provisions under Chapter IX SOLAS Convention, 1974, as amended (SOLAS 2002 Conference res.2 Adoption of the International Code for the Security of Ships and of Port Facilities, 2002) through annual audits. It also manages the marine accidents investigation pursuant to MSO 1952 and International Conventions (MARDEPT, 2018a).
3.2. Merchant Shipping Ordinance (MSO) 1952

MSO 1952 (Merchant Shipping Ordinance (MSO) 1952, Ordinance 70, 2010) is the main law that governs shipping activities in Malaysia. The Act was amended several times and the latest amendment was to include the Maritime Labor Convention (MLC) ratified in 2016 (Merchant Shipping Ordinance (Amendment), Act 1519, 2016). This law applies to Malaysia ships, licensed boats, and other merchant ships navigating in federal territorial waters (MARDEPT, 2018a). The MSO 1952 covers issues ranging from Malaysian ship registry to seafarer affairs (Merchant Shipping Ordinance (Amendment), Act 1519, 2016) and includes various other shipping and maritime related activities such as port management, pilotage, wreckage, and salvage operation (Merchant Shipping Ordinance (MSO) 1952, Ordinance 70, 2010).

Under Subsidiary Laws, several Acts were enacted for specific purposes such as the Merchant Shipping (Amendment) Act 1998, Merchant Shipping (Central Mercantile Marine Fund) Rules 1984, Merchant Shipping (Near Coastal Trade) Voyage Limit Rules in 1994, and Domestic Shipping Licensing Board (DSLB) (MARDEPT, 2018b). Other related laws under MARDEPT’s purview were listed in Appendix 3 (MARDEPT, 2018b).

3.3. Malaysia Ship Registration

Malaysia managed two types of vessel registry. The ordinary registry admitted ships owned by citizens or companies with majority Malaysian ownership (Merchant Shipping Ordinance (MSO) 1952, Ordinance 70, 2010, pp. 42-45), while the international registry is open to ships owned by foreign companies established in Malaysia. Under the MSO 1952, only citizens allowed for registration of Malaysia ships. The Malaysian International Ship Registry (MISR) was created in 2006, pursuant to Section 66B (1) of the MSO 1952 (Merchant Shipping Ordinance (MSO) 1952, Ordinance 70, 2010, pp. 77-80), ships owned by a company incorporated and having

---

10 Only Acts related to this dissertation were mentioned
an office in Malaysia but with majority foreign shareholders can be register to the international registry (Ezeoke, 2017) (MISR, n.d.).

3.4. Cabotage Policy

The Malaysian government had implemented a policy for the transportation of goods within domestic trades reserving it for Malaysia ship only. Domestic shipping as defined under the MSO 1952 means the shipment of goods or passenger (Merchant Shipping Ordinance (MSO) 1952, Ordinance 70, 2010, pp. 30-42). Cabotage policy was implemented on 1st January 1980 by amending the MSO 1952. This policy was important and needed to develop local shipping company due to small number of Malaysia ship playing the coastal routes which deem by the government, important for the country development (MASA, 2016a). With the amendment of this law, the government created and appointed DSLB consisting several stakeholders as member to the Board for regulating and controlling license of ships engaged in domestic trade in Malaysian water (MOT, 2018b).

The enforcement of cabotage policy jurisdiction goes well beyond thirty miles from the coast because ‘domestic shipping’ as defined in Section 65A of the MSO 1952 (MSO 1952 [Ord. 70/1952], 2010, 65A) includes services from any port or place in Malaysia to any place in the Exclusive Economic Zone (EEZ) (Ezeoke, 2017). The cabotage policy had result in more training and development of Malaysians in technical, professional and commercial aspects of shipping (MASA, 2016a). The government aware seafarer career will have a good spillover effect to the shipping because their career progression and development may have an impact to the economy, social and environment aspect of the country.

3.5. Domestic Shipping License DSL)

Maritime Division of MOT is responsible for formulating policies relating to shipping (MOT, 2018c). They issued Domestic Shipping Licenses (DSL) to Malaysia ship engaging in domestic trade through DSLB (MOT, 2018c). DSLB provisions require crew on board Malaysia ship to be at least 75% Malaysian. Additionally, at
least 30% of the company’s employees must be Bumiputra Malaysians (Khalid, Zamil, & Farid, 2007) (Ezeoke, 2017). Foreign shipowner participation is prohibited from domestic trade following the Section 11 of the MSO 1952 (Merchant Shipping Ordinance (MSO) 1952, Ordinance 70, 2010, p. 43).

Shortage of specialized ship needed in offshore transportation and activities had triggered DSLB to make an exemption on cabotage restrictions (MOT, 2018c) by consultation with MASA (MASA, 2016c) allowing foreign shipowner to obtain temporary DSL through a Malaysia company. This is upon providing objective evidences no Malaysia ship is available for the required task and services (MASA, 2016c). The Cabotage Policy which was introduced had confine domestic trade to Malaysia ship thus encouraging more Malaysian to invest in this sector. In promoting domestic trade, the government had structured various attractive financial incentives to Malaysia ship owner and seafarer (Osnin, 2004) (Khalid et al., 2011).

3.6. **Malaysian Shipowner Association (MASA)**

MASA was established in 1976 with the main objective of protecting and promoting the interest of Malaysia shipowners. MASA has a central role to play in the development of shipping in the country. MASA establishment was to promote the interest of members, assist in the development of shipping by collaborating with stakeholders toward continuous improvement of various standard for mutual benefits (MASA, 2016a). MASA active roles in the country had foster close relationship with government agency especially with MARDEPT and Maritime Division from MOT. They also a member in the DSLB whom responsible approving DSL for foreign shipowner to operate in Malaysia water (MASA, 2016a). MASA played an important role as fist line consenting body that leads to approval of DSL as define under Part IIB of MSO 1952, allowing foreign shipowner to participate in domestic trade (Merchant Shipping Ordinance (MSO) 1952, Ordinance 70, 2010, pp. 68-77).

In 2008, MASA established Seafarers Fund (MASA, 2016b) aiming to assist Malaysian seafarer who in needs as part of Corporate Social Responsibility (CSR) and sustainability program. This fund aims to assist Malaysian seafarer in their
education and training development. Members able to assist seafarer by aiding them progressing in their career through education and training utilizing MASA Seafarer Fund (MASA, 2016b).

3.7. Central Mercantile Marine Fund (CMMF)

Merchant Shipping (Central Mercantile Marine Fund) Rules 1984 (Merchant Shipping (Central Mercantile Marine Fund) Rules, P.U. (A) 235, 1984) was created by the minister according to subsection (8) of section 467 of the MSO 1952. MARDEPT had been making continuous efforts to promote education and training for seafarer besides taking care of Malaysian seafarer welfare in accordance to the CMMF Rules 1984 (Merchant Shipping (Central Mercantile Marine Fund) Rules, P.U. (A) 235, 1984). Through CMMF, sponsorships were offered to qualified seafarers who wanted to upgrade their competencies in the near coastal trade area (MARINE INFORMATION AND GUIDANCE NOTE, NMPM 1/2013, 2013a) with the condition that the seafarer shall be required to serve on Malaysian ship for at least 24 months after obtaining the COC. Through CMMF, financial assistances were also given to the next of kin of a deceased seafarer working onboard Malaysia ship (MARINE INFORMATION AND GUIDANCE NOTE, NMPM 2/2013, 2013b).

3.8. Training and Certification

Employment of seafarers must fulfill the requirements outlined by the MSO 1952 and must also adhere to the requirements of Rules (MARDEPT, 1999) made pursuant to Section 71 of the ordinance (Merchant Shipping Ordinance (MSO) 1952, Ordinance 70, 2010) ensuring seafarer employed are appropriately qualified for their job function. These rules known as ‘The Merchant Shipping Rules 1999 which last amended in 2016 (Merchant Shipping Ordinance (Amendment), Act 1519, 2016) to include the ratification of MLC convention. This Rules covers safe manning, hours of work and rest period, watch keeping; medical examination, education & training and certification (Merchant Shipping Ordinance (Amendment), Act 1519, 2016).
In 1993, Human Resources Development Fund (HRDF) was established by Human Resources Development Limited Act 2001 (Pembangunan Sumber Manusia Berhad (PSMB) 2001, Act 612, 2015) and administered by the Human Resources Development Council (HRDC) (MIDA, 2018b). According to Para (v) and (vi) of the first schedule of the Act, company employee will benefit from this fund through its training grant (Pembangunan Sumber Manusia Berhad (PSMB) 2001, Act 612, 2015, pp. 21-23). Shipping companies required to register with Human Resources Development Limited and subsequently they are required to contribute on a regular basis to this fund as required by Part III, section 14 of the above Act (MALAYSIA SHIPPING NOTICE, NPM 37/2010, 2010).

3.9. Seafarers in Malaysia

Figure 8. Safe manning certificates issued in Malaysia. Please see appendix 4 for the exact number. Source: Official website, MARDEPT. (2018). List of statistic. Retrieved from Marine Department Malaysia (MARDEPT): https://drive.google.com/file/d/12VlwJii8TqOwwTFMtuLMHRAaVQafb2li/view
Safe manning certificate issued for ships in domestic voyage had been increasing steadily since 2008, based on figure 8. Unfortunately for near costal and international voyage had been seeing a continuous decline in the same period. From this data, it showed there is a continuous need for seafarer in shipping within Malaysian water. This indicate domestic trade is growing, and issuance of DSL for domestic trade also should reflect the same.

Figure 9. Total number of seafarers registered in Malaysia. see appendix 5 for the exact number. Source: Official website, MARDEPT. (2018). List of statistic. Retrieved from Marine Department Malaysia (MARDEPT): https://drive.google.com/file/d/19vGbWYPC5b-bo6oo65tE5RugsOXOUDXA/view

Total number of registered seafarers in Malaysia had seen a declining trend since 2011, based on figure 9. Both Malaysian and multinational registered seafarer had steadily declined until 2018. The number reduces in tandem correspond to world economic situation and international trades (UNCTAD/RMT, 2017, p. xi). The declining number reflecting less Malaysia ship due to shipowners’ re-flagging their ships to foreign open registry (MIMA, 2017). It also reflects less new entrant interested to become seafarer due to uncertainty of opportunity to complete their shipboard training program (Osnin, 2004).
CHAPTER 4 - Malaysia Education and Training

4.1. Malaysia Education History

Education was deemed important to achieve end meets. It was periodically reviewed to fulfill colonial prowess for their benefits during British rule prior independence in 1957. The most prominent and important milestone was the development and implementation Report of the Education Committee 1956, or better known as the Razak Report 1956 (Bakar, 2013, pp. 586-592) which lead to Education Ordinance 1957. It continues to be the most important educational structure developed and implemented because it formulates a national education system. It helped national citizen to develop a home nation they call Malaysia today, regardless of their social and cultural differences (Tun Razak, Catalyst of people / National development, 2018).

In 1960, the Rahman Talib Report was published after reviewing the education policy implementation. This had strengthened the Education Ordinance 1957. Rahman Talib Report led to enactment of Education Act 1961 (Xia N., 2018) emphasizing on basic education which is reading, writing and arithmetic calculation. In 1974, Polytechnic Ungku Omar was established by an Act of parliament (Politeknik Ungku Omar Act 1974 (Act 145), 2006). Until today, this polytechnic had produced many certified ship engineers holding Malaysia COC issued by the Director of Marine.

Malaysia’s strategic education system goal is to create a united society as highlighted in the Cabinet Committee Report of 1979. On 14 December 1988, Curriculum Centre had approved National Education Philosophy (NEP) to strengthen the national education system. NEP design based on desire and ambition contained in all previous Reports and Acts which to be implemented according to the National
Principle of Malaysia (Perdana Leadership Foundation, 2016) (Plunkett, 2013, p. 23). NEP was reflected as continuous effort towards developing the potential of national citizens in meaningful and integrated manner, to produce citizens who are intellectually, spiritually, emotionally and physically balanced and harmonious, based on equality and competitiveness (Kee-Cheok, Christopher & Yin-Ching, 2016).

4.2. Eleventh Malaysia Plan (11MP): Education

In 1995, University and University College Act was amended with the introduction of new education Bill and it was passed by an Act of parliament in 1996 (Education Act 1996 (Act 550), 2012) (Private Higher Educational Institutions Act 1996 (Act 555), 2015). The government had the ambition for the country to become industrialize and hopefully moving towards develop nation by the year 2020 (Hassan, 1996, pp. 126-129). The skilled workforce is needed and important as ingredient supporting the changing phases of all economic sectors towards knowledge-intensive activities, drive labor productivity gains, and attract investment into Malaysia. Human capital development is a critical element for sustaining and enhancing Malaysia’s economic growth (MEA, 2015, pp. 5-1). Investments in education play a pivotal role in improving social mobility, wellbeing and enhance moral value of the people (Education Act 1996 (Act 550), 2012).

In the Tenth Malaysia Plan, 2011-2015, the government introduced several measures within the education system benefiting the labor supply market to improve and transform it according to industry need (MEA, 2015, pp. 5-1). Yearly intake in Technical and Vocational Education and Training (TVET) also increased from 113,000 in 2010 to 164,000 in 2013 and Talent Roadmap 2020 was created for guiding transformation direction and development of the human capital needed for the economy (MEA, 2015, pp. 5-2).

For the Eleventh Malaysia Plan (11MP), 2016-2020, government will continue pursuing the agenda of producing skilled workforce that is equipped with the right knowledge, skills, and attitudes to dwell in a globalized liberal economy (MEA, 2015). Transforming TVET to meet industry demand, strengthening lifelong learning for skills
enhancement, and improving the quality of the education system for better learning outcomes while enhancing institutional excellence will be the major focus (MEA, 2015). TVET expected to produce skilled talent the country needs on its journey towards becoming a develop nation (MOE, 2015).

4.3. National Education System (NES)

Recently, Federal Government urged MOE to focus more on Science, Technology, Engineering and Mathematics (STEM) (MOE, 2015) education at all levels to stimulate the scientific and technological learning and at the same time developing artistic creativity while preserving the cultural value of the nations. Through the 11MP, the promotion of STEM education was intended to empower students for the next industrial revolution 4.0 (UNCTAD/RMT, 2017, p. xx) and embrace the changes and adapting the discourse.

The National Education System (NES) curriculum was strategically designed and structured to be delivered in a systematic way. It is constituted by levels, which ensure the unification of the teaching process and facilitates the lifelong learning opportunity. There are 4 levels of education levels (Pre-school education; Primary school education; Secondary school education; and Tertiary school education) in Malaysia being delivered at public and private schools (MOE, n.d.).

There is a Post-Secondary Education or extended learning for students who have completed secondary education but not pursuing tertiary education level. They usually enroll to vocational program known as TVET. Malaysia also provide a parallel recognition to adults, whom did not finish their formal learning process in secondary school education and start early in their career. They can pursue tertiary education through system known as Accreditation of Prior Experiential Learning (APEL) (MOE, n.d.).

Malaysia education system recognized the following (public and private) learning institutions to provide the knowledge for students in their tertiary school education: Universities; Colleges; Polytechnic / Academy; and Training Institute.
Students pursuing learning in these listed institutions will lead to conferment of various education achievement recognition depending on the curriculum duration and content of their study (MOE, n.d.).

4.4. Maritime Education System

Students who wanted to become merchant marine officer or engineer mostly will enroll into maritime training academy or Ungku Omar Polytechnic for their tertiary education and will get a diploma at the end of their courses. Learning process to become a seafarer was monitored and regulated by MARDEPT (MALAYSIA SHIPPING NOTICE, NPM 7/2012, 2012) under MOT. The MOE oversee the education and training of the seafarer because these institutions come under the Politeknik Ungku Omar Act (Politeknik Ungku Omar Act 1974 (Act 145), 2006) and Private Higher Educational Institutions Act (Private Higher Educational Institutions Act 1996 (Act 555), 2015).

The government recognized work-based learning as a transition from education in learning institutions to the actual career. It is a combination of institutional learning with industrial learning and creates an integrated experience for student using approach that used the work place as a medium for practical and hands on knowledge acquisition (Smith, Clegg, Lawrence & Todd, 2007, pp. 131-132). This is in-line with STCW convention, 1978, as amended. To achieve this, cooperation from the student, the educational institution and the industrial employer, is important and promoted by the government (Ismail, Mohamad, Omar, Heong & Kiong, 2015). Seafarer are categorized by the STCW Convention, 1978, as amended, and adopted by Malaysia (MALAYSIA SHIPPING NOTICE, NPM 7/2012, 2012) It can be subdivided into the following, Management Level; Operational Level; and Support Level (see appendix 5 for seafarer rank details).

Officer qualification that form the basis to get the ‘Operation Level’ COC Deck Officer, Ship Engineer or Electrical Technical Officer (ETO) must complete education and training from institutions recognized under the education Act (Private

---

11 Referred to watchkeeping Officer (WKO) and Watchkeeping Engineer (WKE)
Higher Educational Institutions Act 1996 (Act 555), 2015). Their curriculum and programs must be accredited by the Malaysia Quality Agency (MQA) (MQA, 2018) representing MOE and MARDEPT according to STCW convention (2010 STCW Conference, Final Act and Resolutions 1 - 19, 2010) representing MOT. To qualify this, students must have minimum 12 months (approve\textsuperscript{12}) sea time as trainee/cadet (2010 STCW Conference, Final Act and Resolutions 1 - 19, 2010) and pass an oral examination conducted by MARDEPT (MARDEPT, 2018a). For support level, students can enroll to METI after secondary education and attend short courses that leads to certificate of training. Appropriate certificate will be granted by MARDEPT after they have collected minimum 12 months sea time working onboard as Able Seafarer Deck, Able Seafarer Engine or Assistance to Electrical Technical Officer (MALAYSIA SHIPPING NOTICE, NPM 7/2015, 2015).

![Graph of Domestic Trade (Officer) Course Participation in Malaysia](image)

Figure 9. Domestic trade (Mate) course participants. Please see appendix 6 for the exact number. Source: Official website, MARDEPT. (2018). List of statistic. Retrieved from Marine Department Malaysia (MARDEPT): https://drive.google.com/file/d/1LbXp9Okgou0f0CLaCOmxt8dk2muWMku_1/view

\textsuperscript{12} Fulfilling criteria under the STCW convention, 1978, as amended.
According to figure 10, the number of seafarers participating in domestic trade (officer) course had been increasing significantly over the past few years starting from 2011. This is a good sign for METI in the country specifically and Malaysia shipping generally. Unfortunately, there is no record of seafarer participating in domestic trade (ship engineer) course. This is something that need to be investigate in the future.

![COC Oral Examination Conducted in Malaysia](https://drive.google.com/file/d/1znA8d4jNpGpf_M45XSQUgqySW82zPDn1/view)

Figure 10. COC Oral examination conducted. Please see appendix 7 for the exact number. Source: Official website, MARDEPT. (2018). List of statistic. Retrieved from Marine Department Malaysia (MARDEPT): https://drive.google.com/file/d/1znA8d4jNpGpf_M45XSQUgqySW82zPDn1/view

According to figure 11, since 2009 the number of COC oral examination for deck officer and ship engineer had been in a steady decline. Throughout the years, engineer numbers were always lower from deck officer. This trend is alarming as ships getting more technologically advance and sophisticated. However, this total numbers did not separate the level of COC and the sub-division of COC. This is something that need to be improve in the future.
4.5. **Legal framework**

The International Maritime Organization (IMO) is the main platform for discussion in shipping and ocean related matters. IMO is the United Nations specialized agency responsible for maritime affairs, with a mission statement of capacity building for safer shipping and cleaner oceans (IMO, 2013). In Malaysia, the purpose of maritime education and training legal framework is to ensure safety of navigation and protection of human life at sea, looking into national interest on seafarer training and education development while complying with various national and international maritime laws (MOT, 2018a), to regulate and monitor the disposition of technical and professional seafarer qualification, to issue certificates, COC and dispensation for working onboard Malaysia ship.


4.6. **Seafarer Affair and Port Division (SAPD)**

Based on figure 12, Seafarer Affair and Port Division (SAPD) is the important division that deals with all seafarer related matter; such as Assessment and Training Standard, Seafarer development, Examination & Seafarer Competency and lastly Port, Cargo & Barter Trade Management (MARDEPT, 2018c). According to the MARDEPT website, the primary objectives of SAPD are to ensure recognition of the competencies of Malaysian Seafarer in accordance to provisions of the STCW Convention and MSO 1952, to protect seafarer welfare and affairs. SAPD also ensure
all ports and jetties under the supervision of the MARDEPT are always safe and operational (MARDEPT, 2018c).

Assessment and training standard unit were tasked to ensure METI and its courses complying with the international standard prescribed under the Merchant Shipping (Training & Certification) Rules 1999 and STCW Convention, 1978, as amended, through annual vetting and audit (MARDEPT, 2018c). Seafarer development unit oversee implementation and managing the affairs of seafarer development in line with the Merchant Shipping Central Mercantile Marine Fund (CMMF) Rules 1984 (MARDEPT, 2018c).

Examination and seafarer competency unit responsible for ensuring that all COC oral examinations are conducted in accordance with the provisions of the Merchant Shipping (Training and Certification) Rules 1999 and STCW convention, 1978, as amended. (MARDEPT, 2018c). Lastly, port, cargo and barter trade
management unit is looking at planning and monitoring of port management programs including ferry services for small port, terminal and jetty under the jurisdiction of the MARDEPT (MARDEPT, 2018c)

4.7. Seafarer Development

![Certificate of Competency (COC) Issued in Malaysia](image)

Figure 12. COC Issuance in Malaysia. Please see appendix 8 for the exact number. Source: Official website, MARDEPT. (2018). List of statistic. Retrieved from Marine Department Malaysia (MARDEPT): https://drive.google.com/file/d/1WgAtPOAwZH8PbKLvzwdF2C9BhOpW6Lwh/view

According to figure 13, seafarer COC issued in Malaysia had been on the moderate level with small number recorded since 2009. Only deck officer showing a gradual annual increase on yearly basis. Ship engineer only having small increase in numbers even after MOE continuous effort promoting STEM at the secondary education levels. There is a steep increase of COC issued for year of 2015, 2016 and
2017\textsuperscript{13} due to enforcement of STCW convention amendment known as the Manila amendment 2010. Unfortunately, there is no records of new or renewal category for seafarer applying for the COC. There is also no breakdown record for quantity of support level, operational level or management level applying for the COC.

![Certificate of Recognition (COR) Issued in Malaysia](https://drive.google.com/file/d/1v3hsHzm2v5KXbayYrn-mG5w2sCvC8KV/view)

Figure 13. COR Issuance in Malaysia. Please see appendix 9 for the exact number. Source: Official website, MARDEPT. (2018). List of statistic. Retrieved from Marine Department Malaysia (MARDEPT): https://drive.google.com/file/d/1v3hsHzm2v5KXbayYrn-mG5w2sCvC8KV/view

According to figure 14, there was a gradual increase of COR issued by MARDEPT. From year 2008, the number of COR issued for both deck officer and ship engineer gradually rise with deck officer COR leading the numbers every year. This was a surprised when comparing between the total number of COC and COR issued by MARDEPT in figure 15. It shows that the shipowners employing more readily

\textsuperscript{13} STCW, Manila amendment 2010 was enforced on 1\textsuperscript{st} January 2017 in Malaysia
available multinational seafarer with valid documentation to work onboard their ships rather than training and developing more seafarer in the country.

Figure 14. Comparison between COC and COR Issuance in Malaysia. Please see appendix 10 for the exact number. Source: Official website, MARDEPT. (2018). List of statistic. Retrieved from Marine Department Malaysia (MARDEPT): https://drive.google.com/file/d/1WgAtPOAwZH8PbKLvzdF2C9BhOpW6Lwh/view https://drive.google.com/file/d/1v3hsHz-m2v5KXbayYrn-mG5w2sCvC8KV/view

Looking at figure 15, It seems Malaysia ship owners not keen and not willing to spend on education and training for seafarer thus implying that potential new entrant for trainee/cadet to become seafarer is difficult or nearly impossible at current situation. This potentially left trainee/cadet to be stranded ashore looking for opportunity to get 12 months (approve) sea time and potentially not able to complete their training program to qualify for COC, unless they are sponsored by shipping
companies. New entrant seafarer also needs to compete for jobs onboard Malaysia ship, eventually hampering their career progression in the shipping and maritime.

Shipping company intervention is needed to improve current trainee/cadet training program. According to MIMA concluding remark "Malaysian government's policy to promote its shipping sector seems to have succeeded; however, the only highlight with respect to human resources is the requirement of its Domestic Shipping License Board (DSLB). Shipping companies applying for domestic shipping license claim that they are unable to find suitable Malaysian seafarers while the training institutions say that their graduates are awaiting berth (Saripah Abd Mutalib, Ministry of Transport, Personal Communication, 18 March 2004)" as cited by (Osnin, 2004).

4.8. Maritime Education and Training Institution (METI)

There are 41 METI’s in the country, approved by MARDEPT which provide seafarers training (MARDEPT, 2018d). The oldest METI is Malaysia Maritime Academy (ALAM) for cadets and ratings, and Politeknik Ungku Omar (PUO) for engine cadets only. The remaining institutions mostly provide short training courses which required by STCW convention (STCW, 2010) and other international regulations for shipping (Osnin, 2004).

ALAM, is the 1st maritime training academy in Malaysia, providing various educational and training programs leading to academic award such as certificate of training and diploma couple with COC issued by the Director of Marine (Khalid et al., 2017). Besides becoming master mariners and ship engineers, the spillover effect had led to other careers such as marine surveyors, marine technologist, maritime entrepreneurs, maritime corporate leaders, maritime administrator, maritime regulators, maritime lawyers, marine environmentalist, technical management of shipping companies, ports and harbors authorities, ship owners, shipbrokers, ship charterers, marine insurer (Aba, 2000) and other professionals working in the country.

ALAM and PUO had become leading METI in Malaysia alongside other academic institutions such as Netherlands Maritime Institute of Technology (NMIT), University of Malaysia, Terengganu (UMT) and Malaysia University of Technology
(UTM). The other three education institutions provide shipping, maritime and engineering related courses (Saharuddin et al., 2011) to support the human capital development needed in the country mostly focusing on the academic education without the curriculum to qualify for COC and becoming seafarer (Saharuddin et al., 2011). Maritime education and training in Malaysia are well organized and followed a structured national legal framework for proper establishment and setting up training schools, academies, universities and institutes (Education Act 1996 (Act 550), 2012) (Private Higher Educational Institutions Act 1996 (Act 555), 2015). To ensure Malaysian seafarer remain competitive in the global shipping, they need to be educated and trained in more advanced technology used in shipping industry (Saharuddin et al., 2011).
CHAPTER 5 - Empirical Data Analysis

5.1. Research Framework

Applied research was selected to identify a possible solution. A survey was conducted for descriptive study to find out what happened based on the questionnaires send out using google form through email and social media to specific target groups in Malaysia. The groups were selected based on direct knowledge in Malaysia shipping industry. These selected groups include seafarer, trainee/cadet, METI students, maritime professional/private sector and government staff/public office related to the sector. The author believes that these groups of respondents can provide a valuable insight based on their various background and experience, couple with adequate exposure to seafarer.

There were 10 questions in the online survey via google form. The survey questionnaires (see appendix 11) sent out consisting questions related to respondent nationality, gender, age, and occupation. To get a better idea of respondent involvement in shipping, subsequent questionnaires regarding their view on METI and DSL were asked. Lastly, to analyze more of the respondent view on the industry, questionnaires regarding impact on having more seafarer with valid COC to Malaysia economy, social and environment were included. One out of 4 multiple-choice questionnaires can be answer by selecting multiple options. For No.6 questionnaire, respondent was asked to evaluate using a five-point scale: (A) Strongly Disagree, (B) Disagree, (C) Neither Disagree nor Agree, (D) Agree and (E) Strongly Agree. All respondents voluntarily provide feedback electronically using google form. All 63 respondents answered and completed the research questionnaires.
5.2. Research Analysis

1. What is your Nationality?
   63 responses

   ![](image)

   Figure 15. Research questionnaire No.1. Refer to appendix 11 for details. Source: Author

   From the 100% (63) respondents, 93.7% (59) of them were Malaysian. Others 4.8% (4) in total were Indonesian 1.6% (1), Filipino 1.6% (1), Pakistani 1.6% (1) and Yemeni 1.6% (1). They also responded to the questionnaires.

2. What is your Gender?
   63 responses

   ![](image)

   Figure 17. Research questionnaire No.2. Refer to appendix 11 for details. Source: Author
From the 100% (63) respondents, 98.4% (62) of them were male and only 1.6% (1) was female respondent replying to the questionnaires.

**3. What is your Age?**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-20</td>
<td>4.8%</td>
<td>3</td>
</tr>
<tr>
<td>21-30</td>
<td>12.7%</td>
<td>8</td>
</tr>
<tr>
<td>31-40</td>
<td>34.9%</td>
<td>22</td>
</tr>
<tr>
<td>41-50</td>
<td>25.4%</td>
<td>16</td>
</tr>
<tr>
<td>51-60</td>
<td>14.2%</td>
<td>9</td>
</tr>
<tr>
<td>61-65</td>
<td>7.9%</td>
<td>5</td>
</tr>
</tbody>
</table>

The youngest respondent age was 18 years old and the oldest respondent age was 65 years old.

Figure 18. Research questionnaire No.3. Refer to appendix 11 for details. Source: Author
4. What is your Occupation?

From the 100% (63) respondents, seafarer is the highest number replying to the questionnaires with 52.4% (33). This followed by maritime professional/private sector 31.8% (20) as the second highest respondents. Government staff/public office 7.9% (5) and student 7.9% (5) each having a small number of respondents. Marine engineering lecturer\(^\text{14}\) 1.6% (1) was regrouped into maritime professional/private sector.

\(^{14}\)respondent is working in private university
From the 100% (63) respondents, nearly all of them viewed that enroll to maritime academy 90.5% (57) is a good way to become a future seafarer. This followed by working in any industry and pursuing maritime-related subject as modules in weekend class 25.4% (16) as the second desirable option for becoming a seafarer. Enrolling to any non-maritime college or university and study maritime related subjects as optional electives 20.6% (13) is preferred by some of the respondents. Finally studying maritime-related subjects online while attending non-maritime college or university 6.3% (4) viewed as not so keen to be pursue for becoming a seafarer according to few respondents. One respondent also viewed that trainee/cadet should acquire sufficient practical experiences 1.6% (1) if they want to become a seafarer in the future as a career of choice.
From the bar graph above, 58.7% (37) respondents clearly favoring the conventional idea for future seafarer training should be carried out in the maritime training academy only. They are not keen to idea with development of technology and improvement in curriculum delivery, the maritime-related subject can be accessed online from anywhere even if they are not enrolling to maritime training academy. They believed that the decision to become a seafarer should been made earlier after completing secondary education level before embarking for tertiary education towards career path as a seafarer. The biggest supporter of this learning ideas was the seafarer group which stands at 34.9% (22) and followed by maritime professional/private sector at 15.8% (10). The remaining supporter were the student which stand at 4.7% (3) and government staff/public sector which stand at 3.1% (2). Based on the higher number of seafarers in the age grouping of 21 to 40, this is not surprising since e-learning and MOOC is still perceived as an alien and not widely pursue for career development by seafarers in Malaysia.

The second largest group of respondents 31.7% (20) viewed that future training for seafarer should not only focus on a conventional way of education and training which is to enroll into maritime training academies. They prefer having a mix opportunity for future seafarer to choose their own institution of learning, comfortable learning environment and suitable learning style. Maritime professional/private sector and seafarer were the biggest supporter of this learning ideas which stand at 12.6% (8) each. The remaining supporter were government staff/public sector and student which stand at 3.1% (2) each.

Finally, a group of respondents, 9.6% (6) viewed that future seafarer education and training would be better carried out in various other institutions but the maritime training academy. They can enroll to any non-maritime college or university and study maritime related subjects as optional electives, study maritime-related subjects online while attending non-maritime college or university, including working in any industry and pursuing maritime-related subject as modules in weekend class. The supporter

15 Looking at the same data from a different angle
of this learning idea was small number of respondents which includes seafarer 4.8% (3), government staff/public sector 1.6% (1) and lastly maritime professional/private sector 3.2% (2).

6. In order to ensure trainee or cadet access to ship training, do you think it is a good suggestion if Domestic Shipping License (DSL) should be approved/issued by Maritime Administration upon providing the compulsory minimum of one (1) training opportunity (accepting at least one cadet) per ship (>500 GT) by a shipping company?

Figure 21. Research questionnaire No.6. Refer to appendix 11 for details. Source: Author

From the 100% (63) respondents, there was a mixed view recorded for this questionnaire. Small number of respondents strongly disagree 11.1% (7) and disagree 1.6% (1) with this questionnaire. Remaining respondents neither agree nor disagree (neutral) 12.7% (8) with the same questionnaire. From the responses, it is apparent that the majority of respondents in total of 74.6% (47) viewed something need to be done for future seafarer education and training program in Malaysia. Respondents agree 41.3% (26) and strongly agree 33.3% (21) with the questionnaire.

The questionnaire further asked why they choose that answer.

Seafarers tended to view that this suggestion will create job and opportunity for future seafarer. It will guarantee trainee/cadet onboard training required to collect 12 months
(approve) sea time. Most METI only offer the cadetship courses but they had to find ships for onboard training themselves unless there are being sponsored by shipping companies. Seafarer also viewed that Malaysia shipowner should take part in seafarer development instead of employing multinational operational level officer and engineer. It encourages Malaysia shipowner contribution as part of corporate social responsibility (CSR) because sustainability of seafarer on board Malaysia ships is important to domestic trade. Some shipowners are avoiding taking in trainee/cadet to keep their operating cost low. One respondent viewed that we do not need to enforce one cadet per ship but relax it to about one cadet per year per ship or total cadets on board at least 50% of the ships owned. The industry needs younger and more energetic officers and engineers. This suggestion will increase the availability of competent seafarer.

Maritime professional/private sector tended to view that this suggestion is the only guaranteed way for trainee/cadet to get 12 months (approve) sea-time onboard ship. Since persuasion appears to be ineffective, legislation may be the only option available. By continuous training opportunities accorded to the future seafarer of at least 1 ship for 1 cadet as bare minimum, they were able to complete their training program and later possibly becoming competent future shipping industry leaders. This should be part of Malaysia shipowner contribution for sustainability through CSR. In current economic condition lower oil price, most Malaysia shipowner unable to contribute in term of financial support or sponsoring trainee/cadet. But, at least the minimum which they can do is to accept trainee/cadet on board their ships for completing their training program.

Maritime professional/private sector by large also indicate that this suggestion should not state minimum one trainee/cadet to be accepted by the Malaysia shipowner but regulating the shipowner to willingly open the offer to as many trainee/cadets as possible. They also said most shipowners do not wish to spend on trainee/cadet education and training program, therefore they must be forced through new regulation. The government need to encourage Malaysia shipowner to provide training opportunity for trainee/cadet and in return given them tax incentives and commercial recognition or credits on preferences. Malaysian government had done
this previously under Public Service Department (PSD) sponsorship schemes and tax reduction for shipowner, and it was a success. This clear success can be seen and appreciated by seeing those trainee/cadets helming the Malaysia shipping industry now as regulators, ship managers, technical teams etc. Apart from that, we also need enforcement in ensuring shipowner assisting various government initiatives.

Maritime professional/private sector also mentioned that DSL should not in any way involve in providing training for future seafarer. This should be the decision of shipowner solely, since the cost and liability must be borne by them. Notwithstanding having a bond could be a surety, but there is no guarantee trainee/cadet would honor the contract. The shipping companies are already under tremendous pressure by the industry and making this suggestion compulsory will only increase the burden for them. Consensus and mutual understanding with the shipowner would be more fruitful in getting more trainee/cadet opportunity for onboard training. Shipowner usually requires inducement to support their roles in the future seafarer education and training program. Nevertheless, certain charterers prohibit boarding of trainee/cadets onboard their chartered vessel for the fear of tarnishing charterer HSSE statistics, which shipowner are contractually obliged to comply.

Government staff/public sector tended to view that this suggestion will give opportunity to future seafarer gaining enough sea time in good time to complete their education and training program. This is a good experience for them and an opportunity for their learning process. They also said that it is very difficult for new young seafarer and unsponsored trainee/cadet to complete their training program because unavailability of training opportunity onboard ship. Most shipping companies always require an experience seafarer “only” as a term and condition to be onboard their ships. They also agree that priorities should be given to Malaysian trainee/cadet to safe guard national interests and besides that Malaysian seafarers should be made compulsory to be employ on-board foreign ships receiving DSL (to a certain extent).

Student were likely to view that this suggestion is important because they need to undergo training on board ship to collect 12 months (approve) sea time for completing their education and training program. Hands on experience is important to enhance their learning and exposing them to real shipboard activities. Student
repeatedly echoed that, it is very difficult to get onboard a ship for training purposes and this had distracted their focus on completing their studies. Student find’s that most Malaysia shipowner not willing to provide training opportunity for them and this makes their education and training become uncertain since no guarantee the training program will be completed on time.

5.3 Economic, Social and Environmental Impacts

From the 63 respondents, Malaysian and male respondents is the sole biggest data contributor for the research questionnaires. The biggest age group was 31 – 40 years old and followed by 41 -50 years old. The youngest respondent was 18 years old and the oldest was 65 years old. More than ½ of the respondents were seafarer, maritime professional/private sector was the second largest respondents and followed by government staff/public sector and student as the smaller groups of respondents.

57 respondents viewed that it is good for future seafarer to enroll into maritime training academy for their education and training instead of pursuing other options but later choosing to become seafarer. This followed by 16 respondents who viewed it is good for future seafarer to work in any industry and pursuing maritime-related subject as modules in weekend class. Lastly 13 respondents viewed that it is good for future seafarer to enroll into any non-maritime college or university and study maritime related subjects as optional electives when pursuing their tertiary education.

74.6% of the respondents (in combine) agree or strongly agree with the suggestion that Domestic Shipping License (DSL) should be approved / issued by MOT through Maritime Division upon providing the compulsory minimum of one (1) training opportunity (accepting at least one cadet) per ship (>500 GT) by a shipping company. Only 12% respondents strongly disagree with the questionnaire and the remaining 12% respondents were neutral.

Respondents aware that without 12 months onboard sea time, trainee/cadet can’t complete their training program and will not be getting their operational level COC. Few respondents highlighted there is a need to provide incentives to shipowner for taking onboard trainee/cadet while others suggested the shipowner shall do their
CSR by taking more trainee/cadet for the benefit of future Malaysia shipping industry. Most respondent seems frustrated with the act of persuasion and agree with the suggestion that an act of regulation needed to be in place for trainee/cadet to complete their education and training program. There is a concern that Malaysian seafarer not getting employed while shipowners hiring more expatriate filling up various positions onboard Malaysia Ship having DSL operating in Malaysian water.

74.6% respondents signaling there is difficulty in getting trainee/cadet an opportunity to get (approve) sea time onboard ship to qualify for operational level of COC. This create uncertainty for them whether they can eventually get the COC or only able to get the school diploma after all the hard work and investment being put up front, implying that constructive effort must be taken to address future seafarer education and training program in the country. MOT needed to unlock the stalemate situation between trainee/cadet and the Malaysia shipowner. Additional condition might be needed with regards to issuing DSL, encouraging shipowner to provide trainee/cadet training opportunity onboard their ship to qualify for COC. DSL tied with trainee/cadet onboard training might lowering the income for ship charterer, when importing offshore specialize ship into the country for O&G project within Malaysia water.

As for impact on economy, respondents tended to view that seafarer earn above average salary in Malaysia job market and this is a good for the country consumer base economy. As the country moving towards becoming high income nation, being a seafarer really fit the shoe and the spillover effect after leaving sea career will directly benefit shipping and maritime. Most respondents tended to view that the dependency of foreign seafarer and maritime experts will be reduce and the outflow of foreign exchange will be decrease. For every job created in the shipping, there will be more jobs created in the economy outside the sector which is proven in United States of America and the Netherland as mentioned by one of the respondents. Through income and corporate taxes, government will get it share to further develop the country in-line with the sector expansion and development.

Respondents were not clear on the social impact perspective. Albeit respondent agree that with seafarer background, this will alleviate their social status
in the society. They can contribute more to the country in many ways and promote local cultures/value to the outside world. Good interaction within the international shipping communities has many good side benefits to seafarer since it recognizes the METI standard. Spending less time at home was seen indirectly as a cause of strengthening close family ties. Having more disposable income to spare will benefits their surrounding community at home though generous contribution for various reasons. Improvement of living standard and possibly higher retention rate in career as seafarer were also mentioned as a positive social impact for the country.

Finally, respondents were upbeat on the positive environmental impact. Seafarer whom exposed to international environmental related rules and regulations will play significant role in creating environmental awareness within the country. Respondents agreed that seafarer will participate in shipping with more environmentally friendly way and indirectly affect their personal life at home, becoming more environmental savvy. Besides, there is a potential increase of expertise in pools of marine technologist, researcher, consultancy and regulators. All of them will possibly lead environmental efforts and initiatives. Minimal pollutant going into Malaysia water is good for local biodiversity in the coastal states and attracting more tourist. Green shipping will attract newer generation of seafarer which hopefully contribute towards cleaner ocean in Malaysia.
CHAPTER 6 - Discussion

From the data, general account of each groups of respondents to maritime education and training emerged. Seafarer having the bigger number of responses view the shipping while being in the career and seeing what is happening in day to day activities. The maritime professional/private sector is the second largest data contributor and their view reflect as an ex-seafarer which now contributing further to the shipping after leaving the sea career. Government staff/public sector responses was small and only able to get a general view from the national maritime administration perspective. MARDEPT had carry out many efforts to assist and remedy the situation, but the shipowner tended to be view by respondents as not keen to cooperate regarding providing trainee/cadet training opportunity onboard their ships. Student respondents was low and only few responses were received. This is not very helpful in analyzing their views in broader context. In general, student respondents aware their chosen education field can’t qualify them for COC without the 12 months (approve) sea time.

The first research question (How is it possible to produce more seafarer in Malaysia with valid COC and retaining them in shipping and maritime?) helped to identify the potential of future education and training of seafarer in Malaysia. With a good IT infrastructure across the country, this is possible and potentially reduce the overhead cost for METI when conducting more e-learning for future seafarer. Respondents aware the education sector is expanding technologically andMETI which having competitive advantages can gain bigger market share. However, it largely shows respondents are conservative and prefer making early informed decision right after secondary education if they wanted to become a seafarer. In the future, through APEL and by collaborating with other tertiary education institutions
(publics and privates), more graduate programs can be pursued by deck officers and ship engineers from the industry especially in applied research. This will create better employability as a spillover effect of career as seafarer. It also promotes knowledge and technology transfer between field experts and academicians. Implementing several initiatives to meet new challenges which includes revision of MET curriculum design and delivery, courses accreditation and incorporating marine simulators as enhancements of training delivery might attract more student’s entrant to shipping and maritime.

The second research question (How can MARDEPT ensure more trainee/cadet able to access training opportunity onboard ship in Malaysia water?) was also explored in this study. The majority of respondents agree 41.3% (26) and strongly agree 33.3% (21) that a suggestion to Maritime Division of MOT needed to be put forward by MARDEPT to address this matter and discuss holistically for the benefit of all stakeholders in shipping and maritime. MARDEPT seems to have exhausted many avenues trying to get things done and promulgating for trainee/cadet education and training. They continuously facing challenges and resistances from the shipowner due to various (valid) factors and commercial pressure. MASA, MARDEPT and Maritime Division of MOT shall sit together and consider constructive way forward to assist solving this stalemate situation. Through DSL Board, a possible link can be structure to empower Malaysia ship and foreign shipowner to participate and commit towards trainee/cadet training program. As various incentives had been given by the government to Malaysia ship in term of tax relief, a reciprocal action perhaps needed for sustainability effort and CSR for producing future seafarer. Consolidating various available funds for seafarer with central management may also be a good idea to assist shipowner reducing training related cost for trainee/cadet. There is no guarantee trainee/cadet can get 12 months (approve) sea time and complete their training program to qualify for COC at the operational level. This may result in potential waste of resources and valuable times for all stakeholders involved. Unfortunately, because less shipowner agreed taking trainee/cadet onboard their ships for completing the required training as per STCW convention requirement, it might have discouraged Malaysian youths to become seafarers.
Finally, the third research question (What negative impact can be anticipated if seafarers with valid COC in Malaysia are not produced?) views on economic, social and environment aspect were analyzed. Respondent tend to view that, generally seafarer as a career is good for the country. By not producing qualified and certified seafarer, dependency on foreign workforce in shipping and maritime will increase and led to higher outflow of money through currency exchange. Domestic trade may be affected if the country did not have professionals and experts managing day to day activities of shipping and maritime. METI will be directly affected as low student entrant and low returning seafarers enrolls for shipping and maritime related courses will potentially result in higher METI operating cost and lower return of investment. These might not be attractive for further development and expansion of METI.

Local community that benefits from seafarer employment will possibly getting less funding for their activities if lesser seafarers are produced. METI graduates without COC can’t work onboard ship and this will create higher unemployment number and potential social problems to the society. Graduates will probably earn less average monthly salary as compared to their peers with valid COC, even they have the same academic qualification. Trainee/cadet who had limited interaction with others than local and limited exposure towards international shipping, will be close for new ideas to enhance their knowledge or skill transfer. Besides, their communication and public relation skills development will be affected. Clean and beautiful environment is an important aspect to attract more tourists to Malaysia. The risk of increasing climate change and ocean acidification rate is higher if not having trainee/cadet more aware on preserving the environment through exposure and understanding of international efforts related to the environment protection.

However, there are possible ways Malaysia can pursue to solve all the current challenges for seafarers while benefiting from global trades and market liberalization. Human capital development is crucial to the country and stakeholders participation is needed in making the government aspiration a reality.

To add a few remarks, male respondent represents the largest data collected and only 1 response from female respondent was received. This perhaps implied gender participation in shipping and maritime in Malaysia, where it is considered male
dominated area of expertise and female involvement is still very low. Stakeholders may need to do more promotions to boost female participation in Malaysia shipping industry.
CHAPTER 7 - Epilogue

7.1. Conclusion

This research explored and discussed about the possibility of producing future seafarer with valid COC in Malaysia and how trainees/cadets can access training opportunity onboard Malaysia ship and other ship in domestic trade. Lastly, the research looks at what impact on economy, social and environment resulting from seafarer having valid COC in Malaysia. Shipping is important to Malaysia economy because international trades underpinned by manufacturing sectors in the country contribute positively to its GDP.

MITI had been promoting various trade effort regionally and globally. By participating in various bilateral FTA and being part of ASEAN bilateral trade agreement, these had boosted the country exports and opening new opportunities for future trades negotiations. CPTPP is an example the latest trade agreement entered by Malaysia. Through MIDA, the country had developed policies to facilitate trades, identify regulations barriers and remove unnecessary bureaucracy that can hamper future efforts to promote exports and increase manufacturing activities in the country. As shipping in Malaysia facing a decline correspond to world shipping trend for the past few years, a more sustainable approach is needed to stay competitive by opening more access to many ports in the country thus keeping the logistic cost low with participation of foreign ships through cabotage exemption directive.

METI in Malaysia operate under the monitoring of MOE and MOT. MARDEPT under the MOT through SAPD covers management of competencies certification, management of maritime training institution accreditation, management of seafarers and lastly management of ports. Various actions had been taken by MARDEPT to
comply with STCW convention, 1978, as amended, including initiative to get trainee/cadet training opportunity onboard ship collecting 12 months (approve) sea time to qualify for COC examination. Unfortunately, the less availability of training opportunity onboard had hampered all stakeholders’ efforts to produce future seafarer in Malaysia. Maritime education was chosen by students at the tertiary education level. There are several well established METI in Malaysia which had positively contributes to seafarer education and training. The country needs seafarer as part of sustainability initiative in shipping, because the spillover effect of seafarer career expected to benefit the economy. After they left sea career, ex-seafarer ventured into various related shore jobs and becoming industry professionals. The expertise when nurtures, develop and strengthen combine with substantial sea going experiences will be very valuable in Malaysia shipping industry, contributes positively to the country.

A research was conducted to understand the situation and identify the gaps for producing more seafarer in Malaysia. A mix reaction was received from the respondents, and 74.6% agree a new approach is needed to ensure trainee/cadet getting an opportunity to complete their training program onboard ship. In general, respondents tended to view that seafarer contributed positively towards Malaysia economy, social development and having high awareness in preserving the environment.

Due to limited number of responses received, the analysis and discussion only reflect the general view regarding trainee/cadet difficulty on getting an opportunity for onboard ship training. The author was not able to personally meet all respondents, thus requiring assistance from various target groups representatives to distribute the research questionnaires, within limited timeframe allocated for gathering responses.

7.2. Recommendation

To produce more future seafarer in Malaysia and complying with the international convention, several recommendations may be considered by MOT and MOE. These recommendations shall be implemented in stages and hopefully over the years, it will benefit future seafarer and the economy through employment in
shipping while positively impacting the social and environment. These recommendations are listed below:

1. MOT shall consider making compulsory for all ship greater than 500GT applying for DSL to provide minimum one (1) training opportunity onboard for trainee/cadet from Malaysia education system to collect (approve) sea-time.
2. MOT shall consider a reasonable preferential treatment for Malaysia ship when they provide training opportunity onboard for trainee/cadet from Malaysia METI to complete their training program.
3. DSL Board shall consider making compulsory requirement for foreign flag ship participating in domestic trade to provide minimum one (1) training opportunity onboard for cadet from Malaysia education system to collect (approve) sea-time.
4. HRDF, CMMF and MASA Seafarer Fund to a certain extend shall consider accessibility for shipowner to recover their training related cost when providing trainee/cadet from Malaysia METI an opportunity onboard their ships to collect (approve) sea-time.
5. MOE shall consider introducing and promoting maritime related subjects or electives to students in non-maritime public and private universities or colleges. It shall be made widely available using e-learning and interesting enough to pursue by students from other specializations.
6. MOE shall consider managerial level COC with substantial field experience onboard ship to be recognize and qualifying the seafarer for enrollment into postgraduate’s education.

Malaysia METI shall be more creative and innovative incorporating new ideas and technologies implementing the STCW convention, 1978, as amended. As future shipping in the 21st century leaning towards utilizing digital technology, METI should be ready for change while empowering and developing future seafarers, together with all stakeholders.
References


https://vp.imo.org/Custom/Subscriptions/IMOVEGA/MemberPages/IMODocument.aspx?resultIndex=0&docId=SL97CONFAC&docDate=2018-05-22


INLAND WATERWAYS TRANSPORT (IWT) VESSEL. (2003, April 29). Retrieved from Glossary of Statistical Terms:
https://stats.oecd.org/glossary/detail.asp?ID=4127

International Shipping Definition. (2017, May). Retrieved from Wikipedia:
https://en.wikipedia.org/wiki/International_shipping


http://masa.org.my/dsle/standard-operating-procedure/


### Appendix 1 - Total number of licensed ships until July** 2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Gross Tonnage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018**</td>
<td>35**</td>
<td>159416.31**</td>
</tr>
<tr>
<td>2017</td>
<td>108</td>
<td>93043.07</td>
</tr>
<tr>
<td>2016</td>
<td>109</td>
<td>177,527.10</td>
</tr>
<tr>
<td>2015</td>
<td>125</td>
<td>250,890.30</td>
</tr>
<tr>
<td>2014</td>
<td>217</td>
<td>448,555.75</td>
</tr>
<tr>
<td>2013</td>
<td>306</td>
<td>939,362.21</td>
</tr>
<tr>
<td>2012</td>
<td>306</td>
<td>939,362.21</td>
</tr>
<tr>
<td>2011</td>
<td>392</td>
<td>835258.4</td>
</tr>
<tr>
<td>2010</td>
<td>298</td>
<td>826,263.02</td>
</tr>
<tr>
<td>2009</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2008</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Appendix 2 - Total number of licensed boats until July** 2018

<table>
<thead>
<tr>
<th>Year</th>
<th>BOAT</th>
<th>Total</th>
<th>Gross Tonnage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018**</td>
<td>1885**</td>
<td>93,113.69**</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>2799</td>
<td>135,646.32</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>2943</td>
<td>151,871.92</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>3076</td>
<td>145,592.50</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>3101</td>
<td>148,402.32</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>3082</td>
<td>165,239.82</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>3082</td>
<td>165,239.82</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>3366</td>
<td>186,884.93</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>2929</td>
<td>146,318.55</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Appendix 3 - List of ratified conventions by Malaysia.


8. International Convention on the Control of Harmful Anti-Fouling Systems on Ships on 27th December 2010


## Appendix 4 - Safe Manning Document / Certificate issued until July** 2018


<table>
<thead>
<tr>
<th>Year</th>
<th>Voyage</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Domestic</td>
<td>Near Coastal</td>
<td>Unlimited</td>
<td></td>
</tr>
<tr>
<td>2018**</td>
<td>346**</td>
<td>367**</td>
<td>212**</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>353</td>
<td>323</td>
<td>127</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>325</td>
<td>292</td>
<td>158</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>355</td>
<td>389</td>
<td>172</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>261</td>
<td>292</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>315</td>
<td>298</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>240</td>
<td>331</td>
<td>141</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>292</td>
<td>239</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>384</td>
<td>515</td>
<td>239</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>251</td>
<td>767</td>
<td>587</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>181</td>
<td>239</td>
<td>112</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix 5 - Registered seafarer (new application) until July** 2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Category of Seafarers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Local</td>
</tr>
<tr>
<td>2018**</td>
<td>3292**</td>
</tr>
<tr>
<td>2017</td>
<td>6062</td>
</tr>
<tr>
<td>2016</td>
<td>6048</td>
</tr>
<tr>
<td>2015</td>
<td>7,360</td>
</tr>
<tr>
<td>2014</td>
<td>9,287</td>
</tr>
<tr>
<td>2013</td>
<td>10131</td>
</tr>
<tr>
<td>2012</td>
<td>10,686</td>
</tr>
<tr>
<td>2011</td>
<td>10,142</td>
</tr>
</tbody>
</table>

## Appendix 6 - Seafarer category and rank / sub-division on board Malaysia ships.

<table>
<thead>
<tr>
<th>Category</th>
<th>Sub-division (Deck)</th>
<th>Sub-division (Engineering)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management level</td>
<td>Captain</td>
<td>Chief Engineer</td>
</tr>
<tr>
<td></td>
<td>Chief Officer</td>
<td>First Engineer</td>
</tr>
<tr>
<td></td>
<td>First Officer</td>
<td>Second Engineer</td>
</tr>
<tr>
<td>Operational Level</td>
<td>Second Officer</td>
<td>Third Engineer</td>
</tr>
<tr>
<td></td>
<td>Third officer</td>
<td>Third Engineer (Cargo)</td>
</tr>
<tr>
<td></td>
<td>Fourth Officer</td>
<td>Third Engineer (Electric)</td>
</tr>
<tr>
<td></td>
<td>Administrative Officer</td>
<td>Electrical Engineer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fourth Engineer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fifth Engineer</td>
</tr>
<tr>
<td>Support Level</td>
<td>Boatswain</td>
<td>No.1 Oiler</td>
</tr>
<tr>
<td></td>
<td>Able Body Seaman</td>
<td>Fitter</td>
</tr>
<tr>
<td></td>
<td>Ordinary Seaman</td>
<td>Oiler / Greaser</td>
</tr>
<tr>
<td></td>
<td>General Purpose</td>
<td>Wiper / Junior Rating</td>
</tr>
<tr>
<td>Trainee / cadet</td>
<td>Deck Cadet</td>
<td>Engineering Cadet</td>
</tr>
</tbody>
</table>

Resource: Author
Appendix 7 - Mate Domestic (Restricted) course and participant until July** 2018

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Courses</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018**</td>
<td>15**</td>
<td>461**</td>
</tr>
<tr>
<td>2017</td>
<td>36</td>
<td>1128</td>
</tr>
<tr>
<td>2016</td>
<td>26</td>
<td>703</td>
</tr>
<tr>
<td>2015</td>
<td>24</td>
<td>719</td>
</tr>
<tr>
<td>2014</td>
<td>21</td>
<td>586</td>
</tr>
<tr>
<td>2013</td>
<td>26</td>
<td>727</td>
</tr>
<tr>
<td>2012</td>
<td>18</td>
<td>549</td>
</tr>
<tr>
<td>2011</td>
<td>8</td>
<td>218</td>
</tr>
</tbody>
</table>

### Appendix 8 - Seafarers Cert. of Comp. (COC) oral exam. until July** 2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Deck</th>
<th>Engine</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018*</td>
<td>548</td>
<td>464</td>
</tr>
<tr>
<td>2017</td>
<td>699</td>
<td>745</td>
</tr>
<tr>
<td>2016</td>
<td>804</td>
<td>749</td>
</tr>
<tr>
<td>2015</td>
<td>1008</td>
<td>943</td>
</tr>
<tr>
<td>2014</td>
<td>1190</td>
<td>802</td>
</tr>
<tr>
<td>2013</td>
<td>760</td>
<td>733</td>
</tr>
<tr>
<td>2012</td>
<td>1671</td>
<td>1054</td>
</tr>
<tr>
<td>2011</td>
<td>1470</td>
<td>938</td>
</tr>
<tr>
<td>2010</td>
<td>1792</td>
<td>1086</td>
</tr>
<tr>
<td>2009</td>
<td>1792</td>
<td>1086</td>
</tr>
</tbody>
</table>

Appendix 9 - Seafarers Certificate of Competency (COC) Issued until July** 2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Deck</td>
</tr>
<tr>
<td>2018**</td>
<td>1359**</td>
</tr>
<tr>
<td>2017</td>
<td>3769</td>
</tr>
<tr>
<td>2016</td>
<td>4666</td>
</tr>
<tr>
<td>2015</td>
<td>3082</td>
</tr>
<tr>
<td>2014</td>
<td>2407</td>
</tr>
<tr>
<td>2013</td>
<td>2275</td>
</tr>
<tr>
<td>2012</td>
<td>1642</td>
</tr>
<tr>
<td>2011</td>
<td>1497</td>
</tr>
<tr>
<td>2010</td>
<td>2519</td>
</tr>
<tr>
<td>2009</td>
<td>1675</td>
</tr>
</tbody>
</table>

## Appendix 10 - Seafarers Cert. of Recog. (COR) Issued until July** 2018


<table>
<thead>
<tr>
<th>Year</th>
<th>Deck</th>
<th>Engine</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018**</td>
<td>1891**</td>
<td>1516**</td>
</tr>
<tr>
<td>2017</td>
<td>3221</td>
<td>2600</td>
</tr>
<tr>
<td>2016</td>
<td>3,600</td>
<td>2,952</td>
</tr>
<tr>
<td>2015</td>
<td>3,913</td>
<td>3,253</td>
</tr>
<tr>
<td>2014</td>
<td>4,164</td>
<td>3,340</td>
</tr>
<tr>
<td>2013</td>
<td>3,889</td>
<td>3,214</td>
</tr>
<tr>
<td>2012</td>
<td>3,749</td>
<td>3,340</td>
</tr>
<tr>
<td>2011</td>
<td>3,225</td>
<td>2,836</td>
</tr>
<tr>
<td>2010</td>
<td>3,259</td>
<td>2,839</td>
</tr>
<tr>
<td>2009</td>
<td>2,804</td>
<td>2,376</td>
</tr>
<tr>
<td>2008</td>
<td>1,362</td>
<td>1,142</td>
</tr>
</tbody>
</table>
Appendix 11 - Respondent feedback to research questionnaires.

Total questionnaires : 10
Total respondent: (63) : 100%

Q1. What is your Nationality?
Malaysian (59) : 93.7%
Indonesian (1) : 1.6%
Filipino (1) : 1.6%
Pakistan (1) : 1.6%
Yemeni (1) : 1.6%

Q2. What is your Gender
Male (62) : 98.4%
Female (1) : 1.6%

Q3. What is your Age?
64, 60, 65, 64, 65 (5)
54, 53, 56, 54, 58, 59, 51, 53 (9)
41, 41, 40, 43, 43, 41, 41, 41, 41, 46, 45, 47, 41, 48, 43, 44 (16)
39, 33, 34, 32, 35, 36, 31, 31, 35, 39, 33, 31, 37, 37, 35, 37, 37, 38, 30, 32 (22)
28, 26, 22, 26, 25, 22, 22, 24 (8)
18, 18, 18 (3)

Age group 61 to 65 (5) : 7.9%
Age group 51 to 60 (9) : 14.2%
Age group 41 to 50 (16) : 25.4%
Age group 31 to 40 (22) : 34.9%
Age group 21 to 30 (8) : 12.7%
Age group 16 to 20 (3) : 4.8%

Q4. What is your Occupation?

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seafarer</td>
<td>52.4%</td>
</tr>
<tr>
<td>Student</td>
<td>7.9%</td>
</tr>
<tr>
<td>Maritime Professional / Private Sector</td>
<td>31.8%</td>
</tr>
<tr>
<td>Government staff / Public Office</td>
<td>7.9%</td>
</tr>
<tr>
<td>Other: Marine Engineering Lecturer</td>
<td>4.8%</td>
</tr>
</tbody>
</table>

Note: In calculating the occupation group percentage, (for better data representation) Other occupation (Marine Engineering Lecturer, 1)* was regrouped into the Maritime Professional / Private Sector because the lecturer was working in private college.

Q5. From the following options, which do you believe good for the future training of seafarer in Malaysia to obtain Certificate of Competency (Professional License)? You can select more than 1 answer.

<table>
<thead>
<tr>
<th>Option</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enroll to maritime academy</td>
<td>90.5%</td>
</tr>
<tr>
<td>Enroll to any non-maritime college or university and study maritime related subjects as optional electives</td>
<td>20.6%</td>
</tr>
<tr>
<td>Study maritime-related subjects online while attending non-maritime college or university</td>
<td>6.3%</td>
</tr>
<tr>
<td>Working in any industry and pursuing maritime-related subject as modules in weekend class</td>
<td>25.4%</td>
</tr>
</tbody>
</table>
Other: Should acquire sufficient practical experience (1): 1.6%

Q6. In order to ensure trainee or cadet access to ship training, do you think it is a good suggestion if Domestic Shipping License (DSL) should be approved/issued by Maritime Administration upon providing the compulsory minimum of one (1) training opportunity (accepting at least one cadet) per ship (>500 GT) by a shipping company?

Strongly disagree (7): 11.1%
Disagree (1): 1.6%
Neither agree nor disagree (8): 12.7%
Agree (26): 41.3%
Strongly agree (21): 33.3%

Q7. In the previous question, why did you choose that answer. Please explain.

# To ensure job for M’sians
# The only guaranteed way for a trainee to get 12 months sea-time onboard
# More work opportunities for Malaysian
# Don’t really understand the question
# This to ensure that Cadet having their training and ship berth with proper way and Malaysian Shipping Company should give opportunity to Malaysian Cadet instead taking Officer or Engineer from outside Malaysia
# Encourage Company contribution
# The particular clause can be put applicable for vessel more than 500gt onwards
# Easier for Malaysian cadet to go sea training to complete their studies.
# To provide more training to cadet
# Since PERSUASION appears to be ineffective, LEGISLATION may be the only option available!
# continuous training opportunities accorded to the youngsters (of the Maritime Admin), to become future Marine/Shipping leaders.
# To ensure the placement of Malaysian cadet on board ship and retaining the sustainability of Malaysian seafarer on board Malaysian flag ship or ship which belongs to Malaysian company.

# Obviously...

# The shipping companies are already under tremendous pressure by the industry and making it compulsory it will only increase the burden on them. Bring realization and mutual understanding with the shipping companies would be more fruitful in getting more cadets inducted for training.

# It is becoming more difficult for cadets to get training berths. Some shipowners are avoiding taking in cadet to lower operating cost. Maybe we do not need to enforce one cadet per ship but relax it to about one cadet per year per ship or at cadets on board at least 50% of the ships owned.

# Give place for sea time

# To expose freshmen to real onboard ship situation.

# Training should be done in all ships to ensure tot session having good and balance feedback, from all levels.

# This is better way to provide more competent seafarers as per marine industry demand

# Owners/Operators requires inducement to be supporting their roles to develop the seafarer competency development, nevertheless certain charterers prohibit engagement of trainee/cadets onboard their chartered vessel for the fear of tarnishing their HSSE statistics due to incidents caused by inexperience upon which owners/operators are contractually obliged to comply.

# Ensure all cadet have proper opportunity to complete cadetship time. Because some institution only offers the course for cadetship, but cadet should find training ship for themselves unless they have fully sponsorship.

# To guarantee a ship for every cadet

# giving opportunity to future officer gain enough sea time in time

# to keep a competency and the qualification of training

# Good experience for them. Also, opportunity for learning process
# Cause nowadays it’s very difficult for new Malaysian seafarer and unsponsored cadets to complete a sea time and get a ship while all shipping company always put an experience seafarer Only as a term n condition to be onboard.

# We need enforcement in ensuring shipping company to assist government initiatives

# Young Malaysian can gain hands on experienced as part of learning process.

# Social responsibility of Ship Owner to local industry. In the current economic situation, they unable contribute in term of financial support or sponsoring local cadet, the minimum which they can do is to placed local cadet on board their ship for training.

# The industry needs more young and energetic people to run it.

# Agree 1 ship for 1 cadet minimum.

# To allow trainees to work onboard for experience.

# To give more opportunity to other trainer to training on-board

# To ensure opportunity given to locals

# to balance the output of marine engineering student from related marine academy or institution, training opportunity should be plenty to provide platform to the student to test their knowledge in real working environment

# no easily available ship to non-sponsor cadet

# Priorities to Malaysian seafarers to safe guard Malaysian interests & Malaysian seafarers should be made compulsory to serve on-board foreign flagged vessels issued with DSLE to a certain extent.

# no relevance

# This will give more places for cadet to pursue their training

# Needed

# To help cadets gain their practical knowledge onboard and I heard this is limited for them nowadays

# Part of company contribution to industry sustainability.

# Malaysian shipowner must assist in developing carrier in our own community.

# Give more opportunity to local student become cadet on board ship and get good inboard ship training.
# This action will expose either trainee or especially cadet about what they will face whenever onboard

# The compulsory requirement should not to state minimum one candidate of cadet to be accepted by the shipping company yet to regulate that the organization must willingly open the offer as many as possible for accepting the training cadet.

# So that the cadet can concentrate in becoming a seafarer.

# generally, shipowners do not wish to spend on cadet training, therefore, they have to be forced to do same

# "I Have my own thoughts for that question"

# This should be the decision of ship operating company, since the cost and liability have to be borne by the company, notwithstanding having a bond could be seen as surety but it’s not proven that trainees would honor the bond. I think the government need to encourage registered operators to provide training platform for cadets and in return give tax incentives and commercial recognition or credits on preferences. Malaysian government had done this previously under JPA (Public Service Dept) sponsorship schemes and tax reduction for shipping company, and this is a success story as we can appreciate the result by seeing those cadets are helming the maritime sector now as regulator, ship managers, technical teams etc.

# To ensure shipping company contribute towards the training of cadet, future supply of officer / engineer

# Strongly Need training onboard ship

# DSL should NOT in any way involve in training

# New trainee and cadet finding difficulty in getting shipboard service. Infect without them, future of shipping could be in a risk of grief need and demand.

# To compensate the growing demand of shipping industry

# Implementation of such regulation will increase of supply of Malaysian Seafaring officer.

# Because due to so many participate from maritime academy didn't get opportunity to join for ship berth

# As in the current economy situation, it is very hard to find a ship to do a sea training that more than 750KW
# It’s hard for student to get a ship for trainee purpose. Most of company is not provided training.

# A cadet shall need well-structured training programs and shall also require officers onboard with strong understanding of their role play. This may not be feasible on a near coastal and domestic vessels as the trading pattern may not conducive with said goal. More over in my experience noted that cadets are used for paper work and general worker onboard. I believe the standard and studying period structure must be emphasis for placing cadets onboard.

# It’s very hard to find ship for cadet

# Training onboard a vessel should be part of the package. Otherwise it is difficult for candidates to find any ships for training unless they are sponsored.

# I THINK IT BETTER TO MAKE IT TWO TRAINING OPPORTUNITY

Q8. From the ECONOMIC viewpoint, what kind of impact do you think when producing more seafarer with valid Cert. of Competency in Malaysia?

# Good impact

# Seafarer earn more, or above average salary and they spent it in their country of origin. This is good for the government coffer in term of sale tax being collected through purchase of various consumer products.

# Not sure

# Goods transportation via the sea is the main mean of way and very widely used in Malaysia and its provides the most income for the country. So, to maintain the standard and productivity of this means of transportation we should produce more talented seafarer to keep this business running

# More Malaysia Seafarer with valid COC require to fill up position onboard Malaysian Vessel and thus need enforcement from Authority to make sure Malaysia Shipping Company must take Malaysian Officer & Crew onboard Malaysia Register Vessel and Vessel Operating In Malaysia Water

# More income for country

# Our country dependency to foreign seafarers will be reduced

# Seafarer will be joining other disciplinary due to over producing

# Local economic will increase. Transaction of money will increase
M'sian-registered vessels can be operated by fully M'sian Seafarers, thus, stopping outflow of monies from M'sian when employing non-M'sians.

More Malaysia Seafarers, with Malaysian COC.....Salary is being spent, within the Nation.

More Malaysian seafarers can served on board Malaysian ship thus the money circulating in our country only.

Good

If we can market our Malaysian seafarers to foreign ship owners as they will be earning their income in foreign exchange it is without doubt they will bring in a lot of foreign exchange to the country which will benefit the economy of Malaysia.

Our maritime manpower needs can be fulfilled with local seafarers, providing more employment opportunity for locals. Shipowners will have a ready pool of manpower.

Good

Easier for LHDN to hunt down seafarer.

This will boost the economy

Malaysia maritime industry will have a lot of local professional and no more dependent to foreigners

More competent professional workforce will be benefiting the country's economy

Flooding of officer without demand will result jobless seafarer

To work on Malaysian and foreign ships.

stabilize the market for Malaysian officers with COC over too much depending on foreign officers

to keep a professionalize and trust from maritime business

Good impact in economy because we no need to hire at others country. We have experience seafarer in Malaysia.

More seafarers more business for shipping company and owner shipping can save more money from salary to pay foreigners. It also will give an extra income tax to government with seafarer’s salary high. And it also will be opportunities to other people to open maritime academy and its will be opportunity to others get a job after pension as seafarers.
# Malaysia can develop more on marine industry.

# Improved Malaysia economy by reducing money flow from the country.

# From Economic viewpoint, if we produce more seafarers with valid cert, Malaysian will be able to man all vessel operating within Malaysia & reduce dependent on foreign seafarers. Foreign seafarer as we know will bring back all their income back to their country but with local seafarers, all their income will be spent in Malaysia which in the end will benefit our own economy. With more Seafarer with high level of competency, they will be able to man international/foreign flag vessel & then bring back their income to Malaysia.

# More ideas, better quality management of maritime assets/resources and hopefully more vibrant shipbuilding contributing to Malaysia economy.

# Can boost up source of income for our nation in many ways.

# Seafarer can fill up the post to rub the vessel efficiently.

# No more money to flow from Malaysia to other countries

# Elevate the rating and salary scale of seafarer

# -

# less competition for salary amount

# I believe it will work towards a high-income nation.

# Increasing the number of qualified personnel for the country's merchant fleet and associated industries plus for the national administration

# It will bring in more students & hopefully allow our maritime training to grow in stature

# Competence

# To promote better shipping industries and help shipping in Malaysia grow well

# Will contribute to Malaysia revenue when the seafarers working especially for company outside Malaysia

# Our economic can grew better with our seafarer serving outside from Malaysia and at same time will reduce foreign officer serving in Malaysia registered vessel.

# Reduce foreigner seafarer and increase Malaysia economic income and profit.

# job opportunities increase
Indeed, there will be Positive impact in the shipping industry, produce better qualified and more competence seafarer.

# Less usage of outside workers.

# support local maritime institutions; foreign exchange income when they are employed by foreign shipowners; prevent loss of foreign exchange when local shipowners not having to employ foreigners.

# Increase the number of trades

# Support in the expansion of marine related businesses, develop microeconomies directly or indirectly related to sea, shore, ship, ports, environmental for business, research, socioeconomic in Malaysia.

# More local seafarer with employment in local company, the income generated mostly will spend in the local market which will increase the economic activities in local market.

# More chance of work with better salary

# More COC holders better for the industry and for the country

# A tremendous impact in the economy as well as to the Malaysia maritime industry. this will absolutely cover all the gaps and provide the country with future marine leaders and decision makers.

# It will have a great impact to the economy as more seafarer will be produce giving more jobs and careers for those who wanted to enter the seafaring / maritime industry.

# Increase in job opportunities, average salary of Malaysian, more spending power leading to increase in country income.

# Maritime Industry in Malaysia will be brighter

# The high competent to find a company

# Help the economy to build up

# "Input-Output Analysis can go a long way towards quantifying the indirect effects of industrial activity on the economy.

# In the case of the United States, for example, it has been recently calculated that for every job in the merchant marine, 4.4 additional jobs are created in the economy, and for every dollar of household income in this sector, 3.4 dollars of additional income is created in the economy by and large. Similar results can be demonstrated for Holland where the method has also been successfully applied."
# Money don't flow to other countries

# We will have more trained professionals for the future.

# More properties and goods will be bought in Malaysia

Q9. From the SOCIAL viewpoint, what kind of impact do you think when producing more seafarer with valid Cert. of Competency in Malaysia?

# Good social standing

# Seafarer work at sea and spending lesser time at home. Their personal contribution to the local community is less but they contribute more in term of material / money to the community.

# Less crime rates

# There won’t be any kind of impact as far as I’m concerned

# We will have good healthy competition among others Malaysian Seafarers and reduce dependency on foreign workers or seafarers

# 1 MALAYSIA

# More world class professional seafarers will be the pride of the nation

# Seafarer without job due over producing

# Very good for social.

# Provides sufficient number of M’sian Seafarers to be employed during times of celebrations of different faith/ethnicity.

# My Flag, My Ships, My Home, My Comrades...the answer is pretty obvious.

# I will positively encourage seafarer to get a valid COC in Malaysia and we can show the higher standards of Malaysian COC.

# Fair

# Socially the Malaysian seafarers are more closely related to Malaysia's domestic shipping their exposure to international trading of ship is limited and if they are exposed to worldwide shipping that could have a social impact on the seafarer's life style and therefore it could have a rejection effect. It is therefore necessary to expose them more at an early stage to adapt to the conditions of international trading worldwide and with time it will become a way of their social life.
# As they progress up in rank, they will be able to support our Maritime Nation goals.

# Good

# More detail in 1 database provides more networking.

# The world is changing, more rules to set nowadays, becoming valid seafarers meant becoming good professionals

# Can increase local Malaysian economy

# For the last 40 years, Malaysia have never been able to satisfy the numbers requirement for local COMPETENT seafarers, social impact will merely be various speculations viewed from different perspective.

# No comment

# Will minimize foreign seafarer aboard Malaysian ships

# good interaction and better relationship among Malaysian working onboard same ship can create healthy and positive outcome for company

# bring a confidence to the seafarer

# Increase seafarer salary. Also, a better life and opportunity for them.

# Maritime industry is very big and international business is involved, with more seafarers from all over place it will give more chance to adults to think and choose seafarers as a number one job. In Malaysia more adult still have a low information about maritime than others.

# Generate more carrier opportunity

# International standard and rules can be achieved.

# Socially, more seafarers mean more highly skillful professional which in return will produce high income society.

# I do not know.

# Able to inspire young generation to follow their foot step such as being a seafarer.

# Less social problems among people.

# Not good due only use Malay language

# Elevate the view of seafaring business
# -

# not sure

# Should promote seafaring as a positive career in Malaysia & to have more qualified seafarers in Malaysia. No excuse for employers to employ foreign seafarers.

# The recognition of the Merchant Navy as an important career and profession

# Will good for our local seafarer to expose themselves with different nationalities

# Dream job

# Knowledge and culture transfer among them when living together

# Will eventually promoting Malaysia to the world.

# The impact will be low or none if our all registered vessel in Malaysia hiring our own certified seafarer

# Increase Malaysian local people income and profit, next future can export local seafarer to other country.

# Malaysia culture is widespread

# More or less, undeniably contribute positive impact.

# Create a large community of local seafarers

# local environment on ships

# Less social interact on the mainland but improves within family members

# Join avenue for locals

# With more seafarer successfully establish locally will change the public view as more respectful and higher social status job in industry.

# Better people to be employ onboard ship

# Non

# Strength, great reputation, bright prominence and renown of Malaysia COC, will put her in forwards position in the maritime industry towards glory and fame among other countries in IMO.

# Socially more Malaysia seafarer will be produced whom interact more with other nationalities on-board ships.
# Increase in living standard
# Got many compete from others to join ship
# Lack of company to hire for Malaysian seafarer
# I don’t know
# It would a positive impact in regards of social view point as this would allow for better integrity, unity and cohesion amongst Malaysians.
# More. Malaysian will be good example to other countries
# It will give more job opportunities for Malaysians.
# Competition and violation of rest period

Q10. From the ENVIRONMENTAL viewpoint, what kind of impact do you think when producing more seafarer with valid Cert. of Competency in Malaysia?

# Will make a more environmentally friendly seafarer caring for his country.
# Seafarer are more environmentally friendly and responsive in the climate change issue due to their exposure to the international regulation.
# Environmental awareness
# I don’t think so any major impact would be there on the environment
# From this environmental viewpoint, producing of more Malaysia Seafarer with Valid COC will give us more strength to Malaysia itself and reduce dependency on foreign workers or seafarers itself, thus this will reduce negative influence from outsider cause normally Malaysia maritime sector was fill up by Foreign Seafarer from India, Philippines, Bangladesh, Indonesia, Myanmar.
# Less garbage (xxxxx seafarers) in Malaysia
# More environmentally conscious personnel will be produced and more awareness on environment hazards can be enhanced
# Lead to accident during operation because of less experience. Some company hire newcomer for cheapest salary without providing training.
# More educated people for save environment
Having awareness of environmental concerns may assist in reducing the carnage currently being heaped unto the environment by ignorant folks!

Qualified & Certified officers shall be "environmentally savvy"... cleaner Air & Seas.

Due to increasing of pollutants in our sea, hoping that with COC the officers will act accordingly to preserve the sea from a pollution and act towards a MARPOL.

Fair

Environment play a great part in shipping, having good, well trained and qualified seafarers they can contribute a lot to the environment with regards to global warming. The other environmental impact will be financially, they will be able to earn more and can also have a higher standard of living, and a better life style.

Will lead to better understanding of environmental protection.

Good

Easier to control and monitor the good, bad and ugly seaman for future clean environment

More responsible seafarers

Marine industry will be more attractive to the beginners to join and take part

More competent seafarers mean more knowledgeable workforce which is a positive effect to the environment.

With the implementation of environmental control onboard. Will effect all the seafarer to more aware with environmental effect when at home

Will manage marine pollution responsibly

cleaner oceans perhaps

to improve and increase attitude to the environmental aspect

More safety because they know better our nature and environment.

It’s good to see in Malaysia Ships only Malaysian onboard and they will develop our country with full of commitment. Thanks

Malaysia have sufficient man power to comply with regulations.

Depend on facilities provided.
More responsible local officer/engineers which understood the importance to preserve local environment instead of foreign officer who doesn’t care about preserving local environment.

I'm not sure.

Create more people with environmental awareness that can educate younger generation towards healthier future environment.

Nil

More job required

Elevate the awareness and contribution to the environmental cause

not sure

Given enough awareness, Malaysian are much more responsible to protect the environment especially their home waters.

No impact

No view

No idea

I don’t think so affected into it.

Pollution awareness will increase due to stringent regulations at sea.

None

Malaysia shipping company can depend 100% to very professional and well training local seafarer to operate their ship.

Nothing changes

Ideal answer is similar as previous answers.

Its shows how COC in Malaysia could become one of the world best choice for its purpose

Malaysian HSE standards kept

Water pollution
# A substantial pools of marine technology experts for research, consultancy, regulators etc.

# Seafarer exposed to a lot of international environmental regulation in shipping industry. The awareness to protect the earth is high.

# Give seafarer more spot in the industry

# More awareness

# Well "when the going get tough, the tough get's going". The harvest of points in 7, 8 & 9 will be observed clearly in the environmental impact. With the seafarer that had been through the above obstacles, they for sure had gain experience, skill, confident, discipline and full awareness of full rules and regulations regarding safety, health and of course environment. Hence the impact will be very significant leading clearly putting Malaysia on the right environment track.

# Seafarer strictly follow rules and regulations especially those related to environmental impact. Therefore, it will have a great impact in environmental aspect in Malaysia.

# The living environment of Malaysian may improve

# Our environment will have more seafarers

# Highly recognized in world wide

# Development of green shipping

# no comments

# Hopefully nobody will pump bilge water to our sea

# We will create more local professionals who understand the necessity to keep the environment safe.

# "It depends on the attitude of seafarer produced. If he is environmentally cautious it will be good for the environment"