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WORLD MARITIME UNIVERSITY

Malmö, Sweden

**MARITIME EDUCATION AND TRAINING
(MET) FUNDING MODELS IN DIFFERENT
JURISDICTIONS**

Challenges and Opportunities in South Africa

By

NOMZAMO CONFIDENCE PHEWA

South Africa

A dissertation submitted to the World Maritime University in partial
fulfilment of the requirement for the award of the degree of

MASTER OF SCIENCE

In

MARITIME AFFAIRS

(MARITIME EDUCATION AND TRAINING)

2019

Declaration

I, Nomzamo Confidence Phewa 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): 

(Date): 24th September 2019

Supervised by: Dr. Michael Ekow Manuel

Supervisor's Affiliation: Head of Maritime Education and Training Specialization,
World Maritime University

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Abstract

Title of Dissertation: **Maritime Education and Training Funding Models in Different Jurisdictions: Challenges and Opportunities**

Degree: **Master of Science**

Maritime transport is regarded as the backbone of world trade as over 90% of goods are transported by sea. Training for maritime personnel requires significant investment and the means for doing so differ from country to country. Maritime education and training institutions (METIs) are entrusted with the responsibility of providing necessary skills and knowledge to seafarers. This study examines the funding models in place for supporting maritime education and training (MET) in different jurisdictions and the role of government in funding MET. Furthermore, the paper assesses driving factors for MET funding to understand the reasons behind why and how MET is funded in selected jurisdictions. The research scope is limited to the operational level of MET; student funding as well as acquisition and maintenance of training resources. This is done through exploring funding models for MET in South Africa, Norway, Philippines, China, UK and Sweden.

KEYWORDS: Funding, Maritime Education and Training, Jurisdictions, maritime, institutions

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LIST OF ABBREVIATIONS

AMOSUP	Associated Marine Officers' and Seamen's Union of the Philippines
CBT	Competence Based Training
COC	Certificate of Competency
CPUT	Cape Peninsula University
DHET	Department of Higher Education and Training

DOT	Department of Transport
DUT	Durban University of Technology
ELS	Extended Loan Scheme
FET	Further Education and Training
GLSLS	Government Leading Student Loan Scheme
HELP	Higher Education Loan Program
HE	Higher Education
HEI	Higher Education Institution
HOD	Head of Department
HUET	Helicopter Underwater Escape Training
HRDC	Human Resource Development Council
IMO	International Maritime Organization
ITF	International Transport Workers' Federation
LSFS	Local Students Financial Scheme
MAAP	Maritime Academy of Asia and the Pacific
MarTID	Maritime Training Insights Database
MCA	Maritime Coastguard Agency
MET	Maritime Education and Training
METI	Maritime Education and Training Institution
MNTB	Merchant Navy Training Board
NDP	National Development Plan
NLS	Non-means tested Loan Scheme
NSF	National Skills Fund
OECD	Organisation for Economic Co-operation and Development
RDT	Resource Dependency Theory
RSA	Republic of South Africa
SA	South Africa
SAIMI	South African International Maritime Institute
SAMSA	South African Maritime Safety Authority
SAQA	South African Qualification Authority
SMarT	Support for Maritime Training

SSI	Southern Seas Institute
STCW	Standards of Training, Certification and Watch-keeping for Seafarers
TETA	Transport Education Training Authority
UK	United Kingdom
US	United States
USN	University of South-Eastern Norway
VET	Vocational Education and Training
WMU	World Maritime University

1 Introduction

1.1 Introduction/Background

Maritime Education and Training (MET) has become the central contributor in the development of the maritime sector giving that maritime operations play a critical role in boosting the economy of many nations. Additionally, skills and knowledge are becoming the core driver of economic growth which results in a better standard of living for the people (HRDC, 2015). However, as skills are becoming more and more important in the maritime sector, financial support for maritime education and training remains an issue of concern in many jurisdictions.

Salmi (2018) puts forward the view that, some countries promote equitable access to higher education by providing it free of charge. However, this is not the case in all jurisdictions. In contrast, most MET institutions in developing countries have limited means for providing free education. Due to limitations, there have been issues relating to differing levels of quality of MET in different jurisdictions (Wagtmann, 2016). Wagtmann asserts that it is for this reason that the International Maritime Organization (IMO) saw the need to introduce global standards through The International Convention on Standards of Training, Certification and Watch-keeping for Seafarers 95 (STCW) and its amendments. This convention is one of the Organizations regulatory pillars for optimizing maritime safety, environmental protection and the sustainability of the shipping industry. The so-called White List¹ indicates States said to comply with the convention. It should be noted that, it is not only developing countries which have MET quality issues; there are also developed countries with MET deficits (Wagtmann, 2016). Furthermore, given the different needs and priorities

¹ The formal name is “Parties to the International Convention on Standards of Training, Certification and Watch-keeping for Seafarers (STCW), 1978, as amended, confirmed by the Maritime Safety Committee to have communicated information which demonstrates that full and complete effect is given to the relevant provisions of the Convention” – Found in the various revisions of MSC.1/Circ.1163

of countries, financial resources to assist in promoting and supporting maritime education and training vary from country to country.

The maritime sector has a potential to offer a number of employment opportunities to thousands of citizens in different jurisdictions. However, scarce and critical skills within the sector are not clearly defined and promoted (HRDC, 2016). Normally, agencies that provide funding need to be aware of the types of scarce skills and professions they are contributing towards. Moreover, marketing of maritime studies or rather education, plays a big role in drawing attention of potential funders.

MET mainly covers the three elements; legal, administration and operational (Manuel, 2019). This research work focuses on the operational level of MET and unpacks important aspects underlying MET operations. The study further looks at models, opportunities, and challenges linked with MET funding in different jurisdictions. This was done as a comparative analysis between South Africa, Philippines, Norway, Sweden, United Kingdom (UK) and China.

1.2 Problem statement

According to the South African Department of Transport (2017), in tertiary institutions, maritime departments are usually small whereas the cost aligned with training seafarers in such departments is high. This leads to available funders going for large number of students in other disciplines because costs are relatively low, despite the fact that a huge shortage of professionals in the maritime sector has been discovered (HRDC, 2016).

“The nature of maritime and training is expensive therefore requiring many resources in monetary allocation” (Mohammed, 2017). Many jurisdictions lack support towards maritime education and training. While there may remain significant interest from potential maritime personnel (students) to be engaged in the sector, they are limited in their ability to do so by the lack of financial support. Further, educational challenges in the maritime sector have been recognized. They include, amongst others, inadequate capacity and infrastructure for maritime education and training; lack of proper

institutional and funding arrangements, and poor marketing and provision for maritime industry (NDP 2030, 2011).

Investment in skills development is therefore required to enhance production capacity in the sector. Figure 1 depicts spending on educational institutions, showing that governments from different jurisdictions are willing to improve the quality of education and ensure that more individuals enrol in higher education institutions.

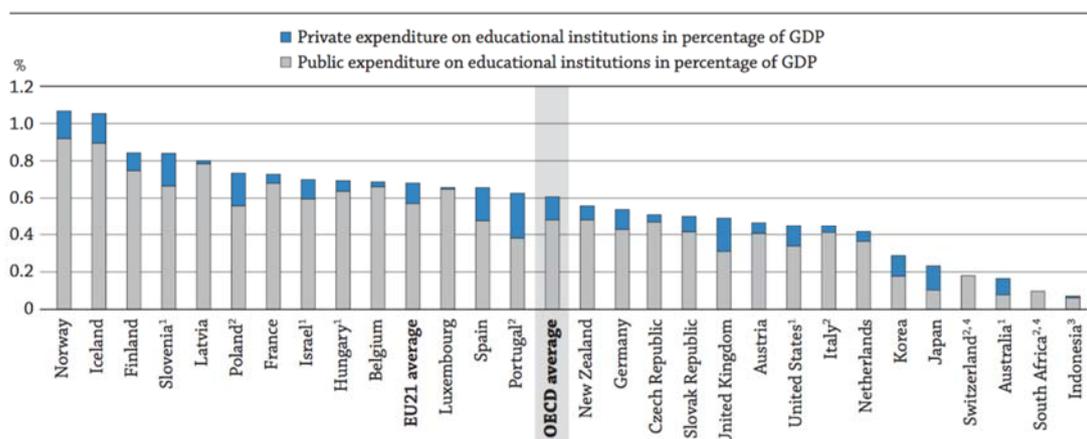


Figure 1: Private and public expenditure on education in % of GDP

Source: Roser (2019)

Despite the above, relatively little funding goes to maritime studies (HRDC, 2016).

1.3 Aims and objectives

The aim of the study was to examine maritime education and training funding models in different jurisdictions focusing on the role and importance of the actors involved and possible challenges and opportunities.

The specific objectives of this research are as follows:

- To identify the sources of and associated mechanisms for funding of maritime education and training in different jurisdictions;
- To assess the role of various government institutions in the funding of maritime education and training;

- To examine the factors that drive or inhibit optimum funding for maritime education and training;
- To identify existing and possible funding opportunities and challenges

1.4 Research questions

To conduct the comparative study and address the aim and objectives of the research, the following questions were used to drive this study and find the specific areas for analysis:

- What are common sources and mechanisms of funding for maritime education and training programmes?
- What is the primary role of government institutions in the funding of maritime education and training?
- What are factors that drive or inhibit optimum funding for maritime education and training?
- What are existing and possible funding opportunities and challenges?

1.5 Methodology

1.5.1 Research design

The study is based on MET funding models in different jurisdictions, looking at South Africa with reference to Philippines, Norway, Sweden, UK and China. In obtaining data the researcher used two research designs. The first is “exploratory” approach, deals with exploring/investigating a particular phenomenon, in this context, MET funding. Shukla (2014) states that exploratory research design is based on collecting either primary or secondary data through informal procedures to interpret them. The second research design is “descriptive” which seeks to define, clarify and interpret contemporary situations – “what is” and “how is” (Kowalczyk, 2003). According to Monsen and Van Horn (2008, p. 5) “descriptive research is an effective way to obtain information used in devising hypotheses and proposing associations”. In this study the

exploratory and descriptive research designs were used to obtain opinions of respondents who were previously funded for maritime education and training.

1.5.2 Research method

The study employed a qualitative research approach, as the focus was to examine the role played by the governments and private sector in funding MET in different jurisdictions. Qualitative research produces narrative data that is explained in words rather than in figures (Monsen and Van Horn, 2008). Although the study is qualitative in methodological approach, quantitative data was collected and analysed in some cases.

1.5.3 Data collection

Hahn (2016) defines data collection as the process by which researchers, academics, and other professionals collect information to check their hypotheses and arguments and answer their research questions. There are several distinct methods of gathering data, containing visual observation, interpretation, interviews, surveys, and experiments. Interviews, field observations, reports, and questionnaires (through Google forms) were used to collect data. Again, in order to meet the needs of the study, the researcher also studied journals, articles, books and carried out desktop research as secondary data. Participants in the study included South African Maritime Safety Authority (SAMSA), Department of Transport officials, Department of Education officials, South African International Maritime Institute (SAIMI), University officials and both male and female students from Philippines (interacted during the field trip), South Africa, Sweden, Norway and China.

1.5.4 Data analysis method

The researcher used Google forms to collect and analyse data, as this was the easiest way to reach all participants from many parts of the world. Narrative data analysis was the main method to analyse text from spoken and unspoken words, that includes data obtained from interviews, questionnaires and books, reports and journals related to the study. Rudestam (2015) asserts that in the later phases of narrative data analysis, researchers become narrators due to their interpretation of the obtained data.

1.6 Anticipated outcomes

In many jurisdictions several maritime education challenges have been recognized which consist of, poor capacity and infrastructure for maritime education and training, shortage of proper institutional and financial support, limited job opportunities, and poor promotion and provision for the industry (HRDC, 2015). Therefore, this study should contribute by emphasising the importance of government funding and other models of funding in enhancing and promoting the maritime education and present the gaps with regards to maritime funding that may not have been discovered by government officials. Furthermore, it can indicate how South Africa can learn from the Philippine, Sweden, UK, China and Norway.

The study should highlight the significance of maritime awareness in South Africa as the assumption is that most of the populace does not benefit from proper awareness in maritime studies/sector. The study could also assist in encouraging cooperation between South African Maritime Safety Authority (SAMSA), Training Education and Transport Authority (TETA) and all recognised maritime institutions in steering maritime education forward.

1.7 Ethical issues

The researcher ensured that the participants were not exposed to any harm per standard research ethics practice. Participants were informed that their opinions are strictly for the study purposes and that their names will under no circumstances be disclosed.

In order to obtain fair and clear answers to the proposed questions, the research was conducted in an objective manner. The researcher ensured that sources and materials are appropriately acknowledged. Additionally, guidelines, procedures and policies of the World Maritime University concerning such research work were strictly followed.

1.8 Key assumptions, limitations and methods to address these

1.8.1 Assumptions

For the purpose of this study following assumptions were made:

- The study assumed that, efficient data needed would be provided by potential participants;
- Through different channels of communication, the researcher would be able to reach participants from different jurisdictions

1.8.2 Limitations

Since the study is based in different jurisdictions, the researcher had difficulties in reaching all intended participants.

1.8.3 Methods to mitigate limitations

To mitigate the limitation, the researcher conducted telephone interviews and sent questionnaires through Google form. In this way, most jurisdictions were covered.

1.9 Chapter sequence

This study comprises five (5) chapters with each chapter based on an element of the research. Below is a brief description of chapters according to their sequence.

Chapter one: Contains the outline to the study, with an introduction and base for the study. The chapter further gives the research problem, research questions and looks at the significance of the research.

Chapter two: The chapter outlines the conceptual framework for the study by providing a literature review/examination primarily with regards to information about co-operation between government and other stakeholders.

Chapter three: This chapters describes in depth, the research methodology, process and design that was used in the study, in particular, in the collection of data and analysis of findings.

Chapter four: This chapter presents findings found through following the research approach described in chapter three. It also reveals what was found from the literature review, interviews, reading of reports, and questionnaires and lastly gives a description of how data was analysed

Chapter 5: This chapter provides conclusion and recommendations. It gives a brief summary of the research, outcomes of the study, and provides conclusions arrived at from the study. The limitations of the study, recommendations and suggestions for further research are also presented in this chapter.

2. Literature Review

2.1 Purpose of the chapter

This chapter serves to review the relationship between the proposed study (focused on maritime education and training funding models in different jurisdictions) and previous work conducted in relevant topic areas. Different theories that exist in guiding and providing an understanding of the financial element in supporting higher education are discussed. The chapter analyses literature from different jurisdictions.

2.2 Funding Models

Kim (2011) defines funding model as an institutionalized approach to creating a reliable revenue base that provides support for an organization's operations and services. Many jurisdictions have different funding models they use to allocate funds, particularly for education.

Nowadays, funding models are more than just sets of tools to allocate funds. They represent sets of instruments to achieve specific goals and maximize outcomes within the context of existing resource limitations (Chernova, Akhobadze, Malova, & Saltan, 2017). Due to external benefits of higher education, governments channel subsidies for higher education institutions and that action is influenced by political decisions, economic conditions and other socio-economic factors (Quassini, 2018). Understanding that a number of funding models exist, the researcher focuses first on public funding models - incremental funding, performance funding, formula funding, government operated loans schemes, and voucher system. Second is private funding - industry funding, loans from private entities, alumni and philanthropic interventions and endowment funds. Lastly, the focus is on international means of funding higher education institutions (transnational partnerships).

2.2.1 Public funding

2.2.1.1 Incremental funding model

The traditional funding model that was and is still used in some countries is incremental budgeting, sometimes called baseline budgeting (European Commission, 2019). This model builds on base budget by looking at the institution's previous year's budget and allocate resources on the base following a set of established budget guidelines (Quassini, 2018). Quassini states that even though incremental budgeting is traditional, it has good benefits including less time and cost dedicated towards creating a budget and it allows people involved in budgeting to focus on the main areas of change as the change in the cost can be seen. Criticisms against this funding model include its inattentiveness to inefficiencies, lack of strategic control and direction, and its vulnerability to politics (Hearn, 2015). This model often relies on line-item allocation, which prescribes internal use of the funding provided (e.g. equipment, salaries, etc.) (Layzell, 1998). Incremental budgeting may lead to managers using up all the funds by the end of the period so that the following period's budget will not be reduced (Gibson, 2009).

2.2.1.2 Performance-Based Funding (PBF) Model

Performance-based funding is the type of funding where government budget for a higher education institution is linked with its performance. Liefner (2003) highlights that in the past decades, governments in different western countries were forced by public pressure to seek for alternative ways of allocating resources without spending excessively, and one way of achieving that was linking funding to performance. This model is based on allocating a share of higher education budget according to specific performance indicators such as completion of a degree, completion of a course, research productivity and credit attainment (De Boer, et al., 2015). Jurisdictions such as Germany, North-Rhine Westphalia employ this type of funding. The performance based model tends to pay more attention to productivity in terms of the increasing number of graduates and credits they obtain without necessarily considering quality of education offered to the students (Miller, 2016). However, Hearn (2015) asserts that

the performance based funding model is good because its mission is connected to the state's goals and national priorities of students' degree completion and job placement. This model encourages continuous progress of the institution through good performance and outcomes (Layzell, 1998). Research that has been done in the Organisation for Economic Co-operation and Development (OECD) countries shows that there is an increase in the use of performance-based model of funding (Ahmad, Fairley, & Naidoo, 2013). Moreover, the performance-based model has been a success in Tennessee and Missouri, United States of America. These states focused on quality performance indicators to measure learning and teaching outcomes by paying attention to quality in educators, graduation, and performance of graduates. What sets performance-based budgeting aside from the other models is that it adopts a more merit-based approach, whereas incremental and formula budget (discussed below) are needs-based (Liefner, 2003).

2.2.1.3 Formula funding

Another funding model which many countries employ is formula funding which Jongbloed (2018, p. 1) defines as “the result of applying a mathematical formula to decide on the allocation of resources to higher education institutions”. Formula-based budgeting focuses on calculated basis for allocating funds for higher education institutions through the use of cost factors in relation to defined inputs (Liefner, 2003). The formulae often take into consideration the criteria that relates to higher education institution size as well as the unit cost, such as number of enrolments and normative allocation per student. The government has to adopt indicators that are not only for measuring institutional performance but responsive to economic and social forces (Gibson, 2009). Countries like Denmark and Netherlands apply formula funding as their resource allocation method.

2.2.1.4 Government operated loan schemes

An alternative financing system used by governments is the provision of loans which are managed and operated by government. This system is helpful because students get

the chance to enrol in higher education institutions. De Boer et al. (2015) notes that students are expected to repay the loan once they start employment or when their income reaches a particular level. In some instances, if a student performs well academically, some portion of the loan is converted into a bursary. However, there have been cases where students perform exceptionally well but have not received adequate funding, leading to a situation where the selection criteria for funding recipients has been viewed by some as questionable (Naidoo & McKay, 2018).

In 2002, the Chinese government introduced the subsidized student loan scheme called Government Leading Student Loan Scheme (GLSLS) for higher education students. This was deemed to be effective and was able to tackle financial aid needs of students. This loan scheme was introduced due to the rise of student enrolment in higher education institutions from the year 2000 to 2010. The increase was from 2.21 million to around 6.29 million resulting in 23 million students in higher education institutions (Lu, & Chen, 2014). In 1969 the government of Hong-Kong introduced interest free loans, called local students financial scheme (LSFS). Then in 1998 an extended loan scheme (ELS) with 4% interest was introduced. Currently, a non-means tested loan scheme (NLS) is being implemented in Hong Kong (Lu, & Chen, 2014).

Li (2011) states that in Australia, the common loan scheme is Higher Education Loan Program (HELP). HELP provides loan to students studying approved higher education courses. Students are expected to repay the interest free loan when their taxable income reaches a certain threshold (Ey, 2018). Under HELP there is also a Vocational Education and Training (VET) students loan which covers study costs for students undertaking such education and training as approved by government.

In South Africa, the National Student Financial Aid Scheme (NSFAS) is a government scheme that provides loans and bursaries to students who cannot afford to pay for their studies. Although this funding mechanism is helpful, it has been criticised because it is mostly a loan and only 40% of the amount is converted into a bursary on condition that students perform well academically (Naidoo and McKay, 2018). A few challenges to this scheme have also been found. Some students have been receiving bursaries

which are completely unrelated to their academic performance. Furthermore, students studying with loans struggle to get their final certificates after completion because NSFAS requires them settle at least half of their debts first (Naidoo and McKay, 2018). According to Maringira and Gukurume (2016), NSFAS is one of the many reasons that led to a student revolt referred to as “fees must fall” in South Africa in October 2015.

In the UK there are two types of student loans; one is tuition fee loan which is available to only cover tuition fees for students. This loan is paid directly to the institution (European Commission, 2019). Tuition fee loan is non-income assessed and is available to both full-time and part-time students. However, part-time students must be studying for a minimum of 25% of their time to be eligible. A second loan type in the UK is, maintenance loan which covers costs of accommodation and other student upkeep costs for full-time and part-time students. The exact amount provided differs from student to student, depending on their personal financial state and jurisdictions (e.g. amount provided to students who reside at home and students who reside outside London differs) (Thompson & Bekhradnia, 2011).

2.2.2.5 Voucher system

Cantonand van der Meer (2001) defines vouchers as grants targeted for specific commodities such as education to an individual. Students and families receive vouchers from the state which they can spend towards education. HEIs hand in these vouchers to government in exchange for funding. Advantages of vouchers include; promotion of competition between suppliers and promotion of consumer sovereignty. Disadvantages include; the limiting of choice of education by geographical factors in many jurisdictions. Vouchers system makes it difficult for clients to assess the quality of education (Jongbloed, & Koelman, 2000).

The table below summarizes funding models and education systems used in higher education.

Table 1: Example of Funding Models and Education Systems in some jurisdictions

Source: De Boer et al., (2015)

Country	Education System	Funding Model
1. Netherlands	Binary	Formula-based
2. Ireland	Diversified	Core- block grants, informed by formula-based unit cost calculation
3. Denmark		Mixed (incremental, performance-based and formula) 90% comes from the state
4. Finland	Binary	Direct Government Funding (Performance indicators)
5. Germany: North-Rhine Westphalia	Federal	Performance-based funding
6. Germany: Thuringia	Binary	Cost and Performance-based Overall Fund
7. Australia	–	Public Funding (Common Wealth Grant Scheme)
8. Austria	–	HE Area Structural Funds

2.2.2 Private funding

Public higher education institutions around the globe have created alternative means of generating funds from private sectors, leading to an increase in non-governmental resources (Tilak, 2015). Further, the private sector is often more than happy to provide funding for higher education and research, especially if they know it will benefit their business. Tilak (2015) raises a concern, however, that the increase in reliance on private funds may shift the main mission of higher education from that of altruistic public good to ends desired by the private sector, which could lead to distortion in research priorities and outcomes. On the other hand, governments are encouraging the rapid growth of private higher education institutions, without apparently responding to the burden it creates for citizens from disadvantaged backgrounds. In addition to all

this, an increasing interest in public entities functioning like private bodies is making even public higher education institutions try to operate as private institutions, resulting to an increase in the cost of education (Miller, 2016). In the same way, Farazmand and Pinkowski (2006) mention that one of the New Public Management (NPM) principles emphasises that the public sector should look into adopting the supposedly effective management styles of their private sector counterparts. Denhardt and Denhardt (2007) define new public management as a collection of modern ideas and practices that intend to use the private sector and business strategies in the public sector.

2.2.2.1 Industry funding

Financial support from industry for any number of activities plays a big role in the success of the higher education institution. Today, higher education institutions partner with big industries for the benefit of both parties, a phenomenon which is quite popular in the United States (Praneviciene et al., 2017). For higher education institutions, these partnerships provide financial assistance for their educational, research, and service operations. Additionally, they expand the experience of students and faculty; recognize significant, interesting, and relevant problems; enhance local economic development; and increase employment opportunities for students. For industries, these partnerships offer access to expertise they were not necessarily aware of or could develop themselves; aid in the restoration and development of technology; improved access to students as potential employees; expansion of precompetitive research; and ability to leverage internal research capabilities. However, these partnerships come with risks which involve conflict of interests between higher education institutions and the industry, undermining of academic standards and the potential suppression of information from fellow researchers (Atkinson, 2018).

2.2.2.2 Student loans from private entities

Tilak (2015) highlights that, the rise in number of students being accepted for higher education, student loans play a significant role considering that the state cannot cover all costs of education. Loans provide potential students from disadvantaged backgrounds an opportunity to invest in their future. However, Tilak (2015) does not

approve student loans because they become a burden to students. He further argues that higher education is meant to be a profitable social investment (for the public good) and for that reason it should be funded from public, not private funds. Moreover, Bond (2019) states that loans are known for being inefficient, for the following reasons:

- a) The difficulty and high costs of administration;
- b) The risk of non-repayment if graduates are unable to repay due to unemployment, low earnings, and illness;
- c) The danger of distorting students' choices of subject or career by encouraging them to opt for high earnings rather than courses or jobs that may be socially valuable but which offer low earnings prospects.

2.2.2.3 Alumni and philanthropic interventions

Maintaining a good relation with alumni is fundamental to the sustenance of the higher education institutions. Nowadays, alumni are keen to engage with and participate in their higher education institutions. Additionally, they have an interest on their alma mater's image, reputation and welfare. Alumni relations can offer a range of benefits to institutions which include financial, partnerships, expertise and brand awareness (Universities UK, 2014). Private higher education institutions have been using this strategy and it has benefited them in terms of increasing their enrolments and donations.

According to Chan (2016), philanthropy has played a huge role in the US by fulfilling the goals and promises of many individuals since the establishment of Harvard College in 1936. John Harvard, was the first private donor to support a college/university in the US. In 2014 donors contributed more than \$37 billion to US higher education institutions. Universities UK (2014) points out that philanthropy provides an array of benefits to colleges and universities including flexible income, long-term wellbeing of the institution through networking, and enhanced student experience and research programmes.

2.2.2.4 Endowment Funds

McElhaney (2010) states that, with the escalating costs for higher education and the pressure on government, universities and colleges look for alternative means for maintaining their financial stability. One of the alternatives is endowment funding. According to Irvin (2010) endowment refers to any asset of substance donated to an individual, country or organization to excel in their pursuit of business. McElhaney (2010) highlights that endowment funds play a vast role in higher education by granting a reliable and permanent source of income to support institutions' needs. Endowment funds are divided into three namely; true endowments, quasi endowments, and term endowments. The popular type held by HEIs is true endowment, also referred as permanent endowments. According to NACUBO (2016) true endowment funds are received as a private gift from a donor with instructions that the donation remain intact and investment benefits derived from the gift can be utilised for a stated purpose.

Quasi-endowment funds are funds that are not legally binding and the governing body has a right to use and invest them for specified purposes. Term endowment funds are funds that are given to by donation but can be used after a certain period of time or after a certain event has transpired (Irvin, 2010) .

2.2.3 Transnational partnerships

Transnational partnerships are defined as the mobility of higher education programmes and institutions/providers across international borders (Bordogna, 2018). If such partnerships are designed properly, they can offer institutions with means to satisfy operational and commercial objectives. Craciun and Orosz (2018) state that, transnational partnerships have the capability of improving student skills, institutionalization, higher national income and students' employability. Additionally, transnational partnerships in higher education may strengthen teaching and research capabilities. Helms (2015) argues that, as much as this method has benefits, it also comes with barriers which include, legal barriers, lack of common accreditation standards, and administrative barriers. The UK-China university consortium is an

example of transnational partnership. Montgomery (2016) describes the consortium as being made up of leading universities from the UK and Jiangsu in China. The aim is to promote collaboration through staff and student research exchange, engagement in research activities and training of students through transnational programmes (British Council, 2017). Transnational partnerships have the potential to make HEIs attractive places for employment for foreign academics and in turn academics from abroad improve the quality of education through innovation (Craciun, & Orosz, 2018).

2.3 The resource dependency of MET

MET in its nature demands on a variety of resources for effective training and transfer of skills and knowledge to students and professionals. As Sampson notes, "METs across the world vary tremendously in the amount of resource available to them for direct investment in their teachers and lecturers, in terms of wages and employment conditions, and crucially in terms of staff development" (Sampson, 2004, p.254). Globally, higher education systems are distinct and so are the way in which resources are acquired and allocated (Liefner, 2003).

2.3.1 Resource Dependency Theory (RDT)

Resource dependency theory became popular after Pfeffer and Salancik's (1978) publication "Studying Philanthropy and Fundraising in the Field of Higher Education: A Proposed Conceptual Model". The assumption of the resource dependency theory is that organizations' dependence on critical and vital resources influences organizational decisions and actions which can be explained depending on a certain dependency situation (Werner, 2008). This theory explores three important themes; (1) environmental effects on organization, (2) organizational efforts to manage environmental constraints, and (3) how environmental constraints affects internal organization's dynamics (Pfeffer & Salancik, 2003). In the maritime education and training context, the competition between METIs and the declines in government

revenues are an indication of external environmental effects on the institutions. There is competition for funding resources and for students (Gibson, 2009). Additionally, it has become difficult for higher education institutions with less resources to train and graduate students who are effective and can respond to the changing and technological world. For MET, training resources such as humans, laboratory equipment, pools, simulators, relevant shipboard equipment and workshop facilities for storing equipment, and even training vessels, among others, are relatively costly.

2.4 Government role in education

In many jurisdictions education is a fundamental human right and also fundamental to the awareness of and ability to not have human rights abused. The National Council of Educational Research and Training (2014) of India defines education as a continuous process whereby an individual acquires experience, wisdom, and knowledge through different channels. Psachropoulos (1989) asserts that, education is an economically and socially productive investment that in many jurisdictions is financed and provided principally by the state. Consequently, during the Prague education summit in Ukraine and the Bologna Process in May 2001, ministers from the involved European states gave their support to the idea that higher education is a public good and should remain a public responsibility (Nyborg, 2004). This suggests that if education is regarded as a public good, no monetary value should be attached to it and it should be provided by the state to the people. Accordingly, governments have the responsibility of ensuring that education is accessible to all citizens and to the largest extent possible, free². According to the British philosopher, J. S. Mill, a public good is something given either because of its benefit to the society as whole (e.g. waste management) or because it is impossible to provide it privately (e.g. police services) (Mill, as cited by Morgan & White, 2014).

² Article 26 of the United Nations Declaration of Human Rights indicates that “Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory”.

Additionally, a public good offers external benefits to the society as they are non-excludable³. Hufner (2003) asserts that, the debate about whether education is a public or private good is approached from three perspectives: economic⁴, legal⁵, and normative-political perspectives⁶. Similarly, Williams (2016) points out that theorists who regard education as a public commodity are usually concerned about equity; in other words they are making a normative case that all stages of education should be made available to all. On the other hand, others are concerned about external economies with the belief that a community that has highly educated individuals is more economically well off. Lastly, there is a belief that knowledge obtained from higher education is a non-rivalrous⁷ good, in a sense that once it is generated it is neither exhaustive nor decreased by use therefore it becomes available to all at a lower cost. In contrast, opponents put forward the view that education requires expensive resources, therefore the recipient of education must pay for it. They argue that knowledge acquisition and creation is costly, so it only makes sense that it be kept as a private commodity otherwise one is confronted with the “free-rider” problem⁸ in economics.

According to the Organisation for Economic Co-operation and Development (2013) the government of Norway provides education for free at all levels except pre-primary

³ Goods are deemed Non-excludable when no individual or group of people can be prevented from enjoying them (Kenton, 2019).

⁴ Economic perspective stresses that before deciding whether or not higher education should be public or private one should understand the meaning of “public good”. It argues that graduates capture full benefits of higher education which makes it excludable. On the other hand, it also highlights that academic researchers publish their books and journals that everyone can read, in that way the aspect of non-rivalry is achieved. The economic perspective concludes with the view that higher education is a mixed good.

⁵ Legal perspective is based on the view that, writers protect their work through property rights. The legal perspective also stresses that education is a human right which must be free and accessible to all. Following these views, Article 26 of the Universal Declaration of Human Rights of 1948 is said to be vague.

⁶ Normative political perspective looks at the internationalization of higher education system.

⁷ Goods that their consumption does not diminish the next person’s ability to enjoy them are referred as non-rivalry goods (Kenton, 2019)

⁸ Free rider problem occurs when there are individuals who utilize a particular good without paying or giving a share for it (Kenton, 2019).

level. This is to ensure that everyone has access to education, irrespective of their economical or social background.

Martin (2017) differs from other authors in asserting that higher education contributes to improved socio-economic fortunes, therefore it is only fair that the government provides financial support for low-income students or allow them to request for a loan. In his view, financial support should not be full funding because even well-off students will end up benefiting from it. In contrast, Brighouse (2004) argues that the benefits of higher education are directly for the person attending, therefore students should be responsible for their choices and pay for their studies. Higher education is voluntary and expensive therefore it is unreasonable to ask for other people to pay for it and primary beneficiaries should be accountable for their behaviour (Brighouse, 2004).

In this context, another key aspect which should not be overlooked is the process of introducing educational issues on the agenda for recognition and buy in. Kingdon introduced a three multiple stream approach for policy making, namely; problem stream, policy stream and political stream (Fischer, Miller, & Sidney, 2007). The problem stream refers to perception of problems that are seen as public and affect the citizens in a sense the government intervention is required. This stage involves problem recognition, framing and definition. In this case a good example would be lack of funding for MET, for this issue to get attention it has to be recognised as a pressing issue. Policy stream refers to the process of formation and refining of policy proposals. This stream involves debating of ideas, obtaining buy-in from relevant stakeholders and feasibility. Lastly, politic stream which is a broader one, refers to the political climate and readiness of individuals to face the problem at hand.

2.4.1 Human Capital Theory (HCT) and higher education

Tittenbrun (2017) asserts that in order to understand the value of education one must understand human capital theory. Human capital is defined as the stock of skills, competencies and talent embodied in an individual through education and training (Karres, Kourliouros, and Michailidis, 2017). Furthermore, human capital is regarded

as the function of experience and education whereby an individual is able to reflect what has been learned by doing, whether outside or within a workplace.

Human capital theorists put forward a view that educated individuals are productive in a working environment (Olanyan, and Okemikine, 2008). Correspondingly, the theory puts an emphasis on the notion that individual's education is key to the progression of a country's economy; meaning the more an individual accesses education, the better their returns in financial reward and the better for the economy of the country (Gillies, 2017).

Hill, Hoffman, and Rex (2005) assert that higher education affects economic wellbeing in the following ways; first direct expenditures by institutions, employees and the students influence the local economy (see figure 2, panel A). This spending increases to a point that the money is used to purchase goods and services outside the local area, and that contributes to the aggregate income. Secondly, higher education has both financial and non-financial benefits to an individual and a community in general (see figure 2, part B). The average salary of an individual is closely linked to their educational achievement. For example, generally speaking, an individual with a bachelor's degree is expected to earn more than those with only secondary education, as postgraduates with masters and doctoral degrees earn relatively higher than those with bachelor's degree. Additional benefits of educational attainment include decreased crime rate and exposure to diseases.

Thirdly, institutions of higher education are about the creation and transfer of knowledge. Therefore, higher education is key to innovation, research and development which directly benefits the society and the economy of the country (see figure 2, part C).

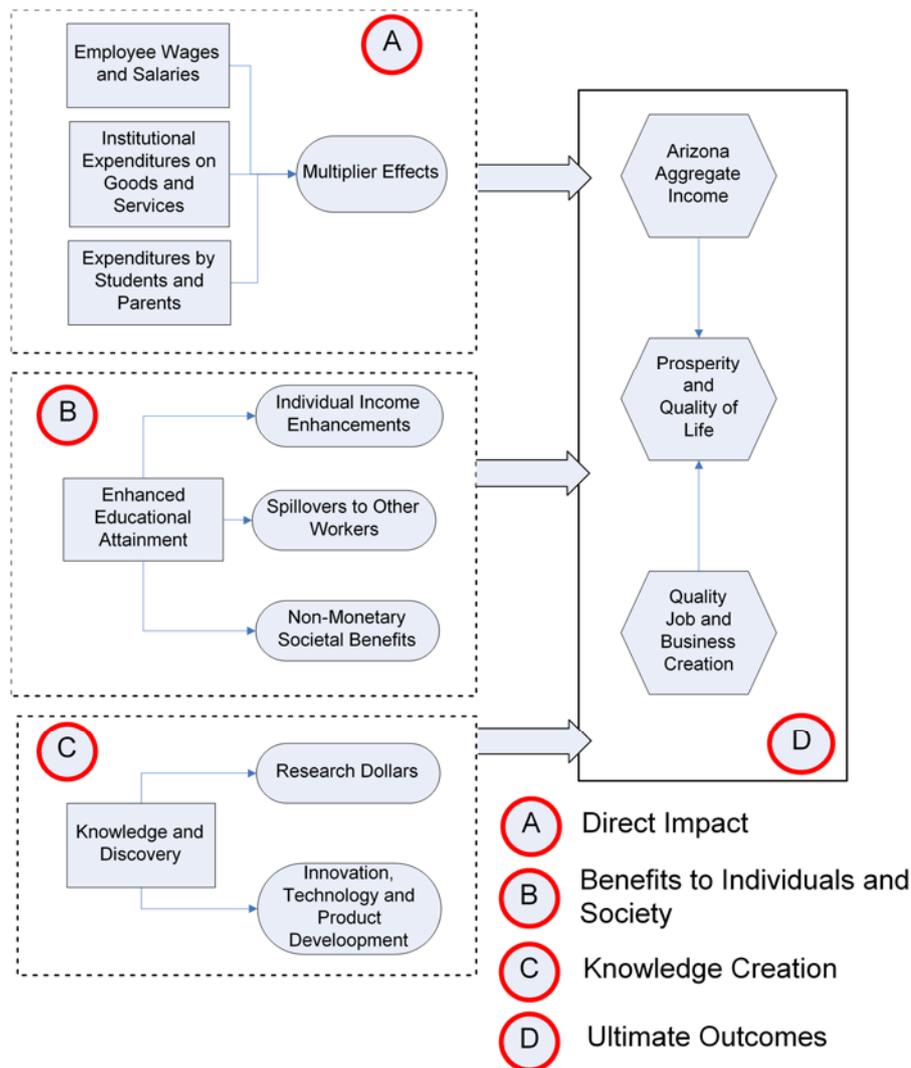


Figure 2: Relationship between higher education and economic well-being in Arizona
Source: Hill et al. (2005)

2.4.2 Higher education cost theories

For understanding the cost and spending element in higher education institutions, the researcher draws on the two HE cost theories: revenue theory of cost and cost disease theory. According to the revenue theory of cost, sometimes called the Bowen's Law because it was articulated by Howard Bowen, HEIs determine their costs based on a given revenue (Archibald, & Feldman, 2006). In other words, higher education and training institutions spend as much as they raise for the purpose of promoting their

excellence, prestige and honour and these expenses directly affect the rising cost (Newman, 2013). Bowen further asserts that costs arise because of the decisions taken within the higher education institution. Higher education institutions raise funds and spend them on unlimited projects that they believe will enhance quality. On the other hand, Baumol's cost disease theory argues that, costs increase because of external factors (Newman, 2013). Baumol then identifies education as a non-progressive sector in the sense that it is highly labour intensive and labour productivity does not necessarily grow in the long run. his arguments on this is that labour intensive sectors such as HE cannot utilize technology as a leverage to improve productivity like capital-intensive sectors do. Looking at the case of MET, one may link Baumol's assumption with the current disruption of automation, technological advancements, changes in regulations and competition that METIs are faced with in how – as external factors – they contribute to an increase in costs.

2.5 Scarce and critical skills

According to Powell, Peterson and Reddy as cited by Reddy, Rogan, Mncwango, and Chabane (2018) “scarce skills occur when the demand for specific occupation outstrips the supply of the occupation at a specific price”. Critical skills, on the hand, are defined as the demand for a component of the practical and reflexive competence that allows for specialization within the profession and it includes top-up skills (Department of Labour, 2005).

During a roundtable discussion in Singapore, the panel which included officials from BP Shipping Ltd, Institute of Marine Engineering, Science and Technology (IMarEST), Maritime and Port Authority of Singapore and Singhai Marine services made recommendations with regards to skills gap in the maritime sector (Maxwell and Kelly, 2016). The panel recommended that, training providers and shipping companies should work collaboratively to review modern requirements of training and necessary skills required in the sector. Lastly, there should be a method of ensuring that newly-

qualified cadets and ship crew use knowledge in order encourage continuous development (Maxwell and Kelly, 2016).

According to National Employer Skills Survey (NESS) (2017) in the UK, skills gap were identified in the area of practical or job specific skills and technical skills. Additionally, skills gap were identified in the area of communication and team working. Maritime employers reported gaps in management skills, office administration skills and technical practical skills. Reported rationales for these gaps include failure to train and develop workers, lack of motivation for employees, high staff turn-over and inability of staff to respond to change in the shipping sector.

2.6 Existing challenges and opportunities

Maharey (2011) stresses that higher education is exceptionally expensive in such a way that it even tests the financial capabilities of the richest nations. It is even worse for developing nations. The costs associated with providing facilities, support structures and human resource for higher education is high and this is a challenge in many jurisdictions. In a world of increasing internationalising of education, higher education institutions are no longer regarded as national or regional. They are expected to compete at an international level and in this case, only the best will do well (Maharey, 2011).

Moreover, Liefner (2003) highlights that, in some jurisdictions the education system is state-oriented meaning that higher education is strongly managed by government. The challenge is that state-oriented systems tend to be less innovative and resistant to change. Considering that the maritime sector is complex and dynamic, the maritime education and training system should be able to respond to changes and do so in an agile manner.

Challenges affecting financing higher education have been identified by different researchers. Leshanych et al. (2018) stresses that, in higher education institutions there is little transparency in terms of financial management and accounting practices.

Moreover, there is no mechanism in place for detecting loopholes, misuse of funds and changes in utilization of finances (Leshanych et al., 2018). In the case of maritime education and training (MET), there is a lack of communication between the maritime industry and the maritime education and training institutions in terms of scarce and demanded skills by the industry (Maxwell, & Kelly, 2016). The lack of communication between the two parties leads to potential funders drawing back and not offering financial assistance due to unclear explanation on scarce skills required. Another issue is that, the governments do not understand the potential of the maritime industry and the associated education and training, in particular in the evolving fourth industrial revolution (4IR) when it comes to funding MET. Many governments lack understanding of the potential of MET which in turn affects funding (Manuel, 2019). Manuel further states that for some countries it is difficult to place the issue of higher education funding on the public agenda, in particular MET because of this lack of understanding. Another challenge is that there is too much pressure on the government as many socio-economic issues, other than education, also require public funding. Recruitment and retention of staff can also be difficult due to salary levels relative to offshore salaries.

Chernova et al. (2017) states that, with regard to allocating funds on the basis of higher education institutions' performance, researchers have reported some difficulties and they include lack of publicly available information on HEI activities and the challenges arising from comparing available data in an effort to determine statistically important correlations (e. g. between the governance system and university ranking).

Despite all the challenges highlighted, there are opportunities for MET. In the UK higher education institutions collaborate with businesses as a way of attracting funders⁹ (Universities UK, 2014). By so doing, HEIs are building relationships with businesses and the wider community, in turn they receive income from these knowledge exchange initiatives then reinvest it to support future businesses of the institution. Online learning in METIs has become popular, meaning even individuals

⁹ This is called knowledge exchange

in different jurisdictions can study. As much as competition is normally viewed as being negative, but it can also be an opportunity for METIs to excel in providing necessary skills and possibly attract funders (Organisation for Economic Co-operation and Development, 2013). Additionally, maritime industry is international in its nature therefore even countries are competing which may be good to steer the MET forward.

2.7 Chapter summary

This chapter has presented different funding models in higher education institutions in relation with maritime education and training. From the literature, one can state that there is no one perfect funding model which is why some countries choose to use a mix of models. The researcher was also able to link the research topic area with different theories that exist in understanding the financial element in higher education. From the literature it can be concluded that, higher education and training institutions are no longer relying exclusively on government support but seek alternative means of funding their operations.

3. Methodology

3.1 Purpose of the chapter

Following the literature review above, this chapter focuses on research methods and tools that were employed in order to obtain data on Maritime Education and Training funding models in different jurisdictions together with the associated challenges and opportunities for funding. The purpose of this chapter is to outline a clear and complete description of steps that were followed.

3.2 Selection of jurisdictions

Different jurisdictions were chosen for the purpose of achieving the aim of the study. South Africa, Norway, Sweden, China, United Kingdom and Philippines formed part of the study. Norway is one of the most innovative nations with fast growing technological advancements (Fogeborg, Mowery, and Verspagen, 2009). Therefore, the author selected Norway for the purpose of understanding the development of MET training resources such as simulators and their implementation in the University of South-Eastern Norway (USN). Additionally, the researcher's aim was to understand the strategy of free higher education in Norway.

Sweden and Chalmers University of Technology were selected due to convenience to the researcher. Most importantly, Sweden is the host country for the World Maritime University (WMU), which is regarded as the international university where students from different jurisdictions enrol.

According to International Chamber of Shipping (2018), Philippines is the largest supplier of ratings in the world with a number of MET institutions. The researcher selected Philippines with the aim of gaining an understanding of how students fund their studies and the institutional strategies for human resource continuous

professional development given that this country keeps producing seafarers that are employable around the world.

South Africa has been chosen because of its potential for growth in the maritime industry, despite which there have been reports that there is a shortage of financial support for MET in the country. Accordingly, the researcher aimed to gain an insight the issues confronting South Africa in terms of promoting maritime studies to its citizens, investment in training resources in METIs and the funding models that exist in the country.

China is the biggest supplier of officers followed by Philippines (International Chamber of Shipping, 2018). The researcher selected China with the aim of understanding its strategy for resource acquisition, utilization and maintenance of those resources, and METIs operations in China. Lastly, United Kingdom was chosen because of its unique funding strategy - Support for maritime training (SMarT) - which has been running since 1998.

Additionally, agencies such as Transport Education Training Authority (TETA), South African International Maritime Institute (SAIMI) and National Skills Fund (NSF) were selected because they fund education in South Africa. Therefore, the aim was to understand their selection criteria for funding MET.

3.3 Selection of participants

The study was specific to the departments, higher education institutions and jurisdictions to be involved in data collection process therefore a purposive sampling method was used. Johnson (2008) defines purposive sampling as a non-sampling method in which the researcher solicits individuals with exact characteristics to take part in a research study. However, the study also employed random sampling method in the sense that it also allowed students enrolled in the maritime disciplines in the universities to fill in questionnaires to ascertain their views regarding what attracts

MET funders. Primary respondents were from South Africa, with secondary respondents from Philippines, Sweden, Norway and China.

Most participants were from Durban University of Technology (DUT), Cape Peninsula University of Technology (CPUT), South African Maritime Safety Authority (SAMSA), South African International Maritime Institute (SAIMI), Transport Education Training Authority (TETA), students and University officials in South Africa, China, Norway, UK and Philippines, Departments of Transport and Departments of Education from UK, South Africa and Philippines.

3.4 Data collection method/instrument

For the accomplishment of the study, a qualitative approach was used as the main methodological approach. However, some quantitative data was also collected such as the number of learners who were and are funded for maritime education and training. “Qualitative research method refers in the broadest sense to research that produces descriptive data - people’s own written or spoken words and observable behaviour” (Taylor, 2016, p. 7). This approach was used because the researcher was concerned with the meaning that individuals attach to things in their own lives and in this case being the financial support for Maritime Education and Training in different jurisdictions.

3.4.1 Primary source data

3.4.1.1 Questionnaires

In collecting data, internet-based questionnaires were used. This was because, in this format, questionnaires could be sent quickly anywhere in the world. As a result, it was relatively easier to reach people from different parts of the world such as South Africa, Philippines and United Kingdom. In China, questionnaires were sent as a word document via email. Mitchell (2010) asserts that questionnaires are advantageous

because they allow participants to be anonymous and the researcher has less control over participants' opinions, meaning there are less ethical problems.

3.4.1.2 Interviews

Telephone interviews were conducted for the accomplishment of the study. Opdenakker (2006) notes that telephone interviews are advantageous because they allow extended access to participants, and people from all over the globe can be interviewed. Moreover, some issues may be sensitive to discuss face-to-face. Telephone interviews enable participants to express their opinions without fear. Additionally, less resources (e.g. money and time) is spent as the need for travel to different jurisdictions to collect data is obviated. For these reasons, the researcher chose to use telephone interviews in particular to avoid having to travel to all different jurisdictions.

3.4.1.3 Observations

The researcher visited Maritime Academy of Asia and the Pacific (MAAP) in the Philippines, University of South-Eastern Norway (USN), Chalmers University of Technology in Sweden and Fleetwood Nautical Campus in UK. The aim was to observe the available training resources and interact with people responsible for obtaining and maintaining those resources. Observations assisted the researcher to experience the original situational context and ask some important questions arising from observing the training resources. Field observations include studying situations, people or things by physically viewing them in their natural condition (Michael, Olalekan, Ovie, & Onjefu, 2017). A notebook, images and audio recorder assisted the researcher in collecting and interpreting data from the observations.

3.4.2 Secondary data collection methods

3.4.2.1 Desktop research and relevant literature

The researcher read academic publications on the subject, governmental and organizational policies, the STCW Convention 1978, as amended, and other IMO Conventions as well as reports from the department/ministry of education and transport from different jurisdictions, the ministries of Maritime, National Skills Fund (NSF) of South Africa and the South African International Maritime Institute (SAIMI). The reports were based on funding models from each of the afore-mentioned parties and jurisdictions.

3.5 Data analysis methods

Narrative analysis method/inquiry was applied in order to reformulate narratives and experiences presented by respondents. This entails spoken and unspoken content obtained from respondents. After the interview or observation, the researcher reflects on the narrative aspects, improves them and presents restructured contents to readers (Nigatu, 2009). In this study the researcher analysed data from telephone interviews and internet-based questionnaires from respondents, to generate understanding and enhance data for optimal presentation.

3.6 Ethics

Participants' participation was subject to their informed consent. They were informed about the study two months before the commencement of data collection process. This was done to ensure their comfort and availability in the process. Following that, participants were also notified about the research clearance from the World Maritime University Research Ethics Committee to assure them that the study is undertaken in an ethical manner and that confidentiality or anonymity (as relevant) would be ensured. Additionally, participants were made aware beforehand that the research was

exclusively being conducted for academic purposes and that they had the right to withdraw at any time. The time to be spent in filling-in questionnaires and/or in interview sessions was also indicated to participants.

3.7 Study limitations

Due to the dispersion of participants the study had limitations because it involved different department/ministry officials, university students and staff from different jurisdictions. This led to the researcher not reaching all the intended participants. Additionally, the researcher conducted telephone interviews and sometimes there were distractions on the side of the interviewee which the researcher had no control over. Opdenakker (2006) states that telephone interviews are limiting in the sense that they reduce social cues. The interviewer had no opinion on the environment in which the interviewees were situated. Therefore, the interviewer had less possibilities to create a conducive interview ambience. Additionally, the researcher could not find people from Norway, Sweden and China to interview about the funding of MET. Interviewing an official from the National Skills Fund (NSF) would have made a contribution to the study but unfortunately the researcher was not able to find an interviewee.

With regards to internet-based questionnaires some participants did not fill out questionnaires on time and that made it difficult for the researcher to begin with data analysis. In addition, other participants apparently forgot to fill out questionnaires despite a series of reminders and follow-up by the researcher had to do a follow-up. It is for this reason that the researcher could not obtain data from Sweden.

3.8 Chapter summary

Chapter three outlines and provides a description of the methodology that was used in the research work and the specific methods used to collect data from higher education institutions, and departments/ministries for the completion of this study. The motives behind selecting these methods are discussed, as is the limitations linked with the

process of data collection. The following chapter, which is chapter 4 presents the findings which were obtained through the outlined methods and the analysis done on these findings.

4. Findings and Data Analysis

4.1 Purpose of the chapter

This chapter aims to present the results and analysis from the data obtained using the methods and tools discussed in the previous chapter. The findings of the study relate to the research questions. The researcher uses narrative analysis method to reformulate narratives from the respondents. Narrative analysis is a method that helps us understand human experience through narratives that, in turn, assist us to understand human phenomena and their existence (Kim, 2016). The results are to answer the following research questions:

- What are common sources and mechanisms of funding for maritime education and training programmes?
- What is the primary role of government institutions in the funding of maritime education and training?
- What are factors that drive or inhibit optimum funding for maritime education and training?
- What are existing and possible funding opportunities and challenges?

4.2 Demographics of participants

4.2.1 Jurisdictions of participants

As mentioned in the previous chapter, participants are from different jurisdictions namely China, UK, Sweden, Philippines, South Africa and Norway. Figure 3 shows the number of participants from the mentioned countries. One can also see on Figure 3 that there was no participation from Sweden due to the reasons presented under the limitations of the study. Most participants were from the Philippines (25) and South Africa with less participation in Norway.

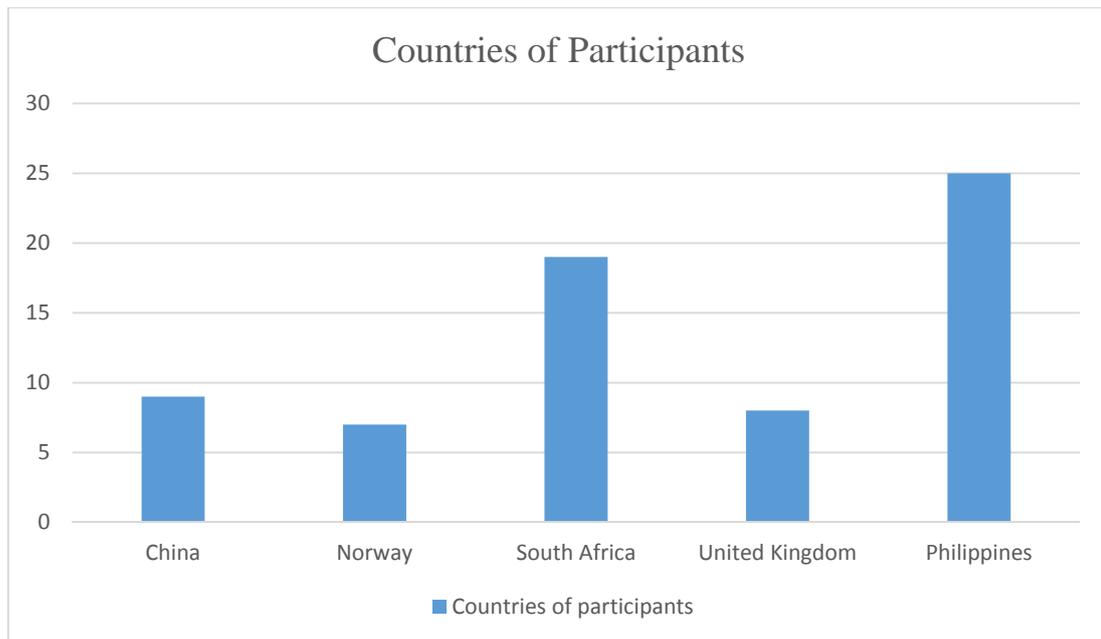


Figure 3: Countries of Participants

4.2.2 Gender of participants

Figure 4 shows the gender of participants in both questionnaires and interviews. The figure indicates that most participants were males – 75%. The participation of females was 25%. The lower number of female participation is in consonance with the views of Kitada and Langaker (2017), who highlight the persistent dominance in the maritime industry of males due to the pervasive societal perception that seafaring is risky.

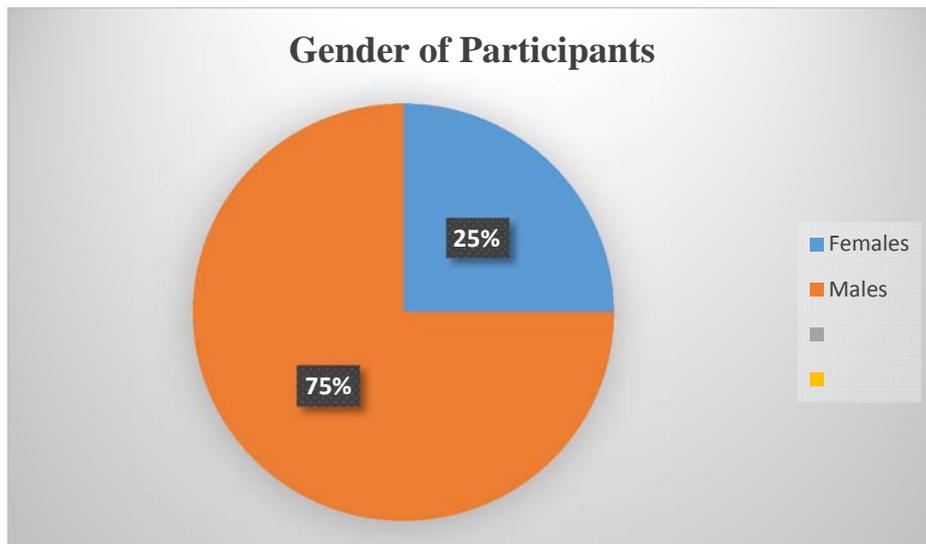


Figure 4: Gender of Participants

4.2.3 Age of participants

Figure 5 depicts the age of participants. The figure indicates that more participation was from people aged between 17 to 25 (66%) and the least participation was from people aged between 44-51, 52-60 and over 60. It must be noted that not all participants provided their age.

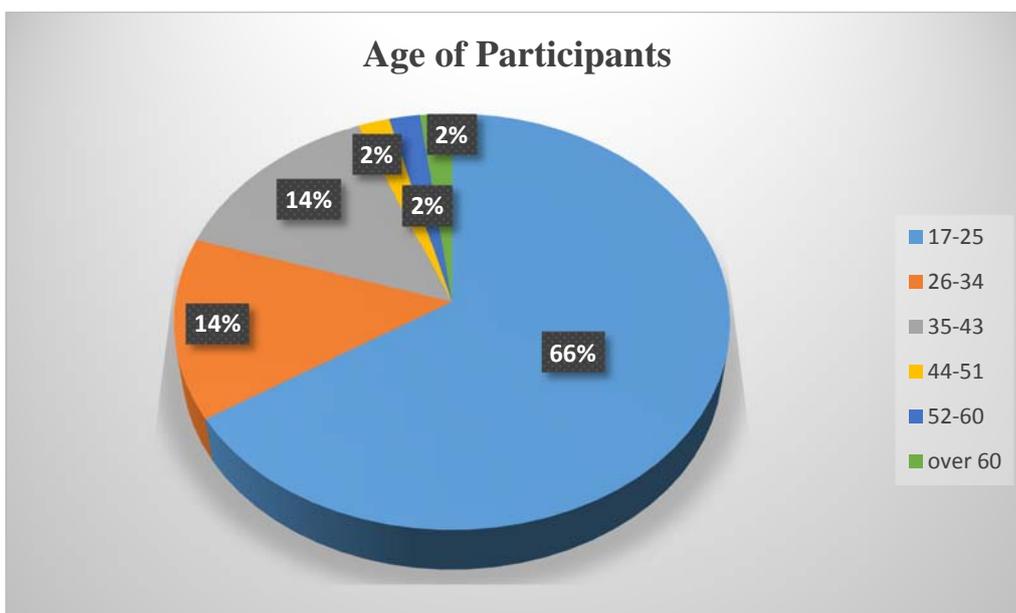


Figure 5: Age of Participants

4.3 Findings from questionnaires

The researcher has mentioned previously that the main methodological approach was qualitative with the collection of some quantitative data through the questionnaires. Three sets of questionnaires were distributed, one for currently enrolled students for any maritime-related course, one for staff members at METIs or faculty of maritime and the last one for graduates in the maritime field. Questionnaires were distributed to South Africa, UK, Norway, Philippines and Sweden as a Google form, and in China questionnaires were sent in a word document¹⁰. The reasons behind the students' questionnaire was one, to understand the mechanisms used in METIs to fund students and second to examine if funding mechanisms are widely known by students. Staff members' questionnaire were designed to understand the maintenance of training resources in institutions and that includes human resource continuous development, acquisition and sustenance of training tools and equipment and workshop facilities. Moreover, another reason was to understand how institutions retain sponsors. Questionnaires for graduates in the maritime field were designed to get an understanding of opportunities that were available during their term of study as well as challenges they faced when it comes to funding their education.

4.3.1 Students questionnaire findings

Students were part of this study because the researcher wanted to understand how students fund their studies and find out if information about funding opportunities is widely available to all students.

4.3.1.1 Funding of MET

Seven (7) items were presented to respondents with respect to who was their sponsor/funder. Thirteen (13) of the 44 participants from the 5 countries (excluding Sweden) stated that they are funded by their parents/guardians and this was mostly

¹⁰ China does not have Google access. See Bakers & Tang (2012). Google's dilemma in China. In S. May (Ed) *Case studies in organizational communication: Ethical perspectives and practices*. (pp. 285-294). London. SAGE

Chinese students. The findings also show that thirteen (13) participants are funded by their employers with responses mostly from the United Kingdom and the Philippines. Ten (10) indicated that they are funded by the educational institutions they are enrolled in. Two (2) participants indicated that they are funded by government operated loan schemes. These 2 responses were from South Africa. One (1) participant is self-funded. Lastly, two (2) participants indicated that they are funded by private companies. Three (3) out of 44 participants stated that they are funded by both parents/guardians and employers. Table 2 shows how students fund MET and other maritime-related studies.

Table 2: Different Funding Methods for MET Students

Students	Sponsor/Funder
13	Parent/Guardian
1	Self-funded
13	Employer
10	Institutional Bursary
2	Government operated loan scheme
2	Private company
3	Combination of Employer and Parent
Total: 44	

4.3.1.2 Source of information about funding

Participants were given options to choose from to indicate how they found out about the sponsorship/scholarship. Figure 6 shows that ten (10) participants indicated that they heard about funding from social media platforms. Eleven (11) stated that they heard from a friend (this includes those who are funded both by parents and employers). Six (6) indicated that they heard from other modes of advertisements which were not part of the list. It must be noted that, fourteen (14) participants did not answer this question since they are funded by parents and themselves.

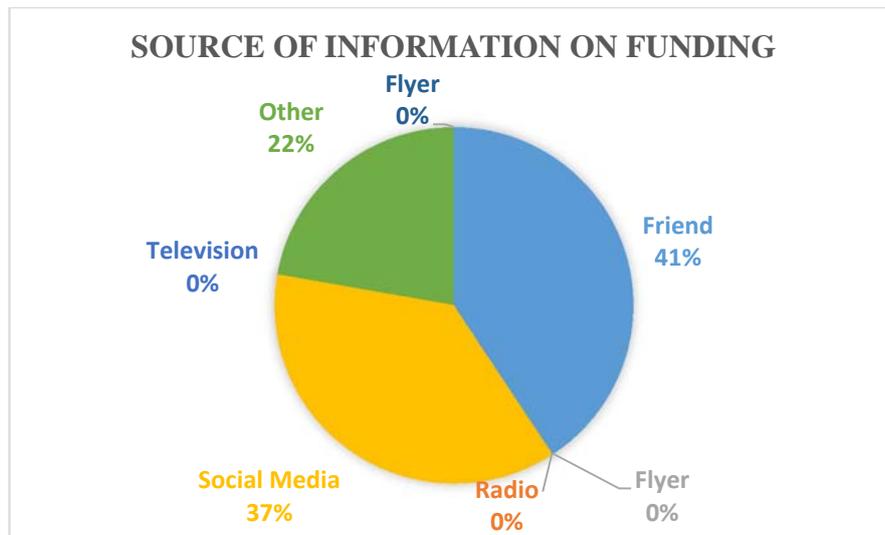


Figure 6: Source of information on funding

4.3.2 Challenges in MET

Findings indicate that most respondents did not have enough information about the maritime industry, particularly in South Africa. On the other hand, respondents from the Philippines highlighted that they do not encounter any challenges since most of them are funded and seafaring is a culture in their country. In the UK a participant indicated that funds are available but they are supposedly channelled into wrong places. Organisation for Economic Co-operation and Development (2013) states that in Norway education is free from all levels except pre-primary level, which corresponds with the responses from participants.

4.4 Findings from graduates in the maritime field

Questionnaires for graduates were designed to understand how graduates were funded in the past years and the challenges they encountered. Moreover, the aim was to understand the role of the government. Respondents were from China, UK, South Africa and the Philippines.

4.4.1 The government role in MET

The findings from Norway indicate that the government is fully supporting MET and that it is provided for free. Participants from the UK stated that there are a number of private sector actors supporting MET. UK also partners with countries such as China and the Philippines. Respondents from the Philippines stated that the government is doing well in promoting and supporting MET financially. Additionally, the government provides subsidies and good legislative support to ensure that MET is sustained in the country. Findings from South Africa are that the government provides scholarships, awareness and loans to students. However other respondents feel that the government is not doing enough to promote maritime studies.

4.4.1.1 Awareness

Participants were asked if they think there is enough awareness and support for MET. Figure 7 below shows that for South Africa, 2 out of 4 respondents indicated that there is enough awareness in the country, whereas the other 2 indicated that there is generally little awareness for maritime studies. In Norway all the participants indicated that there is enough awareness and support for MET. Findings from the Philippines also show that people are well aware of the maritime sector and MET. In the UK the findings are that there is little awareness about the maritime sector. On the contrary, findings from literature and semi-structured interviews reveal that there is support for MET in the UK and there is enough awareness. Findings from China show that there is awareness for the sector.

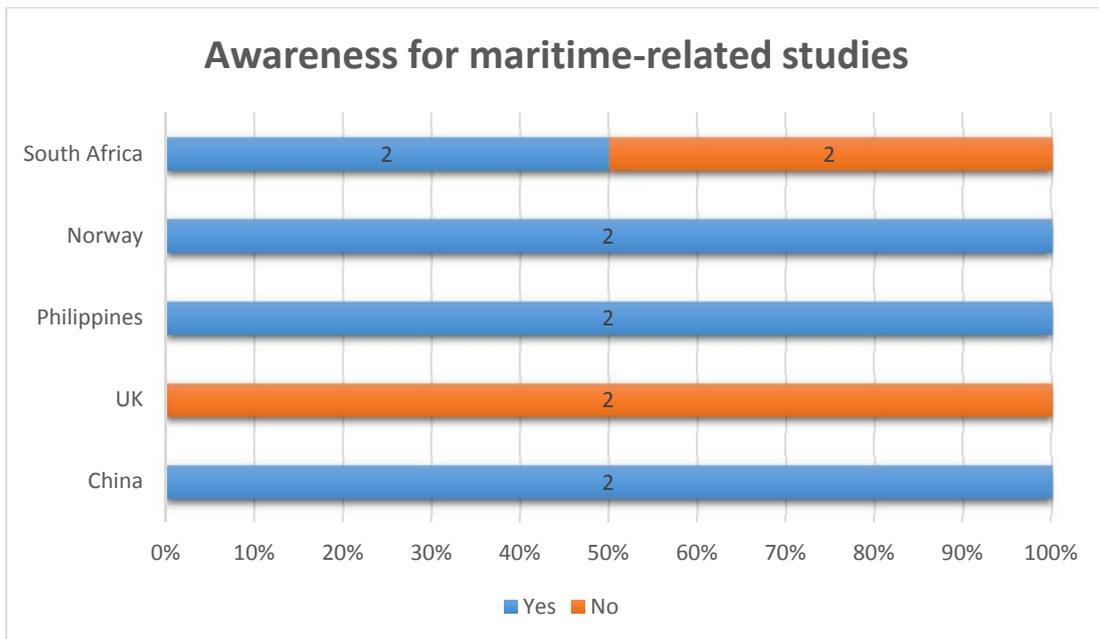


Figure 7: Awareness for maritime-related studies

4.4.2 Challenges in MET

Twelve (12) participants responded to this question. The findings from China indicate that government invests highly in maritime education and training but one of the respondents stated that there is normally a delay in release of funds by institutions. On the other hand, two (2) respondents from South Africa stated that the country lacks berths for cadetship due to having few ships on its register. Two (2) other respondents indicated that the country lacks awareness for MET. One respondent indicated that there is a general lack of understanding of the maritime sector by South African government at all levels which leads to ineffective strategy plans. Findings from the Philippines were that the government with the support of the private sector is doing enough to fund and promote MET. Seafaring has become a culture in the Philippines. Again, participants of this questionnaire exclude Sweden.

4.4.3 Driving factors for MET funding

Findings indicate that one reason for funding of students is to address the shortage of skills in the maritime sector. Other participants indicated that employers invest in their education because they want to improve their performance therefore it is part of capacity building and knowledge management. One respondent highlighted that the government decides to fund education with the hope that students will add value to the country's economy. Funders provide financial support because they want to improve individuals' capability and fulfil their job descriptions. An interesting finding was that in some cases, the support for MET is viewed as part of corporate social responsibility (CSR) – a way to give back to communities. Other participants highlighted that funding is triggered by competition; employers want to ensure that their workers are well equipped and competent for the job.

4.4.4 Funding of MET

Twelve graduates from the maritime field responded to the questionnaire. Out of 12 participants, 6 indicated that they were funded by government, 1 indicated that they were funded by a private company and 5 stated that they were funded by their employers.

4.5 Findings from staff members

Staff members were involved with the aim of understanding the acquisition and maintenance of training resources. Additionally, they were also asked about challenges of MET funding in general.

4.5.1 Provision and maintenance of training resources

Six (6) participants filled out the staff questionnaire and the aim was to understand how their institutions acquire training resources. 5 out of 6 respondents indicated that

the provision of training resources is the responsibility of the institution. One stated that the provision of resources is the responsibility of resource donors and partners of the institution. Two participants stated that the maintenance of training resources is the responsibility of the institution, whereas the other two from UK indicated that that training resources are maintained by both manufacturers and the institution itself. Findings from China indicate that training resources are maintained by donors.

4.5.2 Investment in Human Resource

Participants were asked if the institution has continuous professional development (CPD) programmes for its staff. Five (5) respondents indicated that there are programmes designed for the improvement of the staff members. One (1) indicated that there is no continuous professional development programme for staff members at the institution. Most participants stated that these programmes are funded by government and one (1) indicated that the responsibility is for both the institution and government. Figure 8 shows that out of 6 respondents 1 indicated that their institution does not have CPD programmes.

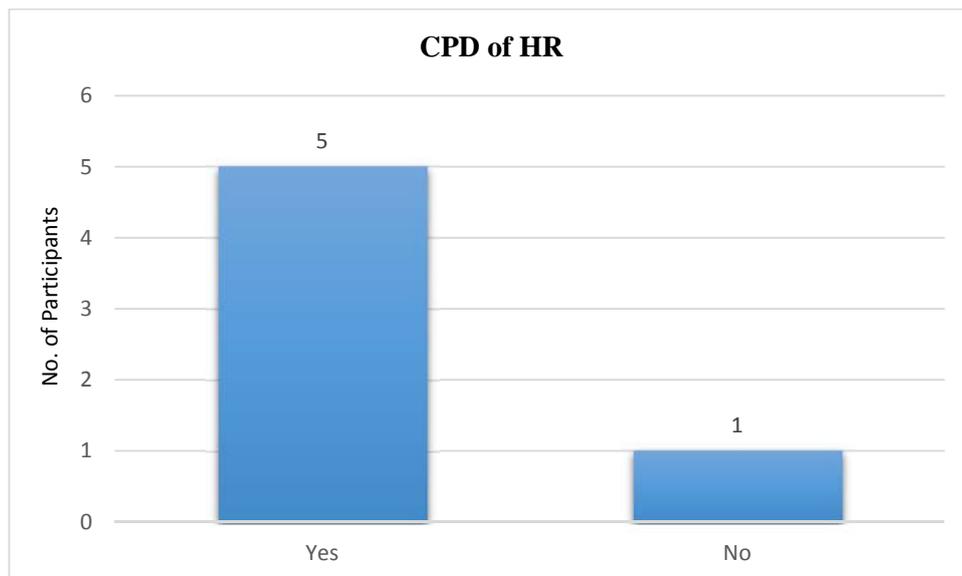


Figure 8: Continuous Professional Development of Human Resources

4.5.3 Challenges in MET

Findings from the UK highlight that, competition with other institutions is a challenge and all institutions compete for funds. Since funding in the UK is related to Support for Maritime Training (SMarT) funding programme, the budget is defined by the Government, which is limited. Additionally, there is a risk of decrease in funding in case vessels de-flag from the UK registry should the UK exit from the European Union.

More challenges highlighted by participants were that there is a perception that seafarers cannot further their studies which results in funding being limited to undergraduates. Additionally, another challenge is that some people are reluctant to enter into the maritime sector because of depressing stories they hear about seafarers. Findings also indicate that in some cases completion rate, pass grades and employment rates are not improving which makes it difficult for sponsors to invest in MET. One participant indicated that it is not easy to retain funders sometimes because they work and sponsor according to their policies and annual plans. Another finding is that funding is available but it is difficult to find delegates who want to go to sea.

4.6 Findings from Semi-Structured Interviews

Semi-structured interviews were conducted with eight participants. 3 out of eight participants were interviewed face-to-face and the other 5 were interviewed through SKYPE. The aim of these interviews was to understand the role of government in the maritime sector, particularly as it relates to funding for MET. Moreover, the researcher aimed to examine existing limitations for funding in the six countries involved in the study. Lastly the purpose was to assess the strategies used in funding MET and their effectiveness. Semi-structured interviews were helpful because they allowed interviewees to freely express themselves and share their experience.

4.6.1 Government role in the Funding of MET

From the interviews it was found that in the Philippines, the government works hand in hand with the private sector to enhance maritime education and training. Moreover, the government also tries to loosen regulations to allow the private sector to run maritime training without barriers.

4.6.2 Funding Mechanisms

The findings from the Philippines were that, the government of the Philippines has maritime education centres which are adequately funded. MET in the Philippines is well funded by both the public and private sectors, with the government allowing the private sector to fulfil the needs of MET. In the Philippines there is a workers' union called Associated Marine Officers' and Seamen's Union of the Philippines (AMOSUP). This union was established to attend to legal, social and moral rights of seafarers. AMOSUP has the following services for its members and their families:

1. Maritime education and training: AMOSUP owns and operate MAAP which only accepts 500 students per year level under a full sponsorship program. The cadets are sponsored by different ship associations and other organizations. Dependents of AMOSUP members are given priority in the selection process given that they meet all the requirements. There is also AMOSUP Seamen's Training Centre (STC) with equipment such as a Full Mission Bridge Simulator with ECDIS and AIS, Full Mission Engine Room Simulator, dedicated ARPA and Radar Simulators, Desk Top Engine Simulator with Liquid Cargo Handling Capability for crude oil, chemical products, LNG & LPG and a chemical product tanker simulator. Training vessel named, T/S Kapitan Felix Oca and registered it under the Philippines flag.
2. Health care: with 4 hospitals around the Philippines specially for AMOSUP members and their dependents;

3. Basic needs: one, there is a sailor's home that was built to assist seafarers waiting to go on board or have disembarked and on their way home. Second, is the supermarket for AMOSUP members where they can purchase even on credit with no interest. Lastly, seamen's village which was established to meet the housing needs of seafarer. AMOSUP is also looking into transforming the village to a complete community with a clinic, sports and recreational centre, swimming pools and green open areas with gardens.

In South Africa, SAIMI, manages the National Cadet programme. It also manages and co-ordinates multi-stakeholder working groups tasked with the implementation of the skills development interventions identified in the “three-foot plans” of Operation Phakisa in the Oceans Economy. The working groups are linked to each of the Operation Phakisa oceans economy focus areas. The department of higher education and training (DHET) has mandated SAIMI to collate the output of the skills working groups into a national maritime skills development strategy and implementation plan. A strong network of partnerships and alliances is key for SAIMI as a relatively small organisation that aims to act as a catalyst for maximising resources for socio-economic development in the maritime economy. Participants from the UK mentioned that there are mechanisms for supporting MET in the country and the popular one is Support for Maritime Training (SMarT) which has been running since 1998 and is administered by MaTSU (an independent unit of Ricardo-AEA)¹¹. Moreover, other findings in UK were that, there is an organization called the International Maritime Employers' Council (IMEC) which was established by ship-owners more than fifty years ago. IMEC provides funding for cadets and seafarers as discussed below:

1. International Bargaining Forum (IBF) welfare fund is meant to support the welfare of seafarers aboard vessels. This mechanism support needs such as entertainment, DVD libraries, news link services, provision of gym and sport facilities for seafarers and events (e.g. Christmas parties for seafarers and

¹¹Ricardo-AEA is a global engineering and strategic, technical and environmental consultancy business with a value chain that includes the niche manufacture and assembly of high-performance products.

families). The IBF Welfare Fund is paid for from members' contributions to the ITF Assistance, Welfare and Protection Fund.

2. Seafarer Employment Promotion Fund (SEPF), the purpose of this fund is to support training, education and upgrading of parties employed by IMEC members to ensure well-trained seafarers. IMEC members are required to make a payment of US\$10/month for every seafarer serving on an IBF registered vessel. It is also meant to provide for compensation for additional expenses incurred by employers in employing Developed Economy Ratings (DERs) compared with employing ratings from developing economy countries.

4.6.3 Challenges in MET

Findings from the UK indicate that, there is less financial resources to support maritime education. One respondent highlighted that sometimes the government is reluctant to provide funding for maritime students because they will leave the country and apply their skills and knowledge elsewhere (brain drain)¹². Two of the interviewees in South Africa stated that the government should increase the funds allocated towards MET. In contrast, one respondent asserted that *“In South Africa, money is not an issue, we have more than enough funding strategies. The serious problem is the unavailability of employment and the lack of training berths”* - (Education Training and Development Practitioner). Moreover, there has been a report about South African seafarers that some of them are too demanding from the perspective of shipping companies. Additionally, Maersk, the largest container shipping company in the world has confirmed that it will reduce its intake of South African cadets, as part of their new long-term strategy. Participants from the countries (except the Philippines and Norway) indicated that there is no connection between shipping companies and METIs which makes it difficult to know which skills are required in the sector. This supports the observation of Maxwell and Kelly (2016) in

¹² Brain drain is the process where highly educated people from developing countries migrate to developed countries (Kone & Özden, 2017)

chapter 2 where they state that there is no communication between the maritime industry and METIs in terms of discussing scarce and critical skills in the sector.

4.6.4 Driving factors for MET funding

Findings from interviewees indicate that sponsors tend to invest in MET because of competition therefore they want the best candidates for their companies. One of the participants highlighted that regarding funding of METIs in countries such as UK, alumni play a huge role in providing financial support for METIs either towards the acquisition of training resources or meeting students half way on their tuition fee. Participants further elaborated that, alumni feel the need to keep a good image and reputation of their alma mater through donations.

Moreover, it was found that governments who invest in MET understand the fact that shipping is an international business therefore they cannot afford to have unskilled seafarers and maritime professionals. In that case they decide to equip their citizens with knowledge and skills.

4.7 Findings from secondary source

Secondary sources were used to gather information that the researcher may have not obtained from interviews and questionnaires due to imitations.

4.7.1 Government role in MET Funding

The findings from the Philippines indicate that the Maritime Industry Authority (MARINA) which is the agency of the Department of Transport and Communication (DOTC), is responsible for the promotion and supervision of the functions of the Philippines maritime industry. The mandate of MARINA includes ensuring that there is funding for MET and this is done through collaborating with the private sector.

Findings from South Africa are that TETA has two types of funding. One is referred to (perhaps improperly) as a mandatory grant which is for companies registered to TETA. They submit an annual training report and workplace skills plan. If all requirements are met TETA pays the company. Second, is the discretionary grant which is contributed towards maritime projects based on TETA's discretion to achieve its annual performance plan and the plan include addressing scarce and critical skills in the sector (TETA, 2019).

The UK Department of Transport (2015) asserts that the support provided by the UK government makes seafaring attractive to people. Government and private funding schemes often meet students halfway with the cost of the training which improves the attractiveness of a maritime career compared with other careers, as well as the preference for studying in one country over another.

Findings from China indicate that the educational administrative authority controls the academic education management whereas maritime administrative authority is in charge of the seafarer trainings in MET academies, supervising the implementation of related maritime education and training rules and regulations in these MET academies. Government offers support to maritime education with governmental funding, offering a tuition fee concession for nautical and maritime engineering students. MET in China is directly controlled by the Ministry of Education.

According to Dragomir (2013, pp. 19) "Recent statistics suggest than Norway is one of the countries with strategic importance and influence for international maritime transport, from the point of view of owned fleet and number of officers supplied". The government of Norway contributes to the establishment of programmes at master level in maritime management by allocating funds for the development of such studies. Moreover, the government takes an initiative of investigating and reporting on the quality of MET and plans for the future. Additionally, to ensure that training resources are maintained and updated Norwegian government allocate 10 NOK million to school resources.

4.7.2 Training resources

A study on training practices, reveals that training for shipping companies and METIs is becoming a priority in terms of budget (World Maritime University, Marine Learning Systems & New Wave Media, 2019). Figure 9 shows that 28% of vessel operators reported that their budget for training falls between 2% to 5%. 20% indicated that their budget is between 5% to 10%. On the other hand, 12% of training vessels reported that their budget is between 10% to 20%. For METIs, the results reveal that 53.28% was the average percentage of operating budget for training.



Figure 9: Budget allocation for training by vessel operators and METIs

Source: World Maritime University, Marine Learning Systems, & New Wave Media. (2019) - MarTID (2019)

Figure 10 below depicts drivers for changes in training budget for MET and the views were from ship operators, ship owners and METIs officials. Changes reported were in regulations, increased focus on safety, budgetary restrictions, increased focus on performance, increase in fleet size or crew size, decrease in fleet size or crew size and capital expenditure. It can be seen in the figure that capital expenditure for training at 50% followed by the increase in regulatory requirements at 48% are the main drivers for changes in training budgets.

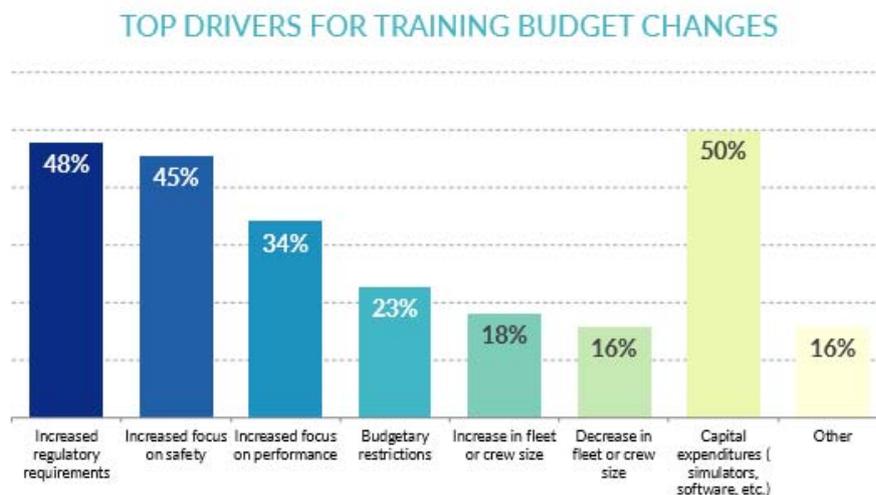


Figure 10: Drivers of changes in budget

Source: World Maritime University, Marine Learning Systems, & New Wave Media. (2018) - MarTID (2018)

Findings obtained from secondary sources with regards to MET in Japan reveal that in the year 2018 the cost for maintaining human resources was 69, 591 US Dollar and that includes capacity building for future seafarers, human resource in the ship-building industry and MET for seafarers which on its own constitutes 67,327 on the total cost (Nakazawa, 2019).

4.7.3 Challenges in MET

In relation to training maritime personnel, World Maritime University et al. (2018) reported that the major challenge that institutions face is a lack of financial resources (at 14% on the figure below). More challenges include lack of qualifying training personnel, time constraints, availability, use and quality of training simulators.

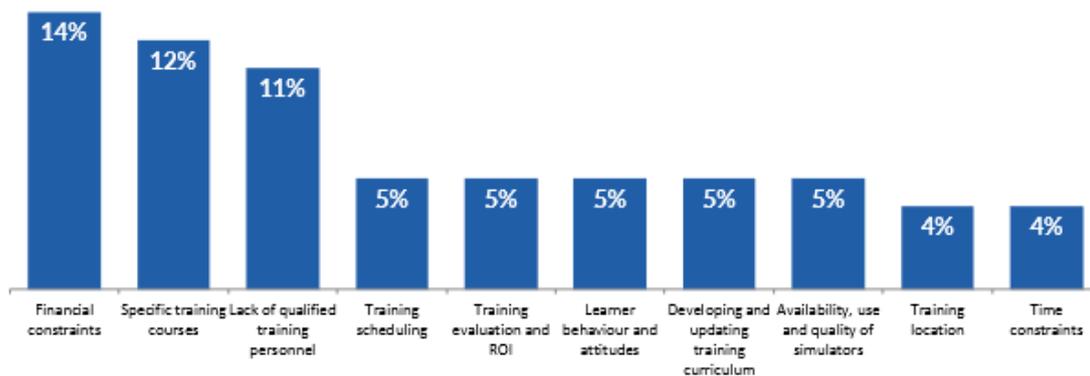


Figure 11: Challenges in MET

Source: World Maritime University, Marine Learning Systems, & New Wave Media. (2018) - MarTID 2018.

According to World Maritime University et al. (2018), more challenges were reported in MET and are summarised in table 3. Some of these challenges seem to be similar to those reported in interviews.

Table 3: Additional challenges in MET

Source: World Maritime University, Marine Learning Systems, & New Wave Media. (2018) - MarTID 2018.

More challenges	
<ul style="list-style-type: none"> • Lack of infrastructure • Lack of tools and methods for tracking and managing training • Seafarer attraction • Consistency of training quality • Training delivery 	<ul style="list-style-type: none"> • Meeting stakeholder expectations • Training approach • On the job training • Political changes • Training provider competition

Opportunities for MET have also been identified by South Africa's Department of Higher Education and Training (DHET) which launched a new maritime Academy on the 6th of August 2019. The Academy offers 20 short courses, 14 certificates and 18 diploma programmes. The building of the academy was funded by TETA and NSF.

Furthermore, findings indicate that Further Education and Training (FET) institutions to offer MET have been identified. UK, Norway and the Philippines are said to have sufficient funding mechanisms, that could be seen as a good opportunity for any potential MET personnel to enter the industry knowing that there is support.

4.8 Findings from observations

Observations during field study trips enabled the researcher to even test the training resources. These observations were aimed at obtaining first-hand information about the phenomena.

Findings from the University of South-Eastern Norway USN indicate that, most of their training resources are supplied by Kongsberg Maritime¹³ (especially simulators). USN is equipped with modern training resources for its students. New equipment from Kongsberg Maritime are tested at USN to ensure their functionality. The researcher mentioned earlier that the reason for selecting Norway was to understand the implementation of training resources at USN since Norway is regarded as one of the best suppliers of training resources globally. The study reveals that Maritime Academy of Asia and the Pacific (MAAP) has a pool of equipment and training resources among them are hybrid chemical and product tanker simulator, resources for helicopter underwater escape training (HUET), vessel training centre, and navigation simulation centre. Findings from Fleetwood Nautical Campus: Blackpool and The Fylde College show that the institution has a contract with resource suppliers to ensure that all resource is constantly updated and well maintained. With regards to human resources, the researcher found out that the institution has programmes for upskilling its employees and they are achieved through seminars, conferences, back-to-industry programmes and coaching. The institution believes in investing a lot on its employees in order to retain them and motivate them.

¹³ Kongsberg is a private entity that provides marine systems solutions. See: <https://www.kongsberg.com/>

5. Recommendations and Conclusions

5.1 Purpose of the chapter

This chapter provides summary and discussion of findings, limitations of the study and suggestions for future research. Moreover, the researcher provides recommendations for South Africa and draws conclusion from the findings of the study in the previous chapter.

5.2 Discussion of findings

The purpose of this study is to examine the role and importance of maritime education and training funding models in different jurisdictions focusing on possible challenges and opportunities. Therefore, this section includes a discussion of major findings that relate to MET funding and the literature on the topic. This section concludes with a discussion of limitations of the study. In this section the focus is on discussing significant findings by making a comparison between South Africa and the other countries.

The first research objective looked at common sources and mechanisms for funding of MET in different jurisdictions. In obtaining data, the researcher presented different options to respondents so they could choose their sponsor. Findings presented in 4.3.1.1 and table 2 reveal that most students especially from China are funded by their parents or guardians, followed by those funded by employers and these responses were mostly from the UK and the Philippines. It can be drawn from Tilak (2015) that students and families opt for loans as an alternative way for supporting their education. Though Bond (2019) highlighted shortcomings of loans, parents still prefer them because funding is not widely available for everyone and differs according to jurisdiction. Based on the findings the researcher's opinion is that families rely highly on loans because they are trying to avoid disappointments from governments. As for findings from questionnaires one may state that, there is a huge support by both

government and employers, especially in the Philippines and Norway. In the ever-changing world, employers see the need to invest in their employees in order to improve performance and productivity. Bakan (2011) asserts that employees and employers must seek ways for improving skills and knowledge in order to be competitive in the world. In the case of South Africa, it can be drawn from the participants that there is reliance on government operated loan scheme as compared to China where findings reveal that most students are funded by their guardians or parents. Referring to the previous chapter, very few respondents from South Africa indicated that they are funded by employers whereas in the Philippines and UK this strategy seems to be popular. Generally, UK and the Philippines are doing well in MET, the researcher's view is that South African should consider encouraging continuous professional development funded by employers. However, a conclusion cannot be drawn based on the views of a few respondents.

Findings from semi-structured interviews reveal that in countries such as UK and the Philippines there is support for MET and there are mechanisms in place that residents are confident about. In South Africa there are mechanisms in place to support MET but the challenge is that the government is reluctant to train people who will not get an opportunity to go to sea due to lack of berths.

In light of the second research objective, the study reveals that one of the fundamental responsibilities of the government is to ensure that there is awareness for maritime-related studies. Most respondents indicated that funding is not an issue but there is lack of awareness. Manuel (2019) argues that in some cases governments do not support and promote the maritime industry because they lack an understanding of it and its potential. Similarly, findings in South Africa indicate that planning for MET is done in silos and supposedly by people who lack understanding of the industry and its needs. Moreover, the study reveals that governments have the responsibility of ensuring that everyone has access to education by providing financial assistance. Gillies (2017) in his discussion of the human capital theory, states that higher education is fundamental to everything and it has external benefits to the society therefore governments should consider providing education for all. Moreover, the researcher has noticed that countries

that indicated that their governments work hand in hand with the private sector are doing well in terms of funding MET. This brings us back to point 2.2.2.1 where the researcher highlighted the importance of industry funding. Such cooperation between governments and industry, assists students and staff members in terms of expanding their experience and exposure.

The study highlights that the information about MET and any other maritime-related courses is limited. In other words, there is limited awareness of MET specifically and the maritime sector in general. Moreover, the study reveals that some people are reluctant to enter into the maritime sector due to unpleasant stories they normally hear about the wellbeing of seafarers.

More findings highlight that there is lack of communication between METIs and the industry. The researcher's view is that, lack of communication leads to METIs offering skills which are not a priority for the industry which results in shortage of the skills highlighted in 2.6. Interviewees from South Africa were confident that there is enough awareness for maritime studies but results from questionnaires and some of the secondary sources indicate that there is lack of information about the sector. It can be said that, perhaps the government's effort to spread information about career opportunities in the sector is mostly on paper and less seen in implementation. Moreover, the study reveals that there is supposedly no mechanism for controlling and investigating the usage of institutional funds in place. This makes it difficult to track how funds are spent in METIs.

With regards to training resources the study reveals that institutions have the responsibility of acquiring and maintaining training resources. These findings relate to the resource dependency theory discussed in 2.3.1 where the literature states that MET demands training resources and is said to be expensive in its nature. It is not surprising that institutions have indicated that one of their biggest challenge is the lack of financial resources. In relation to the resource dependency theory, one may state that the economy issue in South Africa is affecting the way in which government and institutions operate. Second, it is important to look at how government and institutions

respond to those external effects. Therefore, drawing from the findings the researcher's view is that the government does not have a proper strategy for solving and managing these effects. Similarly, the cost disease theory of Baumol asserts that cost in higher education institutions increase because of external forces such as improvement in technology and automation in the shipping sector (McElhaney, 2010).

5.3 Summary of findings

Four major research objectives were raised in this study: First, to identify common sources and mechanisms of funding for MET; second, to examine the primary role of government institutions in MET; third, to assess factors that drive or inhibit funding of MET; and finally, to identify existing and possible opportunities and challenges in the funding of MET.

Major findings of the study are that some of the people who are in the industry still lack an understanding of MET. Moreover, the findings reveal that more families still rely on loans for educating their dependents which indicates that the government's effort towards MET is not satisfactory in South Africa. More findings indicate that South African government officials believe that they are doing well in terms of promoting maritime studies while on the other hand the youth reckons that there is less effort towards awareness for maritime studies. Additionally, findings indicate that there is no transparency in terms of the utilization of funds. Furthermore, participants indicated that in South Africa, maritime is new to funders therefore it is not easy to attract and retain them since they have their own policies. Findings also revealed that relying on one model of funding is limiting therefore institutions should look for other sources of funding.

5.4 Recommendations for South Africa

In light of the findings and analysis, the study makes the following recommendations for South Africa

1. Cooperation between government and the private sector	It is recommended that government and the private sector work collaboratively in terms of providing funds for MET. This can be achieved through reduction in regulations from government. This has worked for the Philippines, where the government allows the private sector to be involved to a high degree in MET and in that way many private entities offer funding for Filipino seafarers.
2. Cooperation between maritime industry and METIs	For South Africa to succeed in addressing scarce and critical skills in the sector, it is recommended that METIs and shipping companies build a culture of communication. This will help METIs to know exactly the type of skills needed in the industry and ensure they produce the required seafarers and cadets.
3. Capacity Building for Maritime personnel	In order to address the issue of lack of understanding of the maritime industry, it is recommended that proper training be provided to maritime personnel in the national, provincial and local arms of government. This will assist in attracting

	potential seafarers if they are recruited by knowledgeable individuals.
4. Bilateral Agreements	South Africa lacks training vessels. Bilateral agreements with developed countries will assist in exchanging programmes and students for better exposure and gain sea time in the industry. This has worked for UK and China as discussed earlier in chapter 2.
5. Encourage transparency in financial management	Referring to the literature review, one of the challenges is that there is no transparency in terms of how funds are utilized. It is recommended that institutions use their funds and assets effectively in order to ensure long-term sustainability. Additionally, a mechanism for assessing the utilization of funds must be in place. To avoid financial misappropriation, it is recommended that transparent mechanisms as well as systems be established. Moreover, a strong culture of ethical behaviour and integrity should be encouraged.
6. Separate Budget for MET	MET has a critical role to play in growth and sustainable development. It is recommended that a separate budget for MET be raised. According to Operation

	<p>Phakisa¹⁴, South Africa's ocean economy strategy and oceans have the potential to contribute about R177 billion to the gross domestic product (GDP) and create employment for millions of people by 2033. Therefore, in order to achieve this goal, government must be willing to invest in MET for competent people.</p>
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5.5 Suggestions for future research

Based on the limitations as discussed in chapter three (section 3.8), the following areas could be suggested for future research:

1. A larger sample size to obtain enough data to successfully describe the phenomenon of MET funding.
2. Face to face interviews and field observations
3. A longer time period for data collection in order to cover all the jurisdictions

5.6 Conclusion

The study was able to link the topic with existing literature and theories. Literature helped in providing a background understanding of education in general, as well as MET and funding in different jurisdictions. Literature further highlighted how different countries invest in education and how important are training resources for MET. The study is informed by the five research objectives which interview questions and questionnaires were derived from.

¹⁴ Operation Phakisa is an approach that was adopted from Malaysia by the former President of South Africa. "Phakisa" means "hurry up" in Sesotho. Operation Phakisa is a result-driven approach seeking to meet government targets timeously.

The methodology employed was qualitative because the researcher aimed at understanding the opinions and experiences of individuals on the topic. The findings of the study reveal that there are underlying issues when it comes to funding for MET and findings confirmed that there is lack of awareness. The findings also highlighted that in South Africa, METIs are struggling to find experienced lecturers and instructors due to low salaries. People who have been to sea are used to earning relatively high wages, compared to what universities and colleges are offering them. Moreover, those people still have to undergo training for being instructors which requires funding. The study was also able to find out the driving factors for funders or sponsors to financially support MET in different jurisdictions. It can be noted from the findings that more funding normally comes from employers. Families are still seeking for alternative ways for supporting education of their dependents which increases the reliance on loan schemes.

This study was able to examine mechanisms for MET funding in different jurisdictions and compared them with South Africa. Moreover, the study managed to assess the role of governments in different countries and identify challenges in the sector.

References

- Ahmad, A. R., Fairley, A., & Naidoo, M. (2013). Funding Crisis in Higher Education Institutions: Rationale For Change. *Asian Economic and Financial Review*, 562-576.
- Archibald, RB., & Feldman, DH. (2006). *Explaining Increases in Higher Education Costs*. Williamsburg: The College of William and Mary.
- Arkkelin, D. (2014). *Using SPSS to Understand Research and Data*. Psychology Curricular Materials.
- Atkinson, R. (2018). *Industry Funding of University Research: Which States Lead?* Information Technology and Innovation Foundation.
- Bakan, I. (2011). The Importance of Formal Employee Education in the World of Uncertainty. *International Journal of Business and Social Sciences*, 341-355.
- Bakers, J.S., & Tang, L. (2012). Google's Dilemma in China. In S. May, *Case studies in Organizational Communication: Ethical Perspectives and Practices* (pp. 285-294). London: SAGE.
- Bond, C. (2019). *Pros and Cons of Private Student Loans*. Chacago: Word Press.
- Bordogna, C. (2018). Transnational Higher Education Partnerships and the Role of Operational Faculty Members: Developing an Alternative Theoretical Approach for Empirical Research. *Journal of Studies in International Education* , 3-19.
- Brighouse, H. (2004). Paying For Higher Education: Are Top-Up Fees Fair? *Éthique et Économique / Ethics and Economics*, 1-11.
- Brightwell, A., & Grant, J. (2013). Competency Based Training: Who Benefits? *Postgraduate Medical Journal*, 107-110.
- British Council. (2017). *Research on Current UK-China Transnational Education: From the Perspective of Administrators and Students* . Britain: British Council.
- Buck Consultants International, Vanroye & van Mol. (2009). *THE SHORTAGE OF QUALIFIED PERSONNEL IN MARITIME & INLAND WATERWAY TRANSPORT*. Brussels.
- Canton, E., and van der Meer, P. (2001). Public Funding of Higher Education: The Danish Taximeter-Model. *CPD Netherlands Bureau for Economic Policy Analysis/Centre for Higher Education Policy Studies, CHEPS, Higher Education Reform: Getting The incentives Right*, 88-89.
- Chan, R. Y. (2016). Studying Philanthropy and Fundraising in the Field of Higher Education: A Proposed Conceptual Model. In R. Y. Chan, *Facilitating Higher Education Through Fundraising and Philanthropy* (p. 27). Bloomington: IG Global.
- Chernova, E., Akhobadze, T., Malova, A., & Saltan, A. (2017). Higher Education Funding Models and Institutional Effectiveness: Empirical Research of European Experience and Russian Trends . *Educational Studies Moscow*, 37-82.

- Craciun, D., and Orosz, K. (2018). *Benefits and Costs of Transnational Collaborative Partnerships in Higher Education*. Luxembourg: European Union.
- Denhardt, J.V and Denhardt, R.B. (2007). *The New Public Service: Serving not steering*. England: M.E Sharpe, Inc.
- Department of Labour. (2005). *Scarce and Critical Skills*. Pretoria: Department of Labour.
- Department of Transport. (2015). *International Competitiveness of the UK Maritime Sector*. London: Department of Transport.
- Dragomir, C. (2013). *Norwegian Initiatives to Improve Maritime Education and to Motivate Young Generation Join Seafaring* . Romania: Department of Management in Transport.
- European Commission. (2019). *Higher Education Funding*. United Kingdom: Eurydice.
- Everitt, S. L. (2004). *A Handbook of Statistical Analyses using SPSS*. London: CHAPMAN & HALL/CRC.
- Ey, C. (2018). *Higher Education and Related Loan: A Chronology*. Canberra: Parliamentary Library.
- Farazmand, A., and Pinkowski, J. (2006). *Handbook of Globalization, Governance, and Public Administration*. CRC Press: Routledge.
- Fisher, D. &. (2013). *Practical Teaching Skills for Maritime Instructors*. Malmo, Sweden: WMU Publications.
- Flick, W. (2009). *An Introduction to Qualitative Research*. London: SAGE Publications Inc.
- Fogeborg, J., Mowery, D.C., & Verspagen, B. (2009). The evolution of Norway's national innovation system. *Science and Public Policy*, 431-444.
- Frazer-Nash Consultancy. (2017). *Support for Maritime Training (SMaRT) Scheme*. Dorking, UK: Frazer-Nash Consultancy.
- Gibson, A. M. (2009). *Budgeting in Higher Education*. Barrien Springs: School of Business Administration Faculty Publications.
- Gillies, D. (2017). Human Capital Theory in Education. *Springer Science and Media*, 1-5.
- Hahn, A. (2016). Data Colection. *Salem Press Encyclopedia*.
- Hart, C. (2005). *Doing your Masters Dissertation*. London: SAGE Publications.
- Hearn, J. (2015). *Outcome-Based Funding in Historical and Comparative Context*. Lumina Foundation: Lumina Issue Papers.
- Hill, K., Hoffman, D., and Rex, T. R. (2005). *The Value of Higher Education: Individual and Societal (with special consideration for the State of Arizona)*. Tempe, Arizona: Arizona State University.
- HRDC. (2015). *Annual Report*. Pretoria: HRDC: Republic of South Africa.
- HRDC. (2016). *Annual Report* . Pretoria: HRDCSA.
- Hufner, K. (2003). Higher Education as a Public Good: Means and Forms of Provision. *Higher Education in Europe*, 339-348.
- International Chamber of Shipping. (2018, April 22). *Global Supply and Demand for Seafarers*. Retrieved from International Chamber of Shipping: <http://www.ics-shipping.org>

- Irvin, R. (2010). *Definition and Management of Endowment*. Eugene: University of Oregon.
- Johnson, B. &. (2008). *Educational Research: Qualitative, Quantitative and Mixed Approaches*. United States of America: SAGE Publications Inc.
- Jongbloed, B. (2018, January 27). *Formula Funding, Higher Education*. Retrieved from Springer Link: https://doi.org/10.1007/978-94-017-9553-1_65-1
- Jongbloed, B., & Koelman, J. (2000). *Vouchers For Higher Education. A survey of The Literature*. Enschede: CHEPS: Hong Kong University Grants Committee.
- Karres, G. M., Kourliouros, E., Michailidis, M. (2017). *Handbook of Research on Policies and Practices for Sustainable Economic Growth and Regional Development*. United State: IGI Global.
- Kenton, W. (2019, March 25). *Public Goods*. Retrieved from Investopedia: <https://www.investopedia.com/terms/p/public-good.asp>
- Kim, J. H. (2016). Narrative Data Analysis: Flirting with data. In J. H. Kim, *Understanding Narrative Inquiry: The crafting and analysis of stories as research* (pp. 185-224). SAGE.
- Kim, P. P. (2011). *Finding your funding model: A practical approach to non-profit sustainability*. New York: The Bridgespan Group.
- Kitada, M. and Langaker, L. (2017). "The Body" Matters in Maritime Employment Contracts. In *Global Perspectives in MET. Towards Sustainable, Green & Integrated Maritime Transport*, 383-391.
- Kone, Z.L., & Özden, C. (2017). *Brain Drain, Gain and Circulation*. KNOMAD Working Paper No. 19.
- Layzell, D. T. (1998). Linking performance to funding outcomes for public institutions of higher education: The US experience. *European Journal of Education*, 103-111.
- Li, J. (2011). An Introduction of A Financial Model For The Australian Higher Education. *Creative Education*, 466-469.
- Liefner, I. (2003). Funding, Resource Allocation and performance in Higher Education Systems. 469-489.
- Lu, A. J. & Chen, D. (2014). Government Leading Student Loan Schemes: A Comparative Study of Hong Kong and China. *Journal of Education and Learning*, 1-12.
- Ma, S. (2018). *Maritime Economics*. Malmo: World Maritime University.
- Maharey, S. (2011). Higher Education: Challenges for Developing Countries. *Common Wealth Education Partnership*, 66-67.
- Manuel, M. (2019). *International legal and administrative framework of MET*. Malmo, Sweden: World Maritime University.
- MARINA. (2018). *Highlights of Accomplishments*. Mania: MARINA.
- Maringira, G., and Gukurume, S. (2016). Being Black'in #FeesMustFall and #FreeDecolonisedEducation: Student Protests at the University of the Western Cape. An analysis of the #FeesMustFall Movement at South African universities. 33.
- Maritime Coastguard Agency. (2018, February 1). *Support for maritime training (SMarT)*. Retrieved from Government of UK: <https://www.gov.uk/guidance/support-for-maritime-training-smart>

- MarTID. (2019). *2019 Training practices report*. Malmo: MarTID Working Group.
- Martin, C. (2017). Should Public Pay for Higher Education? Equality, Liberty and Educational Debts. *SAGE*, 38-52.
- Maxwell, R., & Kelly, D. (2016). *Addressing the Skills and Training Shortages in the shipping industry*. Singapore: Institute of Marine Engineering, Science and Technology .
- McElhaney, R. L. (2010). *The Effects of Higher Education Endowment Management Practice on Endowment Performance*. Hattiesburg: University of Southern Mississippi.
- Michael, E. J., Olalekan, A. A., Ovie, E., & Onjefu, A. A. (2017). Observation Research: A methodological Discourse in Communication Research. *Journal on Humanities and Social Sciencies*, 84-89.
- Miller, T. (2016). *Higher Education Funding Models and Academic Quality*. Lumina Foundation: Lumina Issue Papers.
- Mitchell, M. L. (2010). *Research Design: Explained*. United State of America: WADSWORTH CENGAGE Learning.
- Mohammed, T. (2017). *Critical Role of the Government and Stakeholders in Funding Maritime*. Kenya.
- Monsen and Van Horn. (2008). *Research Successful Approaches*. USA: Diana Fauhaber Publisher.
- Montgomery, C. (2016). Transnational Partnerships in Higher Education in China: The diversity and complexity of elite strategic alliances. *London Review of Education*, 70-85.
- Morgan, W., J. & White, I. (2014). The Value of Higher Education: Public or Private Good? 38-41.
- NACUBO. (2016). *Endowment Operations*. Washington, D.C: NACUBO.
- Naidoo, A., & McKay, T. J. M. (2018). Student Funding and Student Success: A Case Study of a South African University. *ResearchGate*, 158-170.
- Nakazawa, T. (2019). *Japan's MET system: Class Handouts*. Malmo: World Maritime University.
- National Council of Educational Research and Training. (2014). *Basics in Education: Textbook for B. Ed. Course*. New Delhi: National Council of Educational Research and Training.
- Newman, E. (2013). Budgeting and Fund Allocation in Higher Education in Ghana. *Journal of Education and Vocational Research* , 278-296.
- Nigatu, T. (2009, March 20). *Qualitative Data Analysis (PowerPoint Slides)*. Retrieved from Slide Share Net: <https://www.slideshare.net/tilahunigatu/qualitative-data-analysis>
- Nyborg, P. (2004). *Higher Education as a Public Good and a Public Responsibility*. Bologna.
- Ochri, O., Dreher, C., and Jochum, C. (2014). *My Impact - Fundamentals of Modern Philanthropy*. United Kingdom: CSSP.
- Olanyan, D. A., & Okemikine, T. (2008). Human Capital Theory: Implications for Educational Development. *Pakistan Journal of Social Sciences*, 479-483.

- Opdenakker, R. (2006). Advantages and Disadvantages of Four Interview Techniques in Qualitative Research. *FORUM: QUALITATIVE SOCIAL RESEARCH* , 4-10.
- Organisation for Economic Co-operation and Development. (2013). *Education Policy Outlook: Norway*. Norway: Organisation for Economic Co-operation and Development.
- Peeterson, A. L. (2016). *Quantitative Data Gathering Techniques*. London: Goodfellow Publishers LTD.
- Pfeffer, J., & Salancik, G. R. (2003). *The External Control of Organizations: A Resource Dependence Perspective*. Stanford: Stanford Business Books.
- Psachropoulos, G. T. (1989). Financing Education in Developing Countries. *IDS Bulletin*, 20 (1) 55-58.
- Quassini, I. (2018). *An introduction to the concept of Incremental Budgeting and Beyond Budgeting*.
- Reddy, V., Rogan, M., Mncwango, B., & Chabane, S. (2018). *Occupations in Higher Demand in South Africa*. Pretoria: Labour Market Intelligence Partnership.
- Roser, M. & -O. (2019, May 5). *Financing Education*. Retrieved from Our World in Data: <https://ourworldindata.org/financing-education>
- Rudestam, K. E. (2015). *Surviving your Dissertation: A Comprehensive Guide to Content and Process*. United States of America: SAGE Publications Inc.
- Salmi, J. (2018). *All Around the World - Higher Education Equity Policices Across the Globe*. Lumina Foundation.
- Sampson, H. &. (2016). Strange things happen at sea: training and new technology in a multi-billion global industry. *Journal of Education and Work*, 985.
- Sampson, H. (2004). Romantic Rhetoric Revisioinist Reality: The Effectiveness of Regulation in Maritime Education and Training. *Journal of Vocational Education and Training*, 254.
- Sampson, H. (2004, p. 254). Romantic Rhetoric, Revisionist Reality: the effectiveness of regulation in maritime. *Journal of Vocational Education and Training*.
- SAMSA. (2013). *Annual Report: Expanding Possibilities*. SAMSA.
- Shukla, P. (2014). *Essentials of Marketing Research*.
- Taylor, S. J. (2016). *Introduction to Qualitative Research: A Guidebook and Resource*. Canada: John Wiley & Sons Inc.
- TETA. (2018). *TETA ANNUAL REPORT 2017/18*. Pretoria: Transport Education Training Authority.
- TETA. (2019). *Strategic Plan*. Pretoria: TETA.
- Thompson, J. & Bekhradnia, B. (2011). *Higher Education: Students at the Heart of the System: An Analysis of The Higher Education White Paper*. Oxford: Higher Education Policy Institute.
- Tilak, J. (2015). Global Trends in Funding Higher Education. *International Higher Education*, 5-6.
- Tittenbrun, J. (2017). Human Capital: Theory and Evidence in Light of Socio-Economic Structuralism . *World Scientific News*, 1-168.
- Transport, D. o. (2017). *Comprehensive Maritime Transport Policy*. Pretoria: Department of Transport.

- Transport, D. o. (2017). *Comprehensive Maritime Transport Policy for South Africa*. Pretoria: Department of Transport.
- Tuna, O. C. (2015). Problem Based Learning in Maritime Education.
- Universities UK. (2014). *Strategic Fundraising*. London: Universities UK.
- Wagtman, M. &. (2016). *Recent Developments and Probable Future Scenarios Concerning Seafarer Labour Market*. Denmark: IAMU.
- Werner, N. (2008). Resource Dependency Theory: How well does it explain behaviour of organizations? *ISSN*, 9-32.
- Williams, G. (2016). Higher Education: Private Good or Private Commodity? *London Review of Education*, 131-142.
- World Maritime University, Marine Learning Systems, & New Wave Media. (2019). Maritime Training Insights Database (MarTID): 2019 Training Practices Report. Retrieved from www.martid.org

Appendices

Appendix 1: Consent Form

The topic of the Dissertation: Maritime Education and Training (MET) Funding Models in Different Jurisdictions: Challenges and Opportunities.

Student Name: Nomzamo Confidence Phewa

Specialization: Maritime Education and Training (MET)

Email Address: w1802468@wmu.se

Dear Participant

Thank you for agreeing to participate in this research survey, which is carried out in connection with a dissertation being completed by the researcher in partial fulfilment of the requirements for the degree of Master of Science in Maritime at the World Maritime University in Malmo, Sweden. Your participation in this study is entirely voluntary and there is no payment involved. If you happen to feel uncomfortable you may withdraw from the study at any time. I do, however, hope that you will be willing to complete the whole questionnaire. Filling in the questionnaire will take approximately 10 to 15 minutes and interviews about 15 to 20 minutes.

The information provided by you in this survey/interview will be used for research purposes only and the results will form part of a dissertation. Your personal information will not be published. Anonymised research data will be archived on a secure virtual drive linked to a World Maritime University email address. All the data will be deleted as soon as the degree is awarded in November 2019.

Your participation in the survey/interview is highly appreciated.

I consent to my personal data, as outlined above, being used for this study. I understand that all personal data relating to participants is held and processed in the strictest confidence, and will be deleted at the end of the researcher's enrolment and that all data to be published will be anonymised and presented in aggregate.

Name:

Signature:

Date:

Appendix 2: Semi-structured interview questions (Funders/Donors)

Name (optional)_____ Gender_____

Position_____ Representative

Nation_____

1. Please tell me about your experience in maritime education and training and in particular as it relates to funding.
2. What funding models/strategies do you have for maritime education and training?
3. Are they effective, have you seen any improvement within the sector because of these models?
4. How do you select deserving recipients of funding?
5. What factors do you think drive funding for maritime education and training?
6. What challenges do you encounter in finding the deserving recipients of funding?
7. What do you think can be done to resolve those challenges?
8. Do you have specific qualifications/targeted people that you fund? Please elaborate on the reasons for your answer

Appendix 3: Semi-structured interview questions (Ministry of Maritime)

Name (optional)_____ Gender_____

Position_____ Representative Nation_____

1. Please tell me about your experience in maritime education and training and in particular as it relates to funding.
2. Do you think there is enough awareness for maritime education and training in your country? Please elaborate on the reason for your answer
3. What role can the Government play in funding maritime education and training?
4. What mechanism does the department/ministry use to ensure there is funding for maritime education and training?
5. In your opinion, what limits funders from providing financial assistance for maritime education and training?
6. What do you think can be done to mitigate those limitations?
 - a. On the part of students
 - b. On the part of institutions
 - c. On the part of government
7. Is there any other information you would like to/can give me about MET funding?

Appendix 4: Student questionnaire

1. What is the name of your institution?

2. What is your age (optional)?

3. What is your gender?

- Female
- Male

4. What qualification are you studying for?

- Certificate
- Diploma
- Degree (Bachelor level)
- Postgraduate (Masters or Doctoral
- Other _____

5. What is the duration of your course?

6. Who is your Sponsor?

- Parent/Guardian
- Self-Sponsored
- Institution Bursary
- Employer

- Other _____

7. What does your sponsorship cover?

- Accommodation
- Tuition fee
- On-board training
- All of the above
- Other, (please specify)

8. How did you hear about the sponsorship opportunity?

- Television
- Radio
- Flyer
- Newspaper
- Friend
- Social Media
- Other _____

9. Do you have any other general comments about maritime education and training as it relates to funding?

Thank you for taking your time to fill out this questionnaire!

Appendix 5: Staff members' questionnaire

1. What institution are you working in?

2. What is your position at this educational institution?

3. How many students (approximately) does the institution have in total?

4. Approximately how many students are enrolled for maritime studies specifically?

5. How does the institution/maritime faculty promote maritime studies?

6. Is there funding that the institution sets aside/ receives for maritime education and training specifically for students' scholarship/sponsorship?

- Yes
 - Please indicate the criteria for a student receiving such scholarship

- No
- Not sure

7. In your opinion, what role can be played by the Government/ Ministry/department responsible for education to ensure there is funding for maritime education and training?

8. How do you retain funders/sponsors as an institution/faculty?

9. How does the institution acquire training tools for students?

10. Who is responsible for paying for the provision and maintenance of training resources?

11. Does your institution maintain your training resource itself or contracts maintenance to other parties? Please select all that apply.

- Training resources maintained by institution
- Training resources maintained by resource manufacturers
- Training resources maintained by resource donors
- Other (please specify)

12. Are there initiatives dealing with continuous professional development of the institution's human resource?

- Yes, please elaborate _____
- No

13. If there are such initiatives, how are they funded?

- By government
- By private entities
- Other (please specify) _____
- There are no such initiatives

14. What factors would you say negatively affect the funding of Maritime Education and Training?

15. How can these negative factors be removed and funding for MET improved?

Thank you for taking your time to fill out this questionnaire!

Appendix 6: Graduates in the maritime field

1. What is the name of the educational institution you attended?

2. How long was your course?

3. What is your age (optional)?

4. What is your gender

- Female
- Male
- Other _____

5. What is your nationality?

6. What level of higher education do you have?

- Certificate
- Diploma
- Degree (Bachelor level)
- Postgraduate (Masters or Doctoral)
- Other (please specify) _____

7. What did you specialize in? (e.g. Nautical Science, Marine Engineering etc.)

8. Your reason for enrolling to the course was motivated by:

- Scarce skills in the sector
- Personal reasons
- Salary
- Other (specify)_____

9. Who was your sponsor?

- Parent/Guardian
- Self-sponsored
- Employer
- Institution Bursary
- Government operated loan scheme
- Other (specify)_____

9.1 If, you were sponsored, what did your sponsorship/scholarship cover?

- Accommodation
- Meal allowance
- On-board Training
- Tuition fee
- Monthly allowance
- All of the above
- Other _____

9.2 Did your sponsor assist you with job placement or finding berth?

- Yes
- No

9.3 Apart from supporting you financially, what in your opinion was the primary reason your sponsor decided to support your education?

9.4 How did you hear about the sponsorship/scholarship?

- Newspaper
- Social Media
- Television
- Friend
- Online
- Other (specify) _____

10. From your experience, would you say your government is doing enough to finance MET?

- Yes
- No

10.1 If yes, what is the government doing to fund maritime education and training in your country?

10.2 If no, what do you think the government can do to promote and finance maritime education and training in your country?

11. During your term of study, what challenges did you face in terms financing your studies?

12. Do you think there is enough awareness and support for maritime studies in your country?

- Yes
- No
- Not sure

13. Do you have any other general comments about the funding of maritime education and training in your country?

Thank you for taking your time to fill out this questionnaire!