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World Maritime University

Malmö, Sweden

**Enhancement of seafarers' employability through capacity
building in Maritime Education and Training (MET):
A case study of Bangladesh**

By

MD.MANJURUL KABIR

Bangladesh

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

MASTER OF SCIENCE

IN

MARITIME AFFAIRS

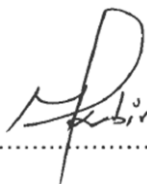
(MARITIME EDUCATION AND TRAINING)

2014

Declaration

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

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

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Abstract

Dissertation title: **Enhancement of seafarers' employability through capacity building in Maritime Education and Training (MET): A case study of Bangladesh.**

Degree: **Master of Science**

This dissertation focuses on employability of Bangladeshi seafarers under the prevailing labour market condition. The paper discusses the concept, framework, and various skills and attributes that constitute employability. The significance of education on employability has also been highlighted. In addition, required elements of high quality seafarers, as well as skills and attributes that are desirable in the seafaring profession have been discussed.

The paper made an in-depth investigation on the factors that determine the employability of seafarers, and analyzed the skills and abilities of Bangladeshi seafarers. In addition, the investigation looked into the MET standards in Bangladesh Marine Academy, as well as in the private MET institutions in light of STCW'78 as amended, and the global seafarer supply and demand trends. Furthermore, the research encompassed the assessment and certification system, and application of quality standards system by the Department of Shipping. To increase the validity of the research outcome, supplemented literature review with questionnaire, and interviews.

The analysis identifies various internal and external factors that have an impact on the employability of Bangladeshi seafarers'. The data analysis further illustrated in discussions, proposing a model for Bangladeshi seafarers' employability incorporating factors described in the widely known 'USEM' model of employability. In addition, suggestions are made on how to develop an effective MET system which will eventually support the competitiveness of Bangladeshi seafarers in the global labour market.

Key words: MET, Maritime labour market, Employability, Seafarers, Skills and attributes.

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List of abbreviations

ACCI	Australian Chamber of Commerce and Industries
BBC	British Broadcasting Corporation
BIMCO	Baltic International Maritime Council
BMA	Bangladesh Marine Academy
BSC	Bangladesh Shipping Corporation
CDC	Continuous Discharge Certificate
COC	Certificate of Competency
COLREG	Convention on the International Regulations for preventing Collisions at Sea 1972
DHFETE	Northern Ireland Department of Higher and Further Education, Training and Employment
DOS	Department of Shipping
DWT	Dead Weight Tons
ECOSOC	United Nations Economic and Social Council
EMSA	European Maritime Safety Agency
ESCAP	Economic and Social Commission for Asia and the Pacific
GDP	Gross Domestic Product
HTW	Sub-committee on Human element, Training and Watch-keeping
IBC	International code for the construction and equipment of ships carrying dangerous Chemical in bulk
IGC	International code for the construction and equipment of ships carrying Liquefied Gases in bulk
ILO	International Labour Organization
IMSBC	International Maritime Solid Bulk Cargo Code
IMDG	International Maritime Dangerous Goods Code
IMO	International Maritime Organization
ISF	International Shipping Federation
ISM	International Safety Management Code
ISWG	Inter-sessional Simulator Working Group

ITF	International Transport Workers Federation
ITU	International Telecommunication Union
JITI	Japan International Transport Institute
MET	Maritime Education and Training
METI	Maritime Education and Training Institutions
MLC	Maritime Labour Convention 2006
OECD	Organization for Economic Co-operation and Development
PDP	Personal Development Planning
P & I	Protection and Indemnity Insurance
SOLAS	International Convention for the Safety of Life at Sea, 1974
STCW	International Convention on Standards of Training, Certification and Watch keeping for Seafarers, 1978 as amended
UNCLOS	United Nations Convention on the Law of the Sea, 1982
UNCTAD	United Nations Conference on Trade and Development
USCG	United States Coast Guard
WMU	World Maritime University

Chapter: 1

Introduction

1.1 Background and rationale

Bangladesh maritime sector is prehistoric and mature. One of the largest river networks, one of the largest bays, largest delta, longest sea-beach, ancient wooden shipbuilding heritage, and rise of our ocean-going ship building industries - with all of these, Bangladesh is spontaneously a maritime country (Hussain, 2011). Currently Bangladesh is a category “b” member of the IMO Council along with nine other states with the largest interest in the international seaborne trade (IMO, 2014d). It is argued that Bangladeshi seafarers have made it possible to be in that category (Ahad, 2013).

Bangladesh has a long tradition of grooming professionally sound & skilled maritime personnel. The history of seafaring in Bangladesh dates back to the British colonial period when they earned a good reputation in British and other foreign flag vessels for their hard work and sincerity. During British rule in the first half of the twentieth century, over 50,000 seafarers from Bangladesh were serving on various foreign sea-going vessels, but with the advancements of technology the number reduced drastically. Thereafter, during the Pakistan period, and now in independent Bangladesh, the government owned Bangladesh Marine Academy, established in 1962, earned good reputation to the Hong Kong and Singapore based shipping companies for producing quality merchant marine officers. However, due to various constraints and limitations,

seafaring as a profession has not flourished in the country. As shown in figure 1.1, there are a total of approximately 6,000 officers and 3,574 ratings in Bangladesh.

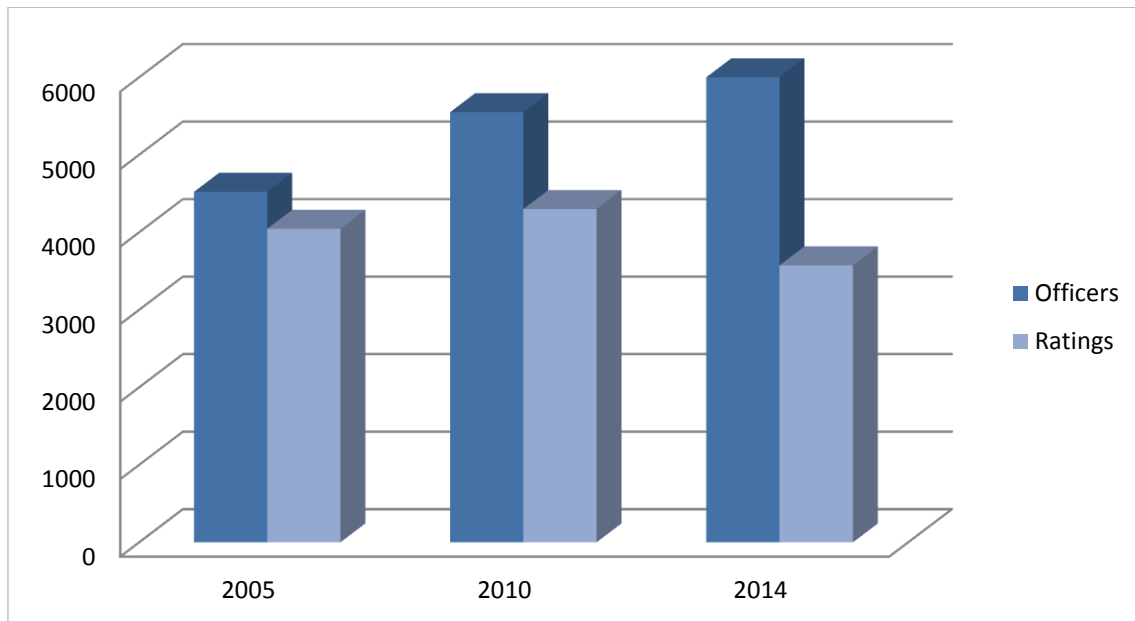


Figure 1.1: Number of seafarers in Bangladesh, Source: BIMCO-ISF Manpower updates (2005) & (2010) and Government Shipping Office (2014).

As per the last BIMCO-ISF manpower update, held in 2010, the worldwide supply of seafarers was estimated to be 624,000 officers and 747,000 ratings whereas the demand during that time was 637,000 officers and 747,000 ratings; which indicated an approximate balance between demand and supply for ratings with a modest over all shortage of officers. In a more recent study, the Drewry report (2014) predicted that an additional 38,500 officers will be required by the end of 2018. Another study conducted by the Japan International Transport Institute (JITI) and the Nippon Foundation in 2010 suggested that 32,000 additional officers and 47,000 ratings would be needed to man the projected fleet in 2020. The North of England P&I Association Limited (2013, p.16) commented that the number of shortages is even more than that which is revealed in various studies; as in many cases the capacity of the global maritime industry to train competent seafarers is in question.

Despite the above facts, the OECD countries that have historically been dominating shipping, and hence a major source of seafarers, are facing difficulty in attracting young people into seafaring. Due to the availability of alternative career opportunities on shore, which are equally compensating, the people of these countries are no longer willing to take up a career at sea. Although there is an increase in the number of seafarers in the UK for the last few years, the present trend is not expected to change soon.

All these reports suggest, a developing maritime country like Bangladesh has a good opportunity to increase its share in the maritime labor market if the global standards are met as there is an abundance of seafaring talents in the country. The ESCAP (2003) report recommends seafarers trained in Bangladesh have relatively high standards of proficiency, are hardworking and are traditionally recognized as good seamen. Also, the report highlighted the good behavior, obedience, trust worthiness, reasonable English speaking ability, and satisfaction with reasonable wages, non-addiction to alcohol and high moral courage as the strength and special qualities of Bangladeshi seafarers. In view of ISF (1990, p.12), Bangladesh has the potential substantially to increase the number of seafarers employed by foreign companies.

However, it is the effective education and quality training that greatly influences the scope of seafarers' employment on merchant vessels. In addition, it is understood, an ideal learning environment with all the hard and soft facilities is essentially needed for effective education and training. The training institutes should be able to develop in trainees, through constant guidance and supervision; a sense of purpose, loyalty, devotion to duty, adaptability under trying circumstances, pride of profession and spirit to service which will make them valuable and distinguished members of their profession (Bangladesh Marine Academy, 2014c). Saharuddin et al. (2011, p.1) have a similar opinion as they mentioned that the employability of seafarers is directly linked to their competency level and last but not least, is the main reason why crew from certain countries enjoy preference in the employment market. Hence, the employability of

Bangladeshi seafarers should be considered from their competency point of view, which is strongly related to the quality of education and training they receive from the MET institutes. However, from a Bangladesh perspective there seems to be many other issues that have a detrimental effect to the employability of seafarers in foreign shipping companies which will be explored in this dissertation.

Therefore, with the above discussions, it seems that the topic of this dissertation on “Enhancement of seafarers’ employability through capacity building in Maritime Education and Training (MET): A case study of Bangladesh” is relevant and timely; as it is undertaken at a time when the shipping industry is facing difficulties to man its ships with adequately qualified officers; whereas Bangladesh, having an abundance of seafaring talents, is unable to market them in the global shipping industry. Reflection on previous work shows that there is hardly any article written on the employability of Bangladeshi seafarers. The focus of this study is to analyze the various skills and attributes required for employability and to explore how the employability of Bangladeshi seafarers can be enhanced with particular emphasis on the necessary measures in order to develop an effective MET system, which will eventually support the competitiveness of Bangladeshi seafarers in the global labour market.

1.2 Problem statement

Bangladesh is one of the most densely populated countries with nearly 160 million people having a small territory of 144,000 square kilometers (Bangladesh Bureau of Statistics 2014). With a relatively small economy, employment generation is a challenge for the country. Bangladesh has to create up to 1.5 million new jobs each year for the next 20 years (World Bank, 2012). Further, a recent report published by the Economist Intelligence Unit, London (Prothom-alo, 2014b) mentioned that 47 percent of university graduates in Bangladesh are unemployed; which is the highest percentage in the world.

Regarding employment specific to seafarers, all the recent reports suggest that there is a modest shortage of skilled seafarers at present and predict there will be shortfall of up to 32,000 seafarers by 2020. From a Bangladesh perspective, this is an excellent opportunity to excel in maritime manpower development, but unfortunately, so far the country does not have a strong presence in the maritime labour market. Rather, the employment of Bangladeshi seafarers is getting difficult day by day. This dissertation therefore, aims to identify the barriers in the way of Bangladeshi seafarers' employment and suggest measures to develop an effective MET in order to acquire a remarkable portion of this shortfall of seafarers; recognizing the fact that the main objective of education in a country like Bangladesh is to transform the vast population of the country into 'human resource'¹.

1.3 Objectives and research questions

The purpose of this study is to identify the challenges that Bangladeshi seafarers face in terms of securing their employment in the global shipping industry and analyze the MET in Bangladesh, including the assessment and certification process. The research aims at proposing the ways to increase employability of Bangladeshi seafarers through the development of MET in Bangladesh. With a view to meeting the objectives, this research will focus on answering three questions:

1. What are the factors that determine the employability of seafarers' in the global labour market?
2. What are the limitations of Bangladeshi seafarers on those competitive parameters?
3. What should be the appropriate role of MET in order to support the competitiveness of Bangladeshi seafarers?

¹Human resource refers to the skilled workforce. See United Nations Economic and Social Council [ECOSOC] at <http://www.un.org/en/development/desa/oesc/humanresources.shtml> for definition. See Bangladesh government guidelines on human resource development in Ministry of Education at http://www.moedu.gov.bd/index.php?option=com_content&task=view&id=243&Itemid=265

1.4 Scope

There are two main category of personnel employed on board the ship namely officers and ratings. This dissertation will focus on the employability of Bangladeshi seafaring officers' only. However, instead of 'seafaring officers', the term 'seafarers' will be used throughout this dissertation as it is a common term to mean the officers as well.

1.5 Research methodology and ethics

As the purpose of this study was to achieve an in-depth understanding of the employability of Bangladeshi seafarers in the global labour market, a qualitative study was considered appropriate. Three methods of research techniques including literature review, questionnaires, and semi-structured interviews were utilized for data collection. This method of using multiple research techniques is known as triangulation which is widely used in social science research. Campbell and Fiske (1959, p.81) recommended the use of this method in order to increase the validity of a construct and evaluate the accuracy of a measurement tool. Knafl and Breitmayer (1989, cited in Hart, 2007, p.349) as well assert that using more than one method will confirm the validity of the concept by converging data from different methods and give more complete descriptions. Finally, the triangulation method was preferred as it allows reviewing all of the data and making sense of them, organizing them into categories and themes (Creswell, 2007, p.38).

The literature review includes an extensive study of books, research papers, journal articles, reports, newspaper articles, conference proceedings and visiting websites that encompasses employability, maritime labour market and MET issues which are available in WMU library, library data bases and other print and electronic media. The following have been investigated and examined in particular:

- The concept of employability, employability framework, and the contribution of education on employability;
- The required elements of high quality seafarers and various skills and attributes attracting employers;
- The skills and abilities of Bangladeshi seafarers in light of competitive parameters;
- The barriers of Bangladeshi seafarers' employment in the global labour market; and
- The requirements of STCW'78 as amended, and the global seafarer supply and demand trends.

The questionnaire and interview procedure were structured in line with the research questions. The questionnaire was uploaded in Google drive and the link was forwarded through e-mail to approximately 400 potential respondents including active seafarers, ex-seafarers presently working in shore establishment in Bangladesh and abroad, shipping company and manning agency officials in Bangladesh. In total 72 responses were received. The responses were automatically saved in Google drive which was password secured. The questionnaire was distributed from 19 July 2014 to 20 August 2014. As mentioned by Gilham (2008, p.8) collecting data using a questionnaire has the disadvantage of incompleteness and inaccuracy, question wording effects on answers, and the inability to check the seriousness or honesty of answers; still this method was used due to its advantage of reduced interviewer bias, less pressure to the respondent for immediate response and respondents anonymity (Gilham, 2008, p.6).

Regarding interviews, in depth, face-to-face, semi-structured interviews with Bangladeshi maritime professionals were conducted from 29 July to 5 August 2014 during the field work in Bangladesh. A total of 12 maritime professionals participated in interviews. The participants hold mid-level managerial positions in the Department of Shipping, public and private MET institutions, ship management companies, and ship manning agencies. Participants were selected purposively for maintaining a variety.

Interviews were preferred as the data collection method for their ability to provide opportunity for clarification as well as encouraging respondents to provide deeper responses to open questions (Brace, 2004, p.24). This was due to the fact that the respondents had in-depth knowledge and involvement in the seafaring profession as well as MET and the maritime labour market. Ghauri & Gronhaug (2002) pointed out that interviews provide a better fit between the responses and research problem, but their disadvantage remains on the reliance of the respondents accurate, unbiased data. Therefore, as recommended by Dawson (2007), semi-structured interviews were preferred as it allowed comparing and contrasting with information obtained from other interviewees; at the same time, it remained flexible so that other important information could be gained.

Regarding research ethics, prior permission was obtained from World Maritime University (WMU) Research Ethics Committee (REC) in order to carry out research involving the human element (Appendix 2, 3 & 4). The participants were assured that the information obtained from the questionnaire would be used for academic purposes only and their identities would be treated with anonymity.

1.6 Method of data analysis and presentation

This dissertation adopted the qualitative method of data analysis and chose the spiral model (Appendix 5) where raw data enters into the spiral and leaves as a narrative account (Creswell, 2007, p.151). At the first step the data collected through questionnaire, and interviews were organized into files and folders in systematic order; followed by reading and listening to the audio for reflecting and writing notes across questions. In the classification and interpretation loop, the data was categorised and compared with each other, and in the final phase of the spiral, categorised data was converted into narrative theme.

The data analysis method also partly corresponded with the thematic analysis as the themes emerging from the data and is not imposed upon by the researcher (Dawson,

2007). The analysis is presented in a statistical method which needed some quantitative explanation. However, as suggested by Swetnam (2007), it was useful to make interference between questionnaires, and interviews in order to present what has been established. Finally, the major findings are presented with critical analysis as aligned with the research questions of this dissertation.

1.7 Dissertation structure

This dissertation is structured in seven chapters. Chapter One is a general introduction that includes the background and rationale, a problem statement, objectives and research questions, scope, methodology, ethics, and methods of data collection and analysis, and presentation. Chapter Two encompasses the concept of employability, employability frameworks, and the importance of education to employability. Chapter Three explores the elements of high quality seafarers and highlights the necessary skills and attributes required in seafaring. Chapter Four analyses the competitiveness of Bangladeshi seafarers in the global context. In Chapter Five, the primary data collected through the questionnaire, and interviews are analyzed and presented. Chapters Six proposes a model for Bangladeshi seafarers' employability, and discuss further how to develop the effective MET system in Bangladesh. Finally, Chapter Seven concludes the dissertation with suggestions from this study to boost the employability of Bangladeshi seafarers through an effective MET system, and outlining the limitations of this research with recommendations for further study.

Chapter: 2

The concept of employability

2.1 Introduction

Employability first appeared in the literature, dated back to 1909, and William Beveridge, one of the architects of British welfare state, introduced the concept of employability in his book, 'Unemployment: A problem of industry' (Beveridge 1909). Oxford English Dictionary (2014) explains that employability is the character and quality of being employed for wages or for a salary. In more simple terms, employability refers to probabilities of getting employment. The current global working condition, as highlighted by the World Bank (2000) is undergoing quick and dynamic changes of knowledge revolution; participation in knowledge economy requires a new set of skills and greater intellectual. Uncertain and unstable nature of job markets challenges the notions of lifelong employment within the same organization, which are fading away in many countries around the world. 'Lifetime employability' instead of 'lifetime employment' is becoming new phenomenon in the labour market (Forrier & Sels, 2003, p. 103).

In addition, in current employability context, education plays the key role in maintaining individual employability, as well as high quality in labour force. The World Bank (2002, p.26) argues that, tertiary education systems should provide expanded and inclusive education systems which reach larger segments of the population; these systems need to impart higher level skills to a rising proportion of the workforce; foster lifelong learning

for citizens, with an emphasis on creativity and flexibility. Indeed, in the knowledge economy, highly trained specialists and broadly educated generalists will be at a premium (World Bank, 2000, p.14).

Although the term 'employability' is being used in a variety of contexts with a range of meanings, it lacks clarity and precision as an operational concept (Hillage & Pollard, 1998, p.1); it is therefore necessary within the scope of this dissertation to review current and previous application of the term, analyze the definitions, its theoretical framework, and essential components of employability.

2.2 Historical background of the concept of employability

Gazier (2001), one of the leading theorists of employability, describes that over the past century the concept of employability has gone through seven stages, namely Dichotomic, socio-medical, manpower policy, flow, labour market performance, initiative and interactive employability. Literature review of these seven versions of the concept indicates that the earlier versions have lost their application due to having been exposed as too static. In present context, both 'labour market performance employability' and 'interactive employability' remain as basic component of policy evaluation, while 'initiative employability' maintains its role in human resource development planning.

2.3 Definition of employability

As mentioned earlier, the term employability is being used in a variety of contexts; there is no universally accepted definition of employability. For example, according to Australian Chamber of Commerce and Industries (ACCI, 2002, p.3):

Employability skills are defined as skills required not only to gain employment, but also to progress within an enterprise so as to achieve one's potential and contribute successfully to enterprise strategic directions.

Yorke & Knight (2006, p.8) define employability as a set of achievements, that are, skills, understandings, and personal attributes, which makes university graduates more likely to gain employment and be successful in their chosen occupations. It also benefits themselves, the workforce, the community and the economy. They further suggest that there is a close link between employability and good learning. Sanders & De Grip (2004, p.76) add the attitudes of people who are willing to develop themselves and adapt to change, as described:

Employability is the capacity and the willingness to be and to remain attractive in the labour market, by anticipating changes in tasks and work environment and reacting to these changes in a proactive way.

Van der Heijde & Van der Heijden (2005, p.143) further explain employability as the continuously fulfilling, acquiring or creating of work through the optimal use of competencies. The other available definitions emphasize the impact of individual skills, attributes and labour market conditions (i.e. demand and supply factors). For example, the Canadian Government's Labour Force Development Board presented the following definition:

Employability is the relative capacity of an individual to achieve meaningful employment given the interaction of personal circumstances and the labour market (Canadian Labour Force Development Board, 1994;, cited in McQuaid & Lindsay, 2005)).

By situating individuals in the environment of economic activities, Hillage and Pollard (1998, p.2) developed a broad-ranging definition that:

Employability involves the capability to move self-sufficiently within the labour market to realize potential through sustainable employment. For the individual, employability depends on the knowledge, skills and attitudes they possess, the way they use these assets and present them to employers and the context e.g. personal circumstances and labour market environment within which they work.

While acknowledging that there is no singular definition of employability, the summary of the literature review suggests the following:

- Employability is an ability to gain initial employment, maintains employment, move between roles and hierarchical ladder within the same organization, and obtains new employment if required.

- Employability revolves fundamentally around the individual's characteristics, personal circumstances and upon the external factors, i.e. labour market influencing a person getting into a job, moving within jobs or improving their job.
- Education plays the key role in obtaining and maintaining one's employability.

2.4 Understanding the theoretical framework of employability

The concept of employability has stimulated the scholars to debate around various interesting questions. For instance, what constitutes employability?; how labour market affects one's employability?; what makes a person more or less employable than others?; why soft skills are so important? A great deal of literature is available to look into answer these questions. In this dissertation, two theoretical employability models are presented to understand the theoretical framework of employability.

2.4.1 The 'USEM' employability model

Yorke & Knight (2006, p.5) provide this model, suggesting employability should be embedded into the curriculum. Their model is widely accepted and quoted. They suggest that there is a close relationship between employability and good learning, and stressed that employability results from a blend of achievements in four broad areas: **U**nderstanding; **S**kills; **E**fficacy beliefs; and **M**etacognition.

They preferred the term 'understanding' above 'knowledge' because of its implication of depth, and of course, a key outcome of higher education. By including 'skills' they meant 'skillful practice' with the implication that this hinges on awareness of, and responsiveness to the context. As for 'efficacy beliefs' the model points to the advantages of a student having malleable, rather than fixed self-theories. Referring to 'metacognition', they commented that its significance is increasingly being recognized and becoming essential as it complements efficacy and embraces self-awareness.

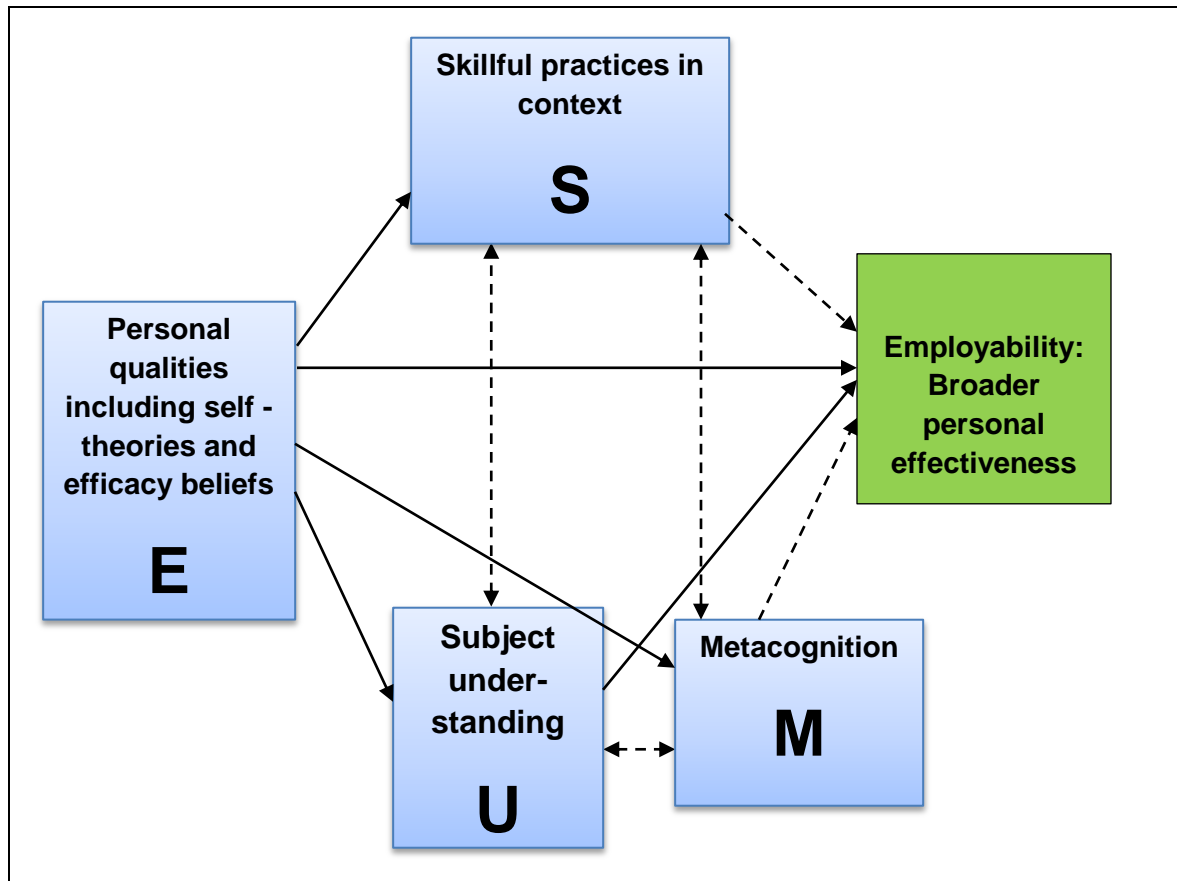


Figure 2.1: 'USEM' model of employability

2.4.2 The 'CareerEDGE' model

Pool & Sewell (2007) present their model based on the key skills. They use the term 'CareerEDGE' as an aid to remember the five essential components of the model: **C**areer; **E** (Experience); **D** (Degree subject knowledge); **G** (Generic skills); and **E** (Emotional intelligence). The model suggests that students, with all the skills on these five components and essentially, through reflecting and evaluating these experiences, will result in development of higher levels of self-efficacy, self-confidence, and self-esteem which is the crucial links to the employability. The model ascertains that each

component of their model is essential and one missing element would considerably reduce a person's employability.

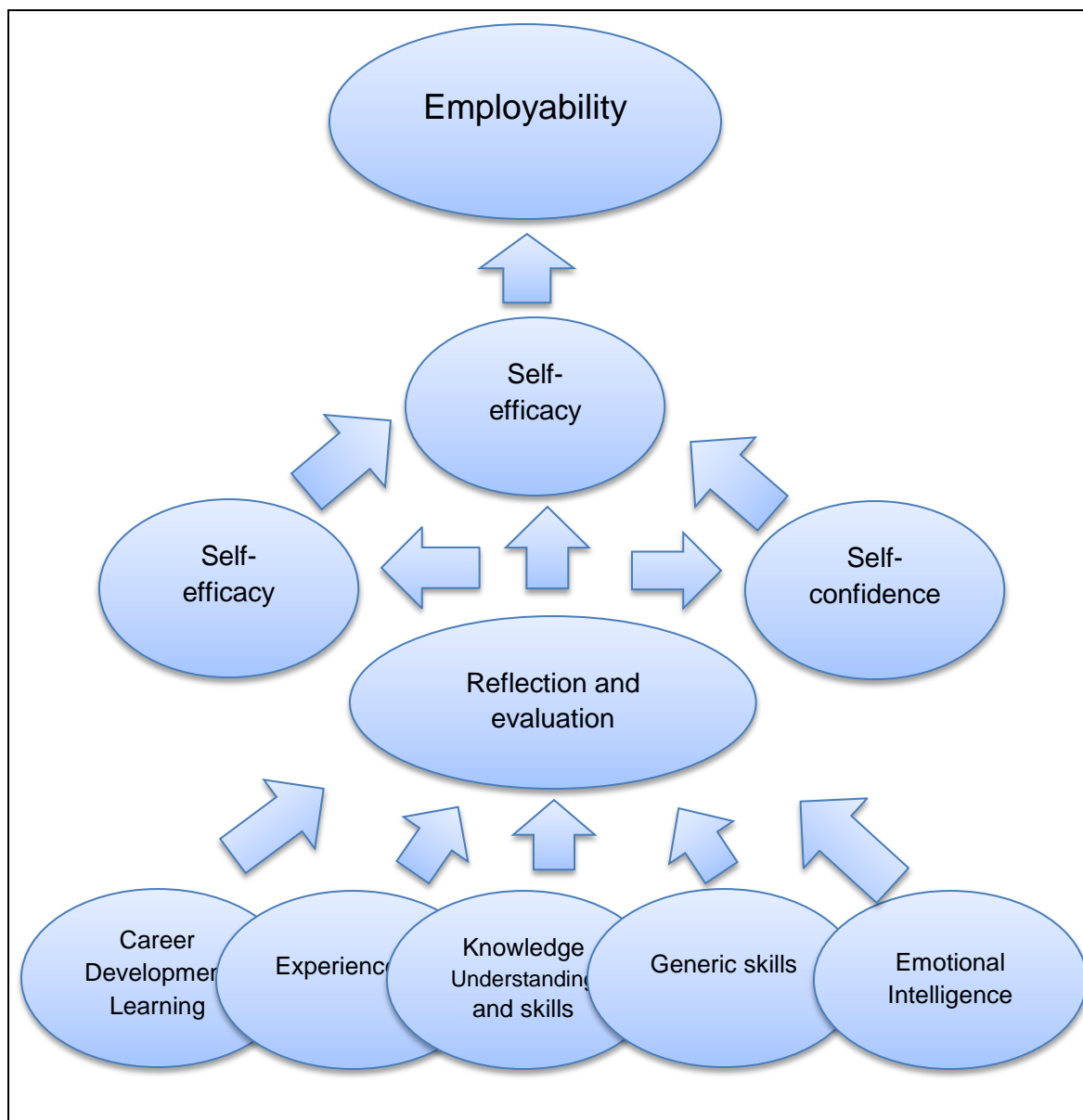


Figure 2.2: 'CareerEDGE' model of employability

Pool & Sewell (2007, p. 281) have converted their original model with the metaphorical image of a 'key' and suggest that the pictorial version of the model is a useful and practical way of explaining the concept of employability.

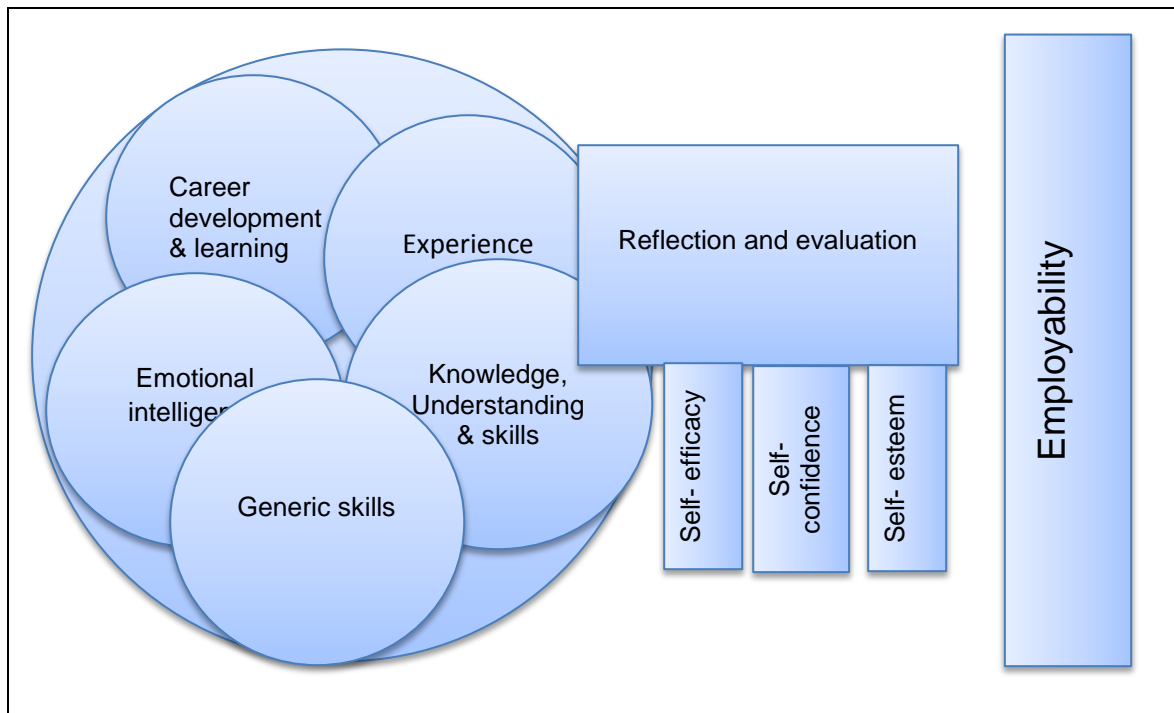


Figure 2.3: The key to employability.

Apart from above two models, broad framework model by McQuaid & Lindsay (2005, p.209), Northern Ireland Department of Higher and Further Education, Training and Employment model (DHFETE, 2002, p.7), and graduate identity model by Holmes (2001, p.116) are widely known.

The employability models described above propose their own legitimate views. However, these models are more or less inclined to a set of skills and attributes in order to be employable. As employability can be understood as a multi-dimensional term used in a range of meanings, it is not appropriate to reduce employability into a single

set of skills and attributes. Murphy & Otter (1999, cited in Holmes, 2001, p.1) criticize that transferable skills, key skills, core skills, generic skills, personal skills along with capabilities and personal competencies are broadly synonymous. Hence, they are skeptical about the view that emphasis upon skills is a matter of common sense.

2.5 The significant of education on employability

Education holds the key role in finding an employment and helps to get one that offers rewards proportionate to the level of education. With higher education one can get better job that yields greater pay and chances for better career advancement. The World Development Report 1998/99 (World Bank, 1998) states:

Knowledge is like light. Weightless and intangible, it can easily travel the world, enlightening the lives of people everywhere. Yet billions of people still live in the darkness of poverty unnecessarily. In part, at least, people live in poverty because they cannot reach the switch to turn on the light and that switch is called education.

Alainati et al. (2009) comment that education is increasingly important, not only for the growing demand of technology, science and other fields, but also for improving individuals' prospects. A study conducted by Bynner (1998) has collected evidence on how individuals' educational needs changed over a period of time. It suggests that to find and maintain a job with inadequate education is getting difficult day by day. Emphasizing on education, World Bank (1998) further states that 'today most technologically advanced economies are knowledge based [omitted].....creating millions of knowledge related jobs in an array of disciplines that have emerged overnight.' Therefore, it is inevitable that more emphasis should be given on education so as to enhance the employability.

2.6 Understanding employability skills

As already discussed, employability is not merely skills to be employable. Therefore, this study calls those basic skills necessary for getting, keeping and doing well on a job,

as 'employability skills' (Robinson, 2000). Employability models described earlier also emphasize on such skills in order to remain competitive in the labour market. Based on the literature review, the employability skills listed below are discussed in the following sections.

- Knowledge and understanding;
- Generic skills;
- Emotional intelligence;
- Career development learning;
- Work experience;
- Reflection and evaluation;
- Self-efficacy, self-confidence and self-esteem;
- Social capital; and
- Attitude.

2.6.1 Knowledge and understanding

Both 'knowledge and understanding' are the most commonly referred elements that are of utmost importance for employability; and therefore, they often appear in the central part of any employability model. Becker (1993) argues that education and training that form the basis of knowledge, understanding and skills are the most important factors of human capital. Referring to competence as a form of knowledge and understanding, Van der Heijde & Van der Heijden (2005) discuss occupational expertise as one of the important deterministic factors for employability. Yorke (2003, p.2) explains that employability and good learning have a lot in common, and should not be seen as oppositional. Therefore, the quality and level of education can be understood as one of the most important determinants of employability.

2.6.2 Generic skills

Generic skills focus on the whole development of an individual; apart from one's occupational training. According to the World Bank (2000, p.83), a person having good generic skills can be identified by one's ability of thinking and writing clearly, effectively and critically, and who can communicate with precision, cogency and force. Bennett et al. (1999, p. 76) defines generic skills which can support study in any discipline, and which can potentially be transferred to a range of contexts, in higher education or the workplace. Richard (2003, p.405) mentioned that research conducted by Michigan State University in 1998 revealed that in addition to the knowledge and skills; behaviours help students move successfully in the world or in the labour market. The Pedagogy for Employability Group (2006, p. 4) lists 14 attributes² that employers expect in graduates. Yorke and Knight (2006, p.8) listed 39 aspects of generic skills³ which can affect the employability. Further, Yorke (2006, p.5) mentioned that employers highly value the generic skills and say, "Give us a bright and engaged graduate, and we will build specific expertise for this organization on top of that". However, in recent years, many of the higher educational institutions have embedded soft-skill⁴ development programme into the curriculum. Therefore, education is expected to further enhance employability as a whole.

² 14 Attributes: Imagination/creativity, adaptability/flexibility, willingness to learn, independent working/autonomy, working in a team, ability to manage others, ability to work under pressure, good oral communication, communication in writing for varied purposes, numeracy, attention to detail, time management, assumption of responsibility and for making decisions, planning, coordinating and organizing abilities as the expected attributes by employers.

³ 39 aspects are divided into three categories namely personal qualities, core skills, and process skills. Personal qualities include self-theory, self-awareness, self-confidence, independence, emotional intelligence, adaptability, stress tolerance, initiative, willingness to learn, and reflectiveness. The core skills encompass reading effectiveness, numeracy, information retrieval, language skills, self-management, critical analysis, creativity, listening, written communication, oral presentations, explaining, and global awareness. The process skills are computer literacy, commercial awareness, political sensibility, ability to work cross-culturally, ethical sensibility, prioritizing, planning, applying subject understanding, acting morally, coping with complexity, problem solving, influencing, arguing for and/or justifying a point, resolving conflict, decision making, negotiating, and teamwork.

⁴ In the UK, the University of Luton, the University of North London and Oxford Brookes University have integrated a set of transferrable skills into the undergraduate curriculum. See http://www.employability.ed.ac.uk/documents/Staff/HEABriefings/ESECT-3-Embedding_employability_into_curriculum.pdf for more information.

2.6.3 Emotional intelligence

In simple terms, emotional intelligence refers human talent. In view of Salovey & Mayer (1990, p.190) emotional intelligence is the ability to monitor one's own and other's feelings and emotions to discriminate among them and to use this information to guide one's thinking and actions. Fineman (2000, p.11) point out emotional intelligence as an important organizational development tool that is widely accepted among managers, consultants, and practitioners as a means for solving problems. According to Cooper (1997), people with high levels of emotional intelligence motivate themselves and others to achieve more; enjoy more career success, build stronger personal relationships. Goleman (1998, p. 7) suggests that emotional intelligence can be learnt, and higher educational institutions should be able to successfully teach, because emotional intelligence is not genetically fixed, nor does only develop during early childhood. As education connotes inner decision making, i.e. developing the ability to think through situations (Ringness, 1975; cited in Manuel, 2005), a person with higher education theoretically should have better emotional intelligence and thereby better employability.

2.6.4 Career development learning

In order for someone to have the best chance of securing employment in which he can be satisfied and successful, career development learning can be vital. Hillage and Pollard (1998, p.2) identified career development skills as the combination of self-awareness, opportunity awareness, decision making skills and transition skills. Foster (2006; cited in Pool and Sewell, 2007, p.284) suggests, for career development learning in his view, there is little to be gained in developing employability if a student cannot identify a market in which to advertise their newly developed employability. Furthermore, education has an important role to enhance one's employability in this context. Watts (2006, p.3) states that there is growing attention within higher education to enhance students employability and career development learning through specific modules. Therefore, education will have further better impact on employability.

2.6.5 Work experience

Experience provides a person with distinctive and, tangible benefits. Employers greatly value people who have undertaken work experience, and hence increase the likelihood of success for them at the recruitment stage and also in their subsequent career. The Association of Graduate Recruits (Department for Education and Skills, 2002, p.7) mention that employers welcome initiatives that promote the effective recording and presentation of such work experience where it involves the ability to reflect, articulate, and apply what has been learned. Johnson and Burden (2003, p.39) acknowledge the importance of work experience by stating that, "The role of work experience is an issue on which there is almost complete unanimity between employers and young people." However, without appropriate education, work experience alone cannot prepare someone for qualifying for a highly skilled job. The role of education, therefore, needs to be explored in search of employability.

2.6.6 Reflection and evaluation

In addition to the development of necessary skills, knowledge, understanding and attributes, it is equally important to provide graduates with opportunities for reflection on and evaluation of the learning experiences that have already taken place (Pool and Sewell, 2007, p.285). The Quality Assurance Agency for Higher Education in UK (2014) suggests that Personal Development Planning (PDP) can be very useful for career development as it is a structured and supported process undertaken by a learner to reflect upon their own learning, performance and/or achievement, and to plan for their personal educational and career development. The Higher Education Academy (2007, p.5) suggests that there is a strong link between PDP and employability. In recent years, PDP is integrated into curriculum in many educational institutions, and students having higher education are automatically benefitted of this concept and are ahead in competitive situation.

2.6.7 Self-efficacy, self-confidence, and self-esteem

Bandura (1995, p.3) suggests people's beliefs concerning their efficacy can be developed by four main forms of influences: mastery experiences, vicarious experiences, social persuasion, and psychological and emotional states. Self-confidence can be seen as the way a person projects him/her to the outside world, which is visible from his/her manner and behaviour. According to Goleman (1998, p. 68), people with self-confidence are able to present themselves with self-assurance and presence. Pool & Sewell (2007, p. 286) suggest that an increase in self-efficacy should be reflected in an increase in demonstrated self-confidence. On the other hand, Lawrence (2006, p.xiv) supports the inclusion of self-esteem in employability model as he describes, 'self-esteem' as:

One of the most exciting discoveries in educational psychology in recent times has been the finding that people's levels of achievement are influenced by how they feel about themselves, i.e. their self-esteem.

From the educational perspective, education helps to build up self-efficacy, self-confidence and self-esteem because education is the process of developing mentally, morally and aesthetically (Merriam-Webster dictionary, 1996; cited in Manuel, 2005). Therefore, an educated person is expected to have better self-efficacy, self-confidence and self-esteem, and thereby better employability.

2.6.8 Social capital

Social capitals are those attributes that count for day-to-day life that includes social networking, personal contacts, and awareness. McQuaid & Lindsay (2005, p.209) in their model introduce social capital as an essential individual factor that determines employability. Kluytmans & Ott (1999) suggested that in addition to know-how and skills, employability is dependent on one's knowledge on the labour market itself, including how the information is obtained through formal and informal networks. Seibert et al. (2001) share the view that social capital leads to career success, and that access

to the social resources and the nature of the social resources are embedded into one's networks. Education will enhance social capital including personal connectivity and knowledge on the labour market which eventually will make people more employable.

2.6.9 Attitude

In employability contexts, attitude is concerned with factors, such as attitude towards the work, adaptability and flexibility, geographical mobility, wage flexibility and so on. McQuaid & Lindsay (2005, p.209) understand assertiveness as essential factor for employability. Van der Heijde & Van der Heijden (2005) state that willingness to learn, and willingness to change, should be listed among the antecedents of employability. Individual willingness to move for an employment, which is referred to as 'mobility of human capital' is proposed by Defillippi & Arthur (1994), could impact on employability. Attitudes can be learned and trained from the early stage of education, and good work ethics are also expected to build through the engagement with other peers in school.

2.7 Conclusions

The discussions on employability models and skills have provided a comprehensive understanding of the concepts of employability. The employability skills discussed in this chapter are mostly categorized as soft skills, which become increasingly important in seafaring profession. It is emphasized that education plays the key role in developing these skills and attributes. Further, it is highlighted that a higher education system should provide expanded and inclusive education to impart higher level of skills with emphasis on creativity and flexibility. In this context, educational institutions in Bangladesh need to develop an appropriate programme and relevant curriculum incorporating with various employability skills in order to enhance the employability of their graduates. It is also relevant with the government vision and policy of employment generation, human resource development, and economic growth of the country.

Chapter: 3

Employability skills of seafarers

3.1 Introduction

This chapter endeavours to present an understanding of seafaring profession, the required elements of high quality seafarers and essential skills and attributes that enhance their employability. From time immemorial, seafaring has practiced 'on-the-job training'. It is considered as a skill-based job; therefore, performance largely depends on experience (Kennerly, 2002). However, the transition to shore-based schooling started in 17th century and compulsory licencing started in the UK in 1851. In any case, merchant seafaring in 21st century is radically different from 17th century; it is less physical, more intellectual (Manuel, 2014). The range of knowledge, skills, and attitudes required today by seafarers are so wide that the role of maritime education and training (MET) is of significance.

3.2 Seafaring as a profession

Seafaring is a unique work domain which offers a completely different lifestyle from other occupations. It is mainly because in seafaring, the ship implies both home and work place. Any personal problems with other crew members are likely to stay until they disembark the ship. Seafarers are often required to 'turn in' to harmonize with their colleagues on board (Kitada, 2010). Despite such challenges, seafaring has always

attracted adventurous young men and women. Couper et al. (1999, p.19) explore the work profile of seafaring and summarize as:

Crews of merchant ships must be self-sufficient and able to improvise. They are responsible for the safety of the vessel, care of the cargo, maintenance and repairs; they need to prepare for fire, weather damage, evacuation and other emergencies without assistance from shore. Similarly there can be illness and injuries which require attention without direct medical assistance.

IMO (2014b), also, acknowledges the responsibility and hard work of seafarers, as the regulatory body mentioned on the day of the seafarers 2014:

Quietly, mostly unnoticed, seafarers keep the wheels of the world in motion. Throughout the world, they face hardship and danger every day to keep our global economy afloat. Their work is hard and the level of responsibility is high.

By appreciating such responsible personnel, how has the seafaring domain historically evolved, and what qualities of seafarers are valued? Grech et al. (2008, p.1) explain that some of the most-valued qualities in mariners, prior to mechanically propelled ships, included physical strength, endurance, ability to withstand a high level of discomfort, and to some extent, an indifference to pain and even death. However, with the course of time and in line with the fast changing world, these valued qualities also need to be updated, since the volume of information that seafarers must know has enormously increased. Bearing it in mind, the IMO Secretary General, Mr.Koji Sekimiju in his speech on the day of the seafarers in 2013, in the Bangladesh Marine Academy, addressed:

The modern ship's officer needs to be far more than a navigator or an engineer, and the modern ship's crewman needs to be far more than a manual labourer. A modern ship is a highly technical workplace, which means that, as well as a highly advanced technical skillset, shipboard staff now also need to be fully conversant with management and communication skills, IT knowledge, and budget management, and so on (IMO,2013).

In order to update the competences of seafarers, the STCW'78⁵ has been amended several times, including two major amendments in 1995 and 2010. Apart from STCW

⁵ STCW'78 as amended: International Convention on Standards of Training, Certification and Watch keeping for Seafarers, 1978 as amended.

'78 as amended, UNCLOS⁶, SOLAS⁷ regulation V/14, principles of safe manning (IMO resolution A 1047(27)), MARPOL⁸ 73/78, MLC⁹ 2006, ITU¹⁰ radio regulations, IBC¹¹ code, IGC¹², IMDG¹³, ISM¹⁴, ISPS¹⁵, IMSBC¹⁶ provide the legal frame-work for seafarers' education and training so as to perform their duties on board safely and in an environmentally sound manner.

Besides the education and training required by the regulatory framework, Kimura (2003) identifies the characteristics of a high quality seafarer in order to be competitive in the global maritime labour market. For example, full knowledge of his trade and skill, ability to watch out for all potential dangers, co-operation and leadership, strong sense of responsibility, strict observance of punctuality, etiquette and manner are suggested. He further emphasizes that these traits, characters and abilities of seafarers should be cultivated through adequate training and on-board experience. It is to mention that the

⁶ UNCLOS: United Nations Convention on the Law of the Sea, 1982

⁷ SOLAS: International Convention for the Safety of Life at Sea, 1974.

⁸ MARPOL 73/78: International Convention for the Prevention of Pollution from Ships, 1973 as modified by the protocol of 1978.

⁹ MLC 2006: Maritime Labour Convention 2006.

¹⁰ ITU: International Telecommunication Union.

¹¹ IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemical in Bulk.

¹² IGC Code: International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk.

¹³ IMDG Code: International Maritime Dangerous Goods Code.

¹⁴ ISM Code: International Safety Management Code.

¹⁵ ISPS Code: International Ship and Port Facility Security Code.

¹⁶ IMSBC Code: International Solid Bulk Cargoes Code.

survey conducted by the KNOWME¹⁷ project has identified traditional seafaring skills, safety and security skills, and human factor skills as the top three priorities for employment (KNOWME, 2013).

3.3 Employability skills of seafarers

As seafaring is primarily a skill based profession, seafarers are expected to possess a variety of skills and attributes in order to be employable in the global maritime labour market. The following skills and attributes appeared from the literature review and will be discussed respectively:

- In-depth knowledge, problem solving skill and sense of responsibility;
- Leadership and teamwork skill;
- Communication skill;
- Indefatigable spirit;
- Adaptation in multi-cultural environment;
- Prudence and foresight;
- Situational awareness skill; and
- Physical fitness.

3.3.1 In-depth knowledge, problem solving skills and sense of responsibility

The ultimate goal of seafarers is to ensure safe and economic transportation of cargos and passengers. The Figure 3.1 depicts the responsibility of a master mariner in a commercial vessel. The Master needs to have sound knowledge on navigation, metrological information, security related issues, engine room machineries, cargo-handling equipment, crew management, national and international legislation, and

¹⁷ KNOWME is the European academic and industry network for innovative maritime training, education, research and development with an objective to cover the main issues addressed by the European Commission in the maritime transport strategy 2009-2018 focusing on the human factors. The mentioned survey was carried out among maritime administrations, ports, shipping companies and transport agencies from Sweden, Germany and Greece. See www.know-me.org for more information.

maritime commercial matters. Similarly, the Chief Engineer Officer is responsible for the operation and maintenance of all the mechanical and electrical equipment on board. Senior engineers shall have to lead junior engineers, trainees, and ratings. Besides, they have to catch up with new technologies and adapt themselves to its use.

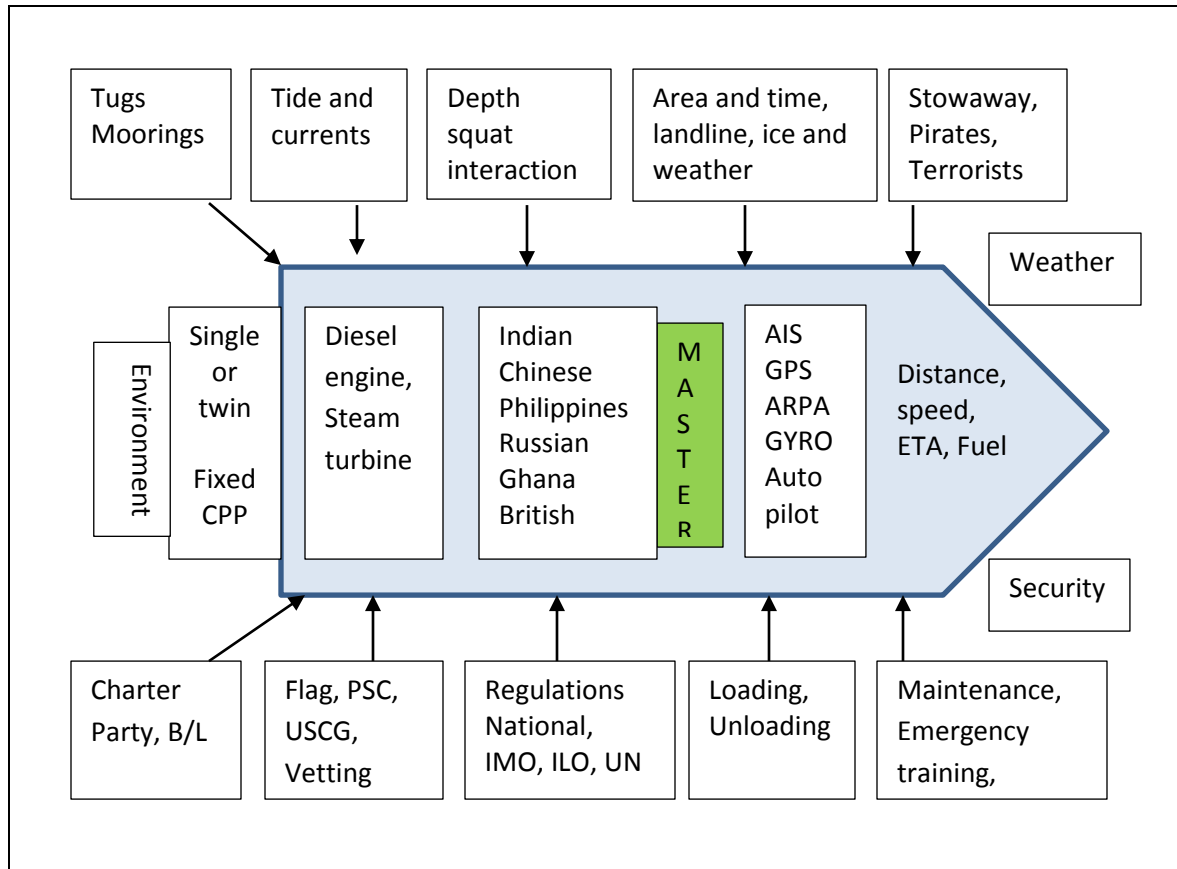


Figure 3.1: Job requirements of a master mariner, Source: Solanki (2007, p.12).

Professionals, such as Nakaya (2003) of NYK Ship Management, Japan, and Jensen (2014) of Danica Crewing Services, Ukraine also discuss these elements of seafarers' qualities. Talent, personal characteristics, skills, knowledge, and behavior in a diagrammatic arrangement (Appendix 7) form the basis of in-depth knowledge, problem-solving skill, and sense of responsibility. In this view, to become a high-quality

seafarer, a person must have certain IQ and ability to understand problems and pick-up new ways of doing things. It further suggests that a high-quality seafarer needs to have good personal characteristics, such as making correct decision under stress, and acquire sufficient knowledge and skill through MET.

3.3.2 Leadership and teamwork skill

Leadership is interpreted in various ways across the literature, however for example, Yukl (2005, p.8) explains the leadership as the process of influencing others to understand and agree about what needs to be done and how it can be done, and the process of facilitating individual and collective efforts to accomplish the shared objectives. According to United Kingdom Maritime and Coastguard Agency (2004), the criteria for good leadership in the maritime industry are confidence and authority; empathy and understanding; motivation and commitment; and openness and clarity. IMO (2014a) also provides the definition of leadership as a process whereby an individual influences a group of individuals to achieve a common goal.

Felicia & Cristiana (2010) express their view that similar to any other professions, leadership qualities of seafarers will bring great benefits to the vessel as well as to the management ashore. As leaders, they are expected to motivate and inspire other crew members, lead by example, and demonstrate confidence, especially in any difficult and risky scenarios, such as adverse weather and piracy attacks. In addition, the leadership qualities are required in order to maintain proper order and discipline among the crew.

In addition, there are increasing efforts in gaining awareness on human element issues in today's knowledge-based society. Since human error is known as the major cause of almost all accidents at sea, there is a specific focus on seafarers' leadership abilities, which is evident from inclusion of leadership and teamwork skills in the STCW'78 as amended. Therefore, in order to have a competitive advantage in global maritime labour

market, the development of leadership and teamwork skills will increase their employability.

3.3.3 Communication skill

In today's shipping, multi-national crews are a common feature on board more than 65% of the world's merchant ships, where the commonly used language may not be the native language of the majority of the crew (The International Maritime Human Element Bulletin, 2007, p.2). Not surprisingly, within STCW'78 as amended, the ISM Code and MLC 2006, the need for effective communication has been addressed in several forms.

Adequate knowledge of the English language to enable the officer to use charts [omitted].....to communicate with other ships and coast stations and to perform the officer's duties also with a multilingual crew, including the ability to use and understand the Standard Marine Navigational Vocabulary as replaced by the IMO Standard Marine Communication Phrases. (IMO, 2011, STCW'78, as amended, chapter II, section A-II/1, Table A-II/1).

Instructions and procedures, lines of communication, appropriate orders and instructions in a clear and simple manner, proper familiarization, adequate understanding, working language, able to communicate effectively, procedures for the preparation of plans and instructions including checklists. (IMO, 2010, ISM code: part A, element 1, 5 and 7).

The medical certificates for seafarers engaged on international voyages must as a minimum be provided in English. Where the language of the seafarers' employment agreement is not in English, it shall also be available in English. (ILO, 2006; MLC 2006: regulation A1.2 and A 2.1).

Nevertheless, breakdowns in communications are common causes in many accidents at sea. Accident investigation reports often cite ineffective or poor communication as causal factors. Felecia & Cristina (2010, p.2) refer to a research study by the Solent University between the year 2004-2005, and lists the qualities that a successful seafarer must possess in order to be competitive. The study revealed that, as of all, seafarers should understand the suitable technical language that characterizes maritime environment. Besides, Maritime English is considered as a global working

language for seafarers. A considerable part of seafarers' jobs includes internal and external communication. Therefore, it is imperative that communication skills including the proficiency in Maritime English are pre-requisite for high quality seafarers. Without communication skills, all other good qualities and skills would become ineffective.

3.3.4 Indefatigable spirit

Fatigue is known to cause degradation of human performance and is generally described as a state of feeling tired, weary, or sleepy that results from prolonged mental or physical work, extended periods of anxiety, exposure to harsh environments, or loss of sleep (IMO, 2001). The International Transport Workers Federation (ITF) characterizes fatigue by inability to stay awake, clumsiness, headaches and giddiness, loss of appetite, insomnia, moodiness, needless worrying, poor judgment of distance, speed, time and risk, slow responses and difficulty in concentrating (ITF Seafarers, 2014a).

Although STCW'78¹⁸ as amended and MLC 2006¹⁹ address the issue of seafarers' fatigue quite adequately, it still remains. While waiting for the effective implementation of these installments, seafarers need to develop in themselves the indefatigable spirit, as to perform with equal enthusiasm and to avoid unsafe acts. Seafarers need to be able to manage their fatigue by understanding how to avoid or mitigate the effect of fatigue. For example, the consumption of alcohol and tobacco should be strictly controlled on board ships. Self-discipline is part of the seafarers' quality, because there are difficult times on ships, including extreme bad weather conditions, major breakdown in engines, prolonged maneuverings, and extended loading/discharging periods. In such occasions, indefatigable spirit will distinguish a high quality seafarer from ordinary

¹⁸ STCW'78, as amended, Chapter VIII, regulation VIII/1 'Fitness for duty' requires to establish and enforce rest periods for watch keeping personnel. The efficiency of the watch keeping personnel should not be impaired by fatigue.

¹⁹ MLC 2006, regulation 2.3, requires minimum hours of rest shall not be less than 10-hour in any 24-hour period, and 72-hour in seven-day period.

ones. Good performance in tough situations is always rewarded, and in turn such qualities would enhance one's employability in the competitive labour market.

3.3.5 Adaptation in the multi-cultural environment

About 80 percent of the world's merchant ships are said to have multicultural/multiethnic crew composition. In many cases there are seven or eight nationalities on-board, and a large cruise ship may have more than thirty (Couper et al., 1999). Despite the benefits it brings to the ship owners, it is argued that multinational crewing often creates serious challenges in respect to safety and human element. For example, Galic et al. (2012, p.36) describe that under the conditions of multinational crewing, there will always be some problems, such as language difficulties, lack of mutual understanding, cultural and ideological differences, which will ultimately have a negative effect on the overall safety of maritime transport.

Indeed, multinational crewing vessels reflect a variety of national cultures, which by nature represent a heterogeneous environment. Robinson et al. (1999, p.40) identified ten components of culture and revealed how significantly culture varies depending on geographical location, language, and religion. Therefore, in order to work in a multicultural environment in harmony, without serious accidents and conflicts, seafarers need to have awareness and tolerance to be sensitive to cultural issues. For example, they need to be familiar with other's communication patterns. Horck (2008, p.4) emphasizes the importance of learning inter-cultural communication.

Due to the globalized nature of shipping and multicultural crewing, it is imperative that seafarers should develop the ability to adapt in multicultural working environment. Deloitte (2011, p.13) further suggests that maritime curricula should be expanded by including the courses for multi-cultural relations and foreign languages, in order to meet the needs of individuals in a complex global working environment.

3.3.6 Prudence and foresight

ILO (1996) recognizes seafaring as a high-risk occupation, and the occupational health and safety issues of work on board are known as a major concern for seafarers today. A study conducted by the Oxford University found that people working at sea are up to 50 times more likely to die while working; compared to those in other jobs. The same study also indicates that merchant seafaring is the second dangerous job after professional fishing (BBC News World edition, 2002).

Even so, when taking a closer look at maritime transport, it is found that, in many cases, the causes of accidents are, for example, lack of knowledge, inadequate training, incomplete understanding of ships operations, non-adherence to procedures, lack of foresight, and the decisions of taking unnecessary risks. All of these often happen in quite simple operations. In fact, the safe operation of ships depends upon seafarers' competencies and dedication to their duties.

In light of above, seafarers need to have prudence and foresight ability in order to avoid any kind of hazardous occurrences. They should be able to foresee any potential dangers and take necessary actions to avoid risky situations. ILO (1996, p.vi) also describes that prudence and foresight are natural characteristics of the good seafarers.

3.3.7 Situational awareness skill

Good situation awareness is another important quality for seafarers in terms of decision-making in dynamic situation of ships. Endsley (1988, p.97) defined situation awareness as the perception of the elements in the environment within a volume of time and space, the comprehension of their meaning and the projection of their status in the near future. In more simple way, situation awareness is to know what is happening around. According to United States Coastguard, situational awareness refers to the capability to maintain a constant vigil over important information, understand the

relationship among the various pieces of information monitored, and project this understanding into the near future to make critical decisions (USCG, 2008, p.1)

Ships are often exposed to external natural factors that influence the incidents and accidents. Under such circumstances, the lack of situational awareness by duty officers would lead to accidents. Seafarers are expected to pay attention to the situations around them and make decisions to cut down an error path. If the right conditions are set by early detection and correction, errors will no longer be a threat. Regardless of individual or teamwork, a dynamic situation such as navigation or maneuvering, involves in situation awareness of constantly changing information from outside. Seafarers need to perceive well, understand well, decide well and do well under dynamic situations (Clostermann, 2014), and thus, the situation awareness skill become one of the vital requisite of high quality seafarers.

3.3.8 Physical fitness

The MLC 2006 and the STCW'78 as amended require seafarers to hold a medical certificate. Both Conventions detail the information to be recorded, and indicate certain specific aspects of fitness that need to be assessed (ILO & IMO, 2013). Seafarers need to have sufficient mental and physical strengths to carry out their jobs even in unscheduled working hours. Danish occupational health professionals mentioned that obese persons may be in difficulty to perform safety tasks aboard in emergencies, for example, using escape routes and ladders, and entering a lifeboat or a life raft (ITF, 2014b). Physical fitness is, therefore, is one of the most important determinants of the employability of seafarers.

3.4 Conclusions

Securing enough high quality seafarers remains the bedrock of the safe operation of the ships. The industry needs to preserve the quality, practical skills and competence of qualified human resources for the sustainable maritime transport system (IMO, 2014c). The competence of seafarers is the most critical factor in the safe and efficient operation of ships, and has a direct impact on the safety of life at sea and the protection of the marine environment (ISF-ICS, 2011). Seafarers with high qualities are in demand in the globalised shipping industry, and in order to increase the employability, seafarers need to possess the skills and attributes discussed in this chapter. Based on the framework of high quality seafarers, the following chapters will examine how Bangladeshi seafarers can attract the global labour market as well as how education can improve their current employability status.

Chapter: 4

International competitiveness of Bangladeshi seafarers'

4.1 Introduction

With the opportunities of open registries and the perceived advantages, mostly economic and political benefits of ship owners, multinational crewing is a common phenomenon in today's shipping. In practice, the ship owners decide on the overall manning policies and operationalize through their onward linkages with the manning agencies and MET institutions. These practices have created a global labour market, which has opened up huge employment opportunities for seafarers in many developing countries including Bangladesh. Notwithstanding such job opportunities, employability of seafarers can be affected by various external and internal factors including the MET system of that particular country. Thus, all such factors pertaining to Bangladeshi seafarers are analyzed in this chapter.

4.2 External factors-Understanding the Bangladeshi seafarers in foreign affairs and economy

Followed by the discussion of the employability of seafarers in the previous chapter, the globalized work context of seafarers' influences how attractive the seafarers from a particular country would be regarded in the labour market. The external factors that have impact on the employability of Bangladeshi seafarers are firstly explored. The

document analysis was conducted and the following external factors were identified in relation to the employability of Bangladeshi seafarers:

- Manning cost
- Economic situation of seafaring officers supplying countries
- Living cost and exchange rate
- Visa restriction to certain countries
- Occasional desertion

4.2.1 Manning cost

Manning cost constitutes a large percentage of the total operating cost of the vessel which varies greatly by the crew nationalities, remuneration package, service condition, and crew size on board ships as well as the number of standby crew members. Figure 4.1 shows that the crew cost constitutes 60 percent for handysize, 48 percent for cape size bulk carrier, 28 percent for Aframax tanker, and 19 percent for VLCCs (Ma, 2013).

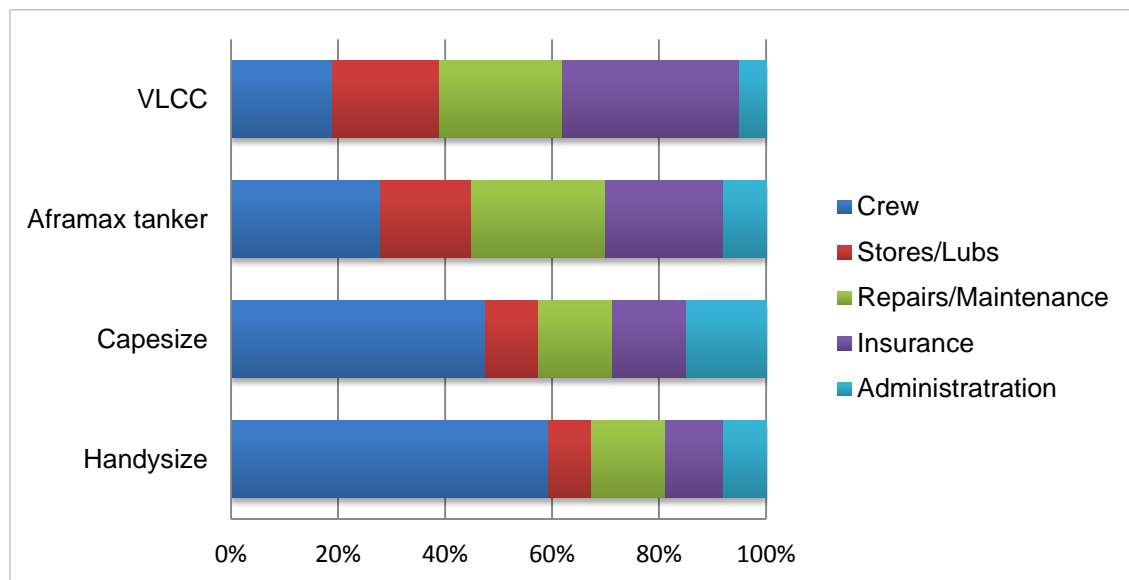


Figure 4.1: Structure of operating cost (%), Source: Ma (2013)

Besides the national legal system, employment practice, and living standards of the country of the crew are known as the main influential factors of the crew cost levels. By seeking the optimal relationship between high quality crew and cheap crew, multinational crew is used in most ships, especially when it comes to the officers (Galic et al., 2012, p.36). This phenomenon is reflected by the reduction of OECD countries (Figure 4.2). However, the quality of seafarers is not directly related to the nationality, it depends on training, experience and competencies (Wagtmann & Poulsen, 2009).

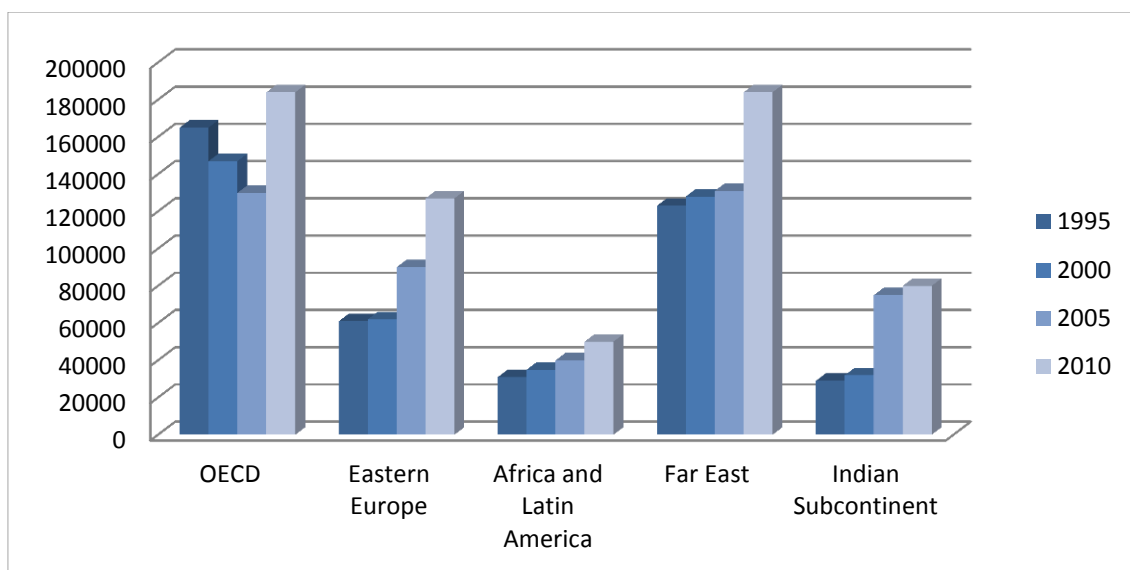


Figure 4.2: Area wise manpower update 1995-2010, Source: BIMCO/ISF Manpower Update (1995, 2000, 2005, and 2010).

It is relevant to mention that German ship-owners are seeking a deal with the government to cut the cost of employing the EU seafarers. German Ship Owners' Association explains that European seafarers are very expensive, and said "When you add up the cost of employing four or five Europeans on board, it is unbearable" (Telegraph, 2014, p.14). Similarly, the Danish flagged fleet has passed 15m DWT for the first time with a total of 637 ships, and the Danish Seafaring Officers Union complained that the number of Danes employed in the fleet is falling steadily (Telegraph, 2014, p.15).

Therefore, recruiting seafarers from developing countries is seen as a financial advantage by shipping companies. Bangladesh as a seafarers supply country is in advantageous position from this analysis, as ESCAP (2003) states, besides proficiency and hard-working ability, Bangladeshi seafarers are happy with reasonable wages in comparison to seafarers from developed countries. These evidences justify the fact that Bangladeshi seafarers could be a good choice for ship owners, provided all other conditions are met.

4.2.2 Economic situation of seafarers supply countries

The MLC 2006 requires contracts of employment or employment agreements to be in place, wherein there is a realistic wage or salary level, supported by appropriate fringe benefits including standby pay, sick pay, and in certain instances, financial assistance towards certificate study leave.

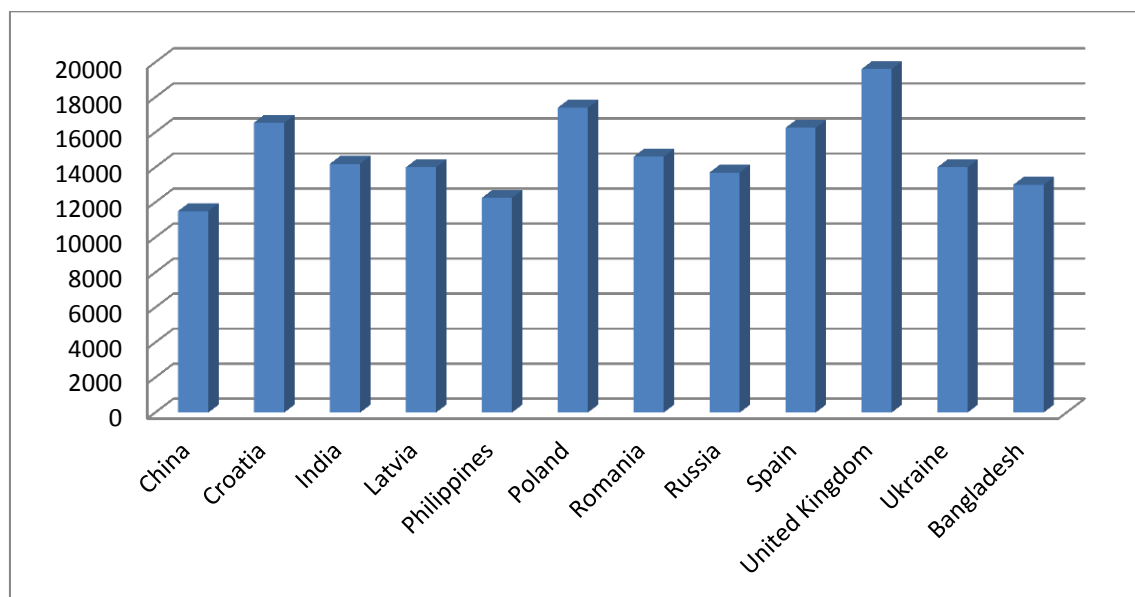


Figure 4.3: Comparison in wages between major seafarers supply countries with that of Bangladesh, Source: Drewry report (2014, p.70), and Reliance Shipping Services, Bangladesh (2014)

Despite International Labour Organization (ILO) setting the industry benchmark of wage rates, the supply of and demand for seafarers as well as other market factors determine an impact on overall manning cost. Figure 4.3 shows the comparison of average wages for a Master in a tanker vessel. It demonstrates a significant variation; highest for UK master mariners at USD19,600 and among the lowest China at USD11,500 and Philippines at USD12,250 (Drewry report, 2014, p.70). Direct costs in manning involve wages, travel and onboard victualing allowance, while indirect costs include recruitment, selection and processing, medical tests, duration of contract, training, communication and bank charges, crew accident insurance coverage and agency fees. The average wages for a Bangladeshi master in a tanker vessel is estimated to be between USD 12,500 to USD 13000 (Reliance Shipping Services, Bangladesh, 2014). Bangladeshi seafaring officers salary is generally little higher than that of Philippines and little less than that of Indians. In this context, Bangladeshi seafarers remain highly competitive in wages in the global labour market.

4.2.3 Living cost and exchange rate

Living costs and the exchange rate is another important influential factor that determines the competitiveness in employability. For example, the number of Japanese ocean-going seafarers dramatically decreased, when the Japanese Yen became weak against the US dollar after the Plaza accord of 1985 (ESCAP,2003, p.157). Also higher living cost needs to be reflected in wages; therefore, shipping companies do not prefer to employ seafarers from the countries where living cost is relatively high.

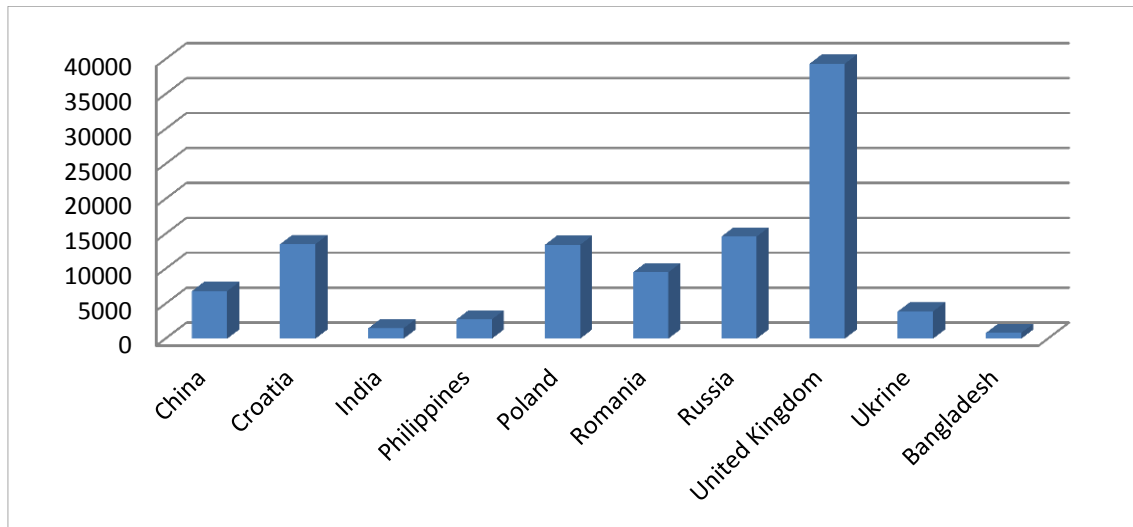


Figure 4.4: Comparison of GDP per capita in 2013, in major seafarers supply countries with that of Bangladesh, Source: World Bank (2013)

Figure 4.4 compares the GDP per capita in USD of the major seafarers supply countries with that of Bangladesh. The highest GDP per capita was UK which is showed USD 39,351. On the other hand, the lowest GDP per capita was recorded in India is USD 1,499. In comparison, the GDP per capita in Bangladesh is USD 829 (World Bank, 2013). These figures show that the overall economic level in Bangladesh is even lower than that in India. It highlights that Bangladesh can offer attractive labour force to the competitive business markets, such as shipping, and there is a huge potential that Bangladesh could be a major seafarers supply country in the future.

4.2.4 Visa restriction to certain countries

Visa restriction to certain countries may cause a serious problem to Bangladeshi seafarers as they often need to join or leave vessels in foreign ports. The 9.11 incident in the USA had strongly set back the employment of Bangladeshi seafarers. Particularly the imposition of visa restriction by the USA and Singapore during that

period caused the loss of employment of many Bangladeshi seafarers. It brought a serious concern to the Bangladesh government as well as the seafaring community over the future scope of employment of Bangladeshi seafarers. Comparing to the neighboring countries, there is a prolong waiting period before Bangladeshi seafarers obtain visas to join the vessel where the jobs are offered. Such a long waiting period, in fact, has an adverse effect on the employability, because it is often unpredictable when seafarers are requested to travel and join the ship due to the nature of shipping. The port locations where Bangladeshi seafarers normally join or leave ships are, for example Singapore, UAE, the EU countries and the USA. The Department of Shipping (DOS) in Bangladesh has taken some initiative through the Ministry of Foreign Affairs to raise a concern with relevant authorities in these particular countries. The result is yet to be seen. With all these efforts, it is the expectation that seafarers will be rendered with all possible assistance to join and leave the ships as well as repatriation to the country.

4.2.5 Occasional desertion

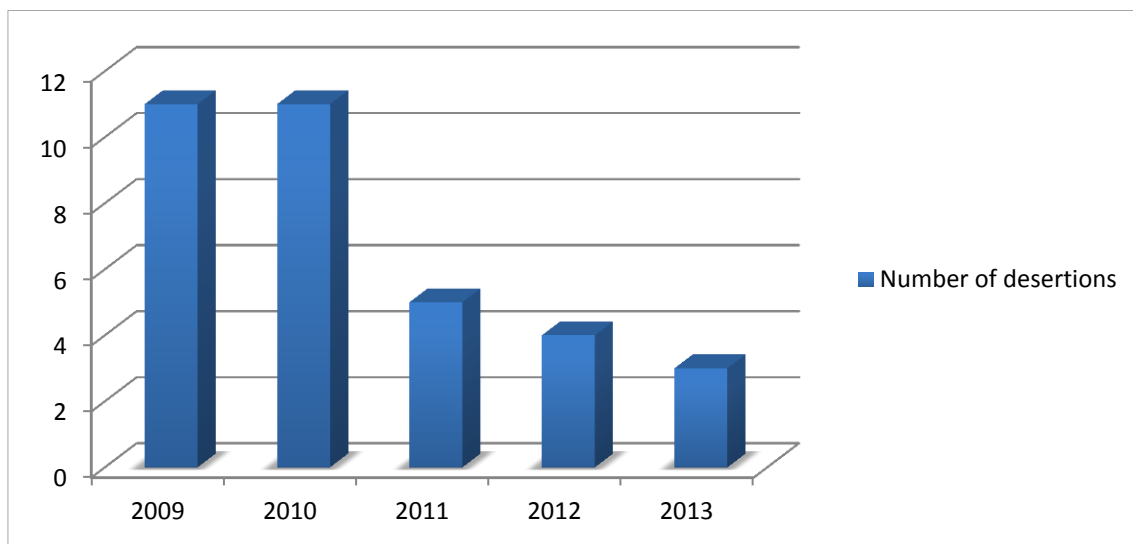


Figure 4.5: The number of desertions by Bangladeshi seafaring ratings between 2009 and 2013, Source: Government Shipping Office (2014)

Figure 4.5 shows the number of desertions by Bangladeshi seafaring ratings. The good news is that there is gradual reduction in number of desertions. Moreover, there is no report of desertion by any officer in recent years. However, Bangladesh needs to address this issue with further dedication through appropriate education and training of the seafarers so as to build up ethical values and clear understanding of the consequences of such desertion. Moreover, in consultation with the foreign shipping companies further stringent rules can be adopted.

4.3 Internal affairs - Challenges in MET

Although the administrative thrust has always been to promote Bangladeshi seafarers in the global market, there are certain internal issues which affect the employability of Bangladeshi seafarers. Apart from insufficient number of national fleet, most of the internal factors arise from inadequate MET system of the country. The following issues are analyzed in the next sections:

- Insufficient number of national fleet;
- Application of quality standards system in MET;
- Assessment and certification system;
- Qualifications and experience of instructors and assessors; and
- Competency based training and assessment.

4.3.1 Insufficient number of national fleet

Fund constraints, high operation cost and poor freight have poorly influenced the fleet strength of the government-owned firm, 'The Bangladesh Shipping Corporation (BSC)'. There is a considerable reduction of the BSC fleet over the years, and at the latest figure, the company has only 13 vessels at the average age of 30 (BSC, 2014). This has significantly reduced the employment opportunities of Bangladeshi seafarers on national carrier. However, the company is in the process of procuring 8 new ships by

2016 (Daily Ittefaq, 2014). In addition, the private sector in Bangladesh made a significant progress in shipping business over the years, and they currently own a total of 65 foreign-going ships. These can be seen as an opportunity for Bangladeshi seafarers to have some initial experience on Bangladesh-registered ships, and thereafter with sufficient skills and experiences, they can look for an employment opportunity in foreign companies where the remuneration is much higher.

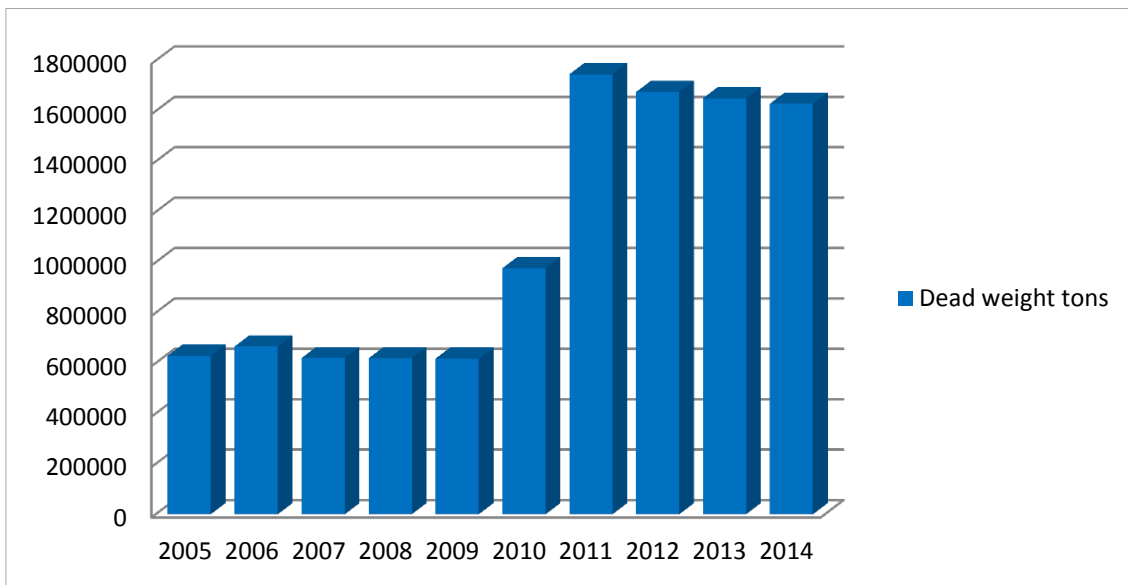


Figure 4.6: Bangladesh merchant fleet in deadweight tons (2005-2014), Source: UNCTAD (2014)

Figure 4.6 shows the total fleet size of Bangladesh national fleet in dead weight tons. There was a sharp increase in dead weight between the years 2009-2011 due to the private sectors progress in shipping business. However, a gradual reduction is visible from 2012. A healthy national fleet is of utmost importance for Bangladesh from the seafarers' employment perspective.

4.3.2 Application of quality standards system in MET

Of the many changes introduced into the STCW convention over the years, the requirement for a quality standards system has had the greatest impact upon MET institutions. Figure 4.7 shows STCW convention Regulation I/8, section A-I/8 and B-I/8 requires all applicable provisions of the STCW convention and Code to be covered by the quality standards system. In regard to MET, quality assurance can be interpreted as meaning fitness for the purpose to achieve stated objectives (Fisher & Muirhead, 2013, p.14)

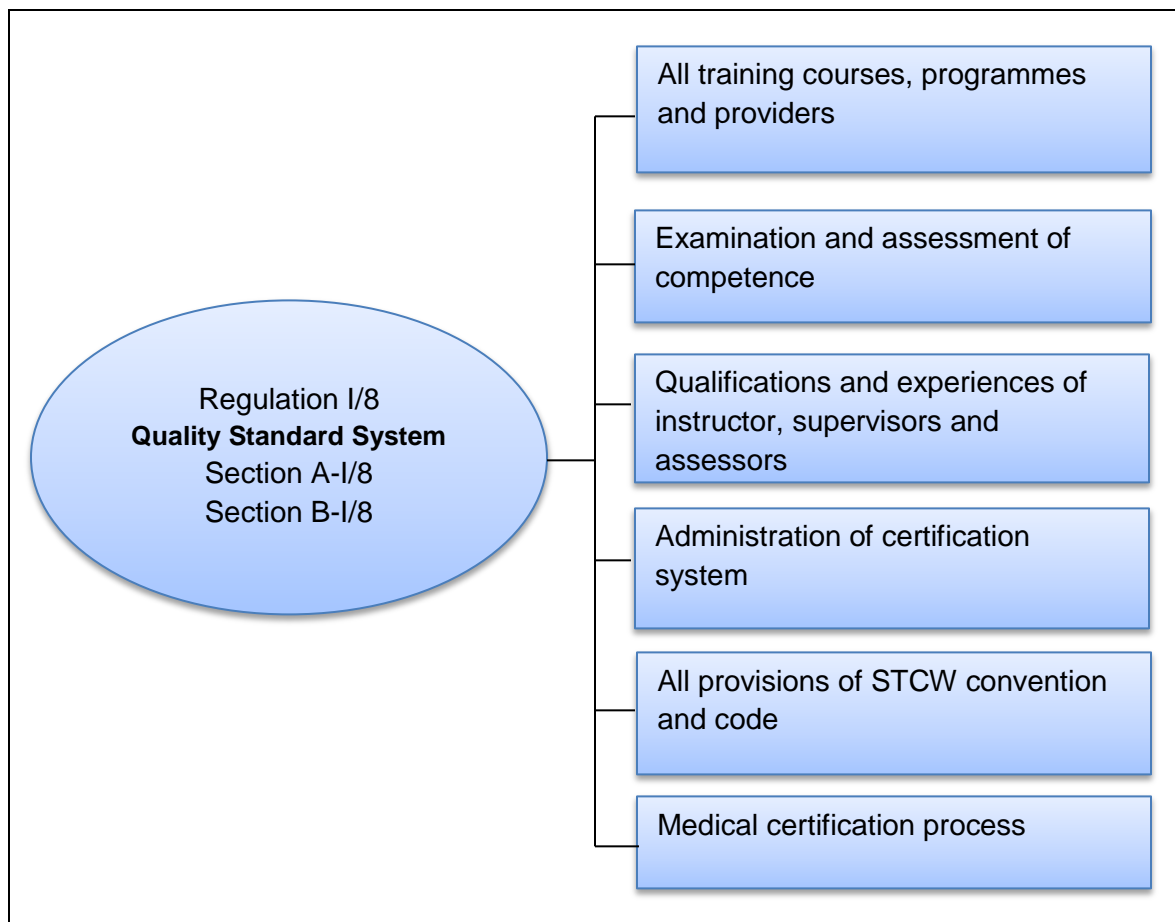


Figure 4.7: Coverage of Quality standard system, Source: IMO (2011)

However, MET institutions and Department of Shipping very often fail to comply with this provision. DOS was unable to ‘communicate the information’²⁰ with IMO, in due time, the necessary evaluation report in compliance with quality standards provision that include changes in national regulations and procedures in compliance with the amendments to the Convention and STCW code. They submitted the report of 2009 in 2013; that too did not cover many aspects of the relevant quality matters. Furthermore, the Department of Shipping not only failed to communicate but also demonstrated that their own quality standard system is non-functional. The above facts published in details in Bangladeshi national daily (Prothom-alo, 2014a), made a serious impact upon the Bangladeshi seafaring community as they feared of losing their employment due to non-recognition of their certificate of competency in future. Department of Shipping is aware of the consequence and taking necessary measures.

Concerning MET institutions, in most cases, the internal audit appeared to be nearly non-functional and the external audit by the Department of Shipping is also found to be inadequate. For example, in Bangladesh Marine Academy the internal audit does not take place at regular interval. Regarding external audit, Department of Shipping occasionally visits the MET institutions, but in most cases those visits do not cover the whole range of quality standards system. Moreover, government MET institutions do not have any practice of external evaluation by classification societies or similar organizations. Bearing all these factors in mind, MET institutions in Bangladesh are generally not in full and complete compliance of quality standards system.

Meanwhile, there are some prospects in the MET of Bangladesh. It is to mention that Bangladesh has been placed in the white list of IMO in 2000. In addition, the Bangladesh MET system is recognized by European Maritime Safety Agency (EMSA)²¹. EMSA on behalf of the European Commission audited the Bangladesh Marine

²⁰ STCW’78, as amended regulation I/8 ‘Quality standards system’ requires a report containing the results of the evaluation shall be communicated to the Secretary-General in accordance with format specified in section A-I/7 of the STCW code.

²¹ EMSA has the legal background of STCW’78 as amended, regulation I/10 ‘Recognition of certificates’, EMSA founding regulation 1406/2002 as amended and directive 2008/106/EC, as amended

Academy and similar institutions in Bangladesh in 2008, and recognized the MET of Bangladesh in 2011 after rectification of the observations (EMSA, 2014).

4.3.3 Assessment and certification system of seafarers

The assessment and certification system is an important part of every MET system. Necessary requirements for the assessment and certification in engineering stream are shown in Annex 9. Bangladesh inherited the British system of assessment and certification, and was proud of maintaining high standards. But over the years, the country did not update its assessment and certification system; relies too much on assessing memorised knowledge only. There is hardly any provision to assess the understanding and proficiency as emphasized in STCW'78 as amended. The assessment system seems to have gradually lost its credibility due to inappropriate assessment method as well as the lack of appropriately qualified assessors.

In terms of assessors, Department of Shipping has two assessors in each stream, i.e. nautical and engineering branch. In addition to their other responsibilities, Nautical Surveyors are conducting written examination of 1500-1800 candidates per year, while the yearly numbers for Engineer Surveyors are approximately 1200. Furthermore, depending on the passing rate in the written examination, the same Surveyors have to take the oral examination of till a large number of candidates.

Lefrancois (2000) explains that assessment gives an insight to whether the objectives of the system were met and if trainee developed the required skill and knowledge. And the role of assessor is to reliably determine the competencies or lack of competencies of an individual when assessed against a prescribed benchmark (Van Barkel, 1998, p.6). Therefore, the analysis of the fact suggests that with such a limited number of assessors, and without appropriate method; the objectives of the assessment would not be achieved.

4.3.4 'Appropriately qualified and experienced'²² instructors and assessors

In terms of instructors, the faculty members are the heart of any educational programme, and there should be sufficient number of instructors with competencies, covering all relevant curricular areas with appropriate qualifications. Duderstadt (2011, p.5) explained faculty members as the most important internal constituency of an educational institution, since the quality and achievements of this body, more than any other factor, determine the quality of the institution. Since 2008, there has been a significant increase in number of trainees in Bangladesh Marine Academy. During the year of 2008-2013, the number of intake per year had largely increased from 100 to 300. However, as shown in the Figure 4.8, the number of instructors has not been increased in line with that of students.

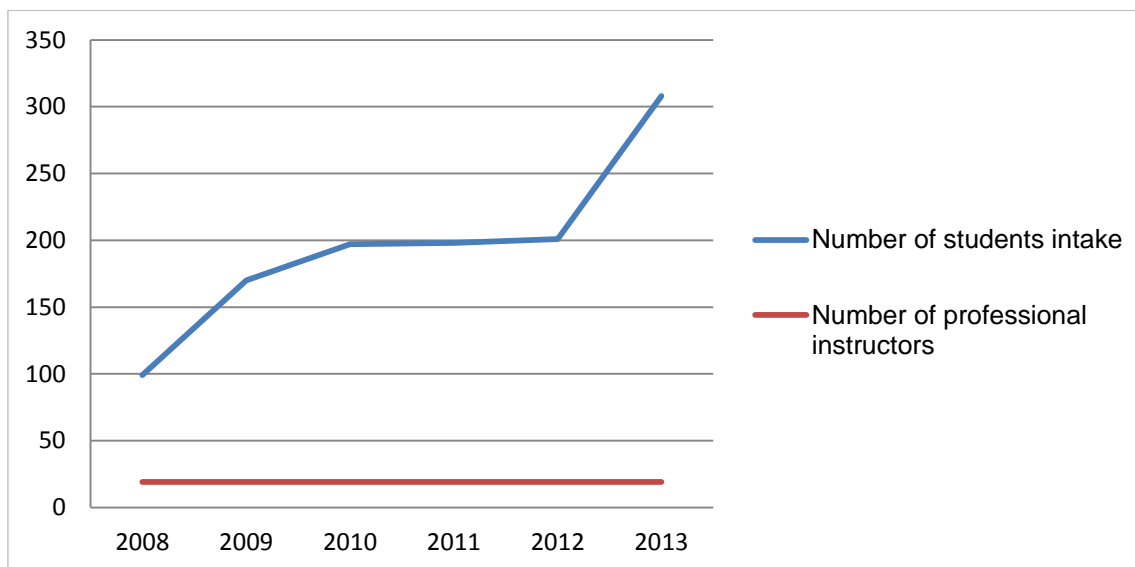


Figure 4.8: Increase in cadets' intake with the same number of professional instructors, (2008-2013), Source: Bangladesh Marine Academy (2014b).

²² STCW'78 as amended, regulation I/6, section A-I/6 set the requirements of having instructors, supervisors and assessors appropriately qualified, although did not provide any specific definition. See Vessel Traffic Service Manual of International association of Marine Aids to Navigation and Lighthouse Authorities, France, <http://www.iala-aism.org> for a definition.

Without the increase of instructors, the academy is still operating with the organogram that was created for the training of 100 cadet intake per year. To make the things worse, even those advertised vacancies have not been filled up. Figure 4.9 shows that there is an acute shortage of professional instructors in Bangladesh Marine academy. At present, only 8 instructors are working in place of 19 positions (Bangladesh Marine Academy, 2014). Other professional instructors are working on contractual basis or as visiting lecturers. Due to the shortage of instructors, the courses for senior post-sea officers, such as preparatory courses for Class 1 and class 2 nautical and engineering, cannot be offered. A similar situation exists in many other private MET institutions in Bangladesh.

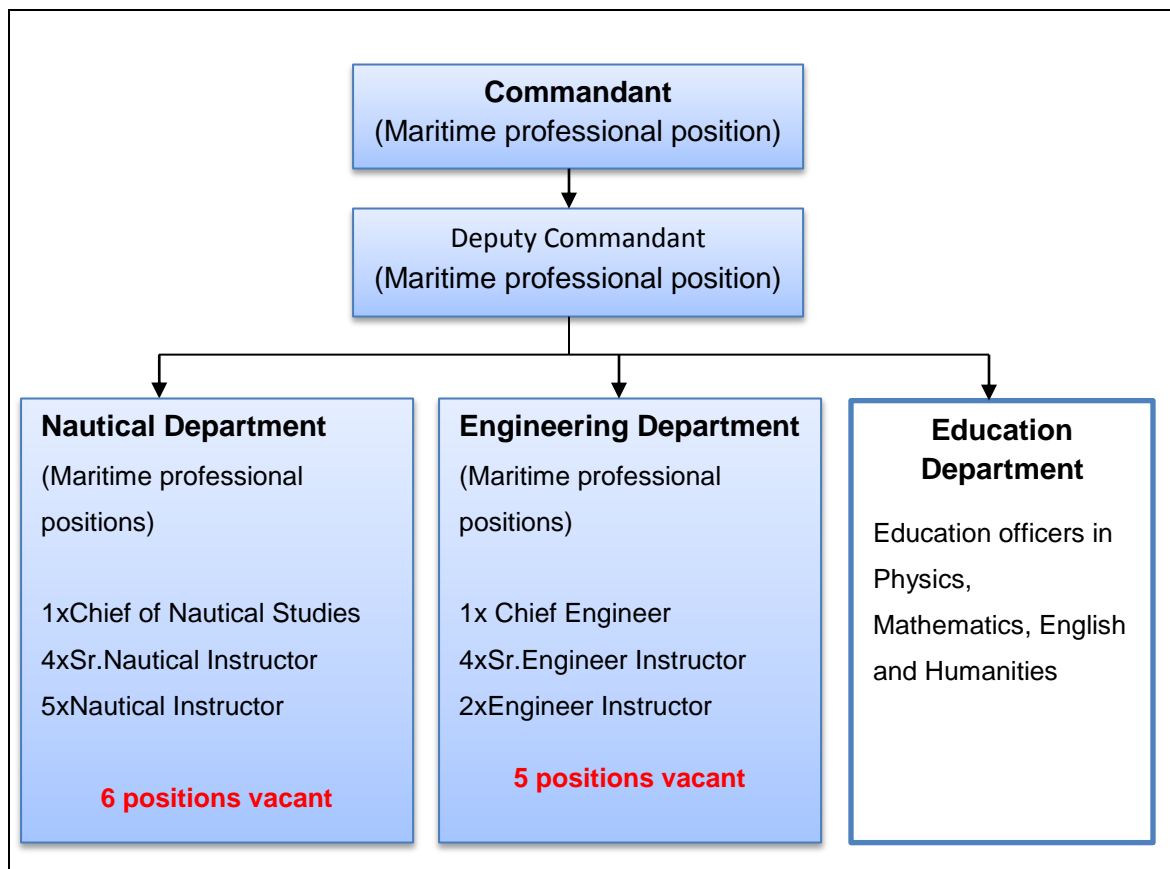


Figure-4.9: Bangladesh Marine Academy organogram, Source: Bangladesh Marine Academy (2014a)

Among other requirements, the professional instructors in MET institutions are required to have master mariner or chief engineer officer certificate of competency as minimum qualifications. The candidates for such positions are well-aware of their professional backgrounds and prefer to work either at sea or in maritime commercial organizations ashore with more attractive remuneration. To the contrary, MET institutions, particularly in governmental organizations, offer fixed and much less salary than that of ship's salary to their instructors. This factor does not motivate any sailing masters and chief engineers to join in MET institutions at all.

The high standards set for qualified instructors ensure technical aspects of teaching subjects; however, maritime instructors should have training on good teaching and of modern concepts of andragogy (Cox, 2012). Both the Bangladesh Government and the MET institutions are taking good step in this regard by sending their instructors for higher education abroad, such as MSc programme at the World Maritime University, even though they are running short of substitutes.

4.3.5 'Competence based'²³ training and assessment

In competence-based learning, outcome of the training is determined first, and activities and learning contexts are designed. The Bangladeshi MET institutions not fully adapt to the competence-based learning system. For example, the ancillary and various safety courses are fundamentally taught according to relevant IMO model courses. As the IMO model courses provide a sample framework only, it is not enough simply to mimic what they are written. The curriculum design concept based on competence-based training and assessment needs to be in place in order to achieve the effective MET system in the country.

²³ The mandatory standards of competence are laid down in the STCW code 'A' table A- II/1, II/2, II/3, III/1, III/2 and III/6.

For certification purposes, Department of Shipping conducts the assessment of seafarers, but they do not have any resources to carry out assessment using laboratory equipment or simulators. In addition, Bangladeshi MET institutions traditionally rely on written and oral examination as a primary assessment method. Therefore, the evidence of one's competency cannot be obtained. Furthermore, STCW section A-I/6 requires the certificate of competency courses be structured in accordance with written programmes. These main attributes should be clearly linked to the learning objectives and training outcomes, required for each qualification. Without having sufficient number of instructors and appropriate training facilities, it is a challenge for Bangladesh MET institutions to assess how individuals can apply the knowledge and skills and demonstrate ability to perform tasks, duties and responsibilities in a safe and effective manner.

4.4 Conclusions

The analysis of the international competitiveness of Bangladeshi seafarers suggests both opportunities and challenges in terms of their employability in the global labour market. While improving the external factors at the government level, there are rooms for MET institutions to enhance the quality of education and training, by increasing the number of qualified instructors with appropriate training facilities. The document analysis presented in this chapter will be further validated with the primary data that were obtained through questionnaire and interviews.

Chapter: 5

Primary data analysis and presentation

5.1 Introduction

This chapter analyzes the primary data collected through the questionnaire, interviews, and observations by the themes that emerged from the data itself, in line with the themes derived from the employability models discussed in Chapter 2. As this study focuses on education and training of seafarers, the 'USEM' model (see Figure 2.1 on page 14) is chosen as it fits well into the concept of seafarers' employability, explored in Chapter 3. Education is an avenue for human development and social advancement and stipulates better conditions for work and more choices for individuals. The 'USEM' model sufficiently encompasses those elements of education, while the 'CareerEDGE' model is more of market-driven, focusing on skills rather than on education. Therefore, this chapter will analyze the competitiveness of Bangladeshi seafarers in light of the 'USEM' model, followed by the analysis of external and socio-economic variables that have influence on the seafarers' employability, although that does not originally belongs to the 'USEM' model. The following themes derived from the 'USEM' model in relation to the employability of Bangladeshi seafarers will be discussed:

- 'Understanding' - Knowledge and understanding of MET;
- 'Skill' - Skillful practices in seafaring context;
- 'Efficacy beliefs' - Personal qualities; and
- 'Metacognition' - Awareness of one's own thinking process.

5.2 ‘Understanding’ - Knowledge and understanding of MET

The ‘USEM’ model suggests that there is a strong relationship between employability and the good learning. In the context of seafarers’ employability, MET provides the knowledge and understanding required them to become employable. Therefore, the MET quality standards, including the assessment and certification system, play an important role on seafarers’ employability. In order to identify the competitiveness of Bangladeshi seafarers, a thorough investigation has been carried out on Bangladesh MET system, which is analyzed in the following sections.

5.2.1 MET standards in Bangladesh Marine Academy

Bangladesh Marine Academy bears 5-decades of long reputation of producing professionally skilled, environmentally aware, prudent and polite marine cadets. It grooms young cadets through a regimental and residential education and training, in accordance with the competence standards required by the STCW’78, as amended. In order to investigate the training standards of Bangladesh Marine Academy, the questionnaire was distributed among Bangladeshi active seafarers, ex-seafarers working in shore establishments, and shipping company and manning agency executives.

As shown in Figure 5.1a, the majority of the respondents ranked the performance of Bangladesh Marine Academy relatively higher in terms of its infrastructure, training facilities, qualification and experience of instructors, and standards of course curriculum, in between 7-8, in a scale of 1-10, where 10 is the highest value. On the other hand, in the quality standards system, liaison with shipping companies, access to information and communication technology, and monitoring of on-board training programme, were ranked lower in between 5-7, in a scale 1-10, where 10 is the highest value.

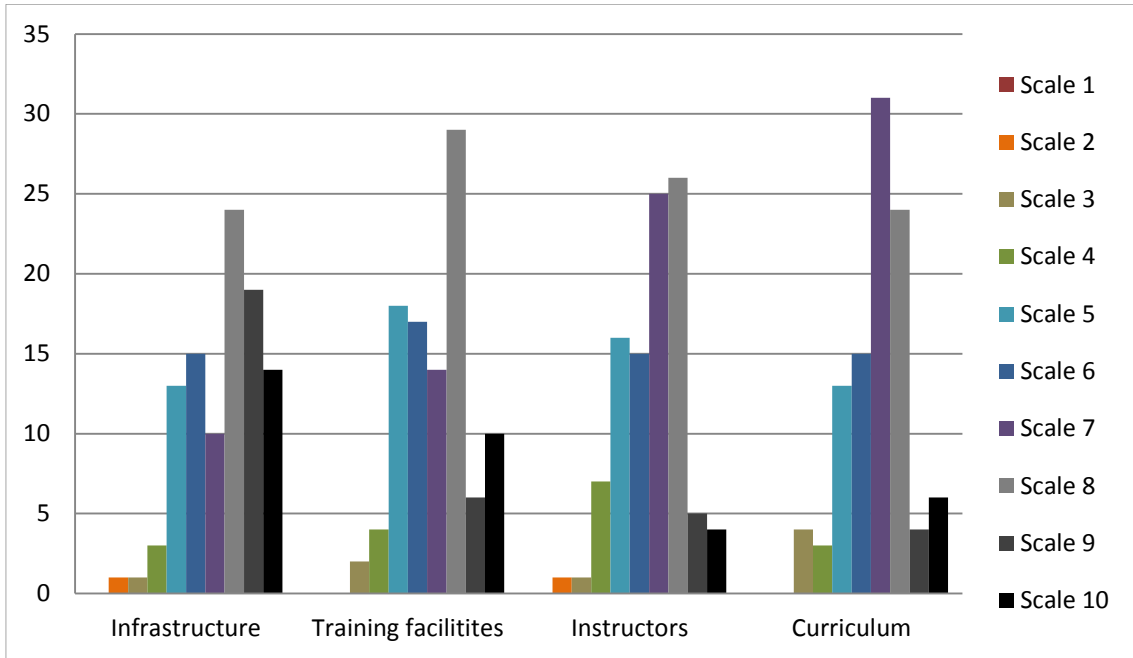


Figure 5.1a: Higher performance rating of Bangladesh Marine Academy in scale of 1-10

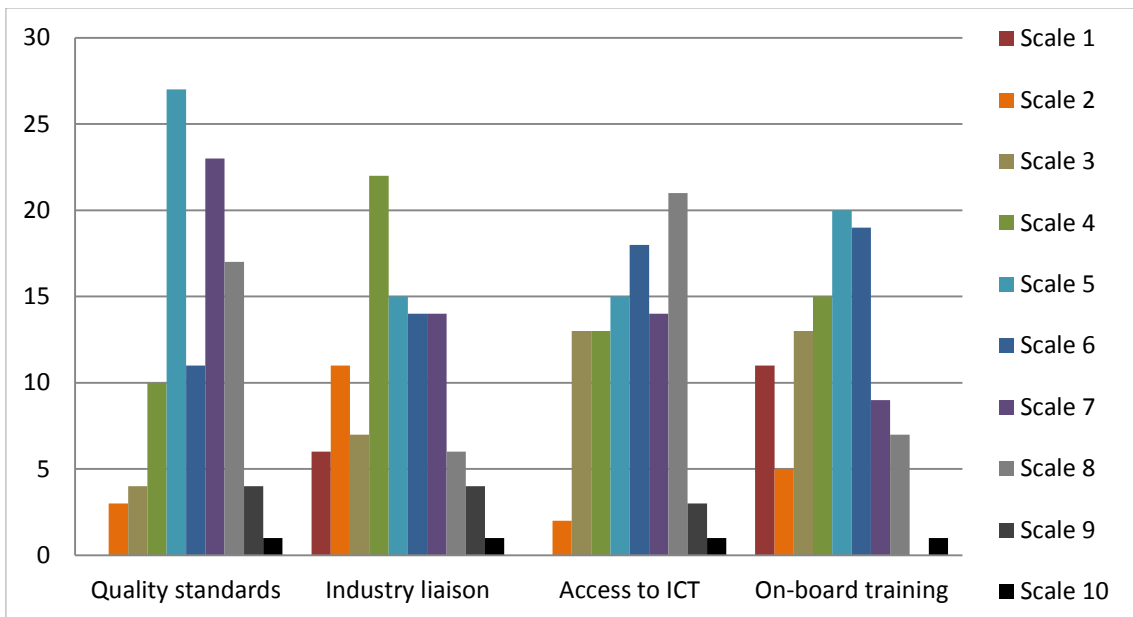


Figure 5.1b: Lower performance rating of Bangladesh Marine academy in scale of 1-10.

During the interviews with maritime professionals in Bangladesh, all the respondents in general expressed satisfaction on the current training practices of Bangladesh Marine Academy. A Director in a Manning Agency appreciated the fact that the competitiveness in the entrance examination of Bangladesh Marine Academy serves to help selecting the best applicants among all, and said:

They get lot of applicants. They take the best boys. They have good infrastructure and all training facilities. If they have sufficient number of instructors, all problems will be solved.

However, a General Manager from the Shipping Company who visited the academy recently, point out the need of modernization of the training equipment, as he mentioned:

Although some new machineries and equipment are added, most of them are very old and obsolete. I have seen these for last 30 years. Mechanical and electrical laboratory does not have much equipment. Pneumatic laboratory looks new but seems non-functional. For students, internet facility is not there; there is no evidence of computer lab, language lab being used. The same old books are there in the library.

This research suggests that Bangladesh Marine Academy has been received an overall good reputation for its training. However, there are rooms for the improvement of replacing the current equipment with modern one, complying with quality standards system, maintaining liaison with shipping companies, and ensuring on-board placement of trainees.

5.2.2 MET standards in private MET institutions

After the liberalization ushered across the country in the 1990s, the Bangladesh government allowed the private sector to establish MET institutions. Presently 18 private MET institutions are providing both pre-sea and post-sea training to the country's merchant marine officers and cadets.

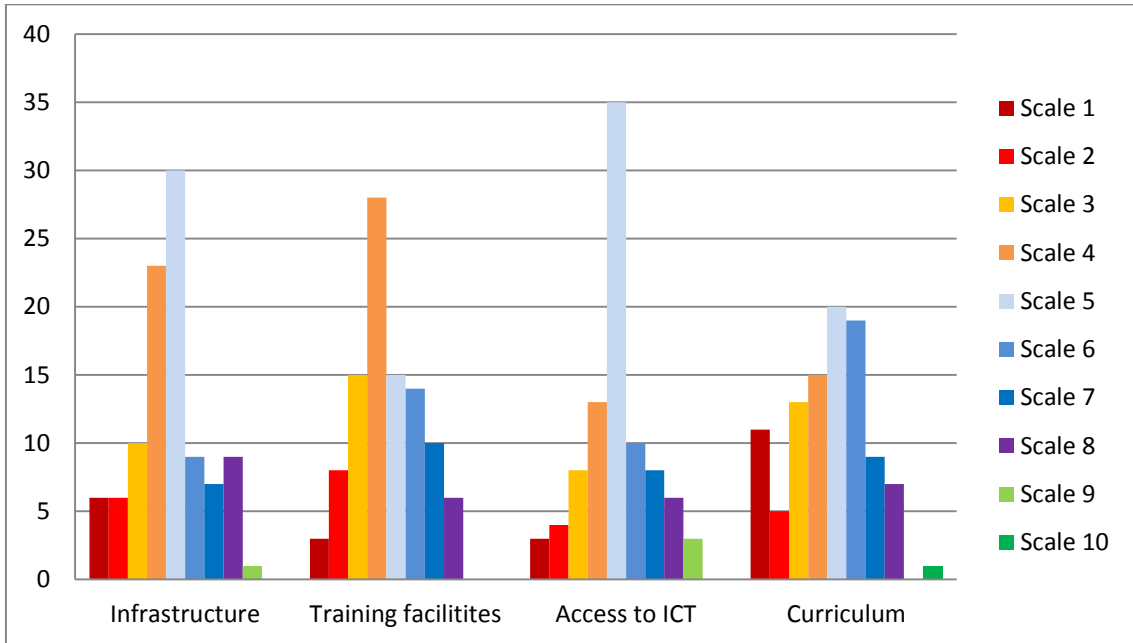


Figure 5.2a: Bangladeshi private MET institutions performance rating in scale of 1-10.

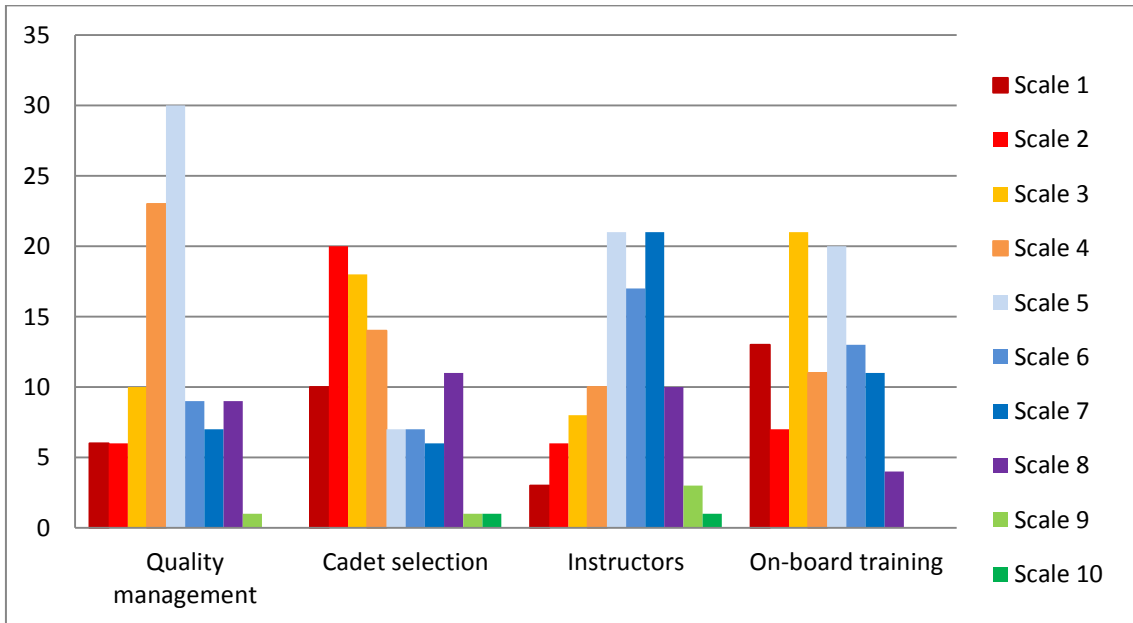


Figure 5.2b: Bangladeshi private MET institutions performance rating in scale of 1-10.

In view of understanding the training standards of private maritime academies, questionnaire was distributed among Bangladeshi active seafarers, ex-seafarers working in shore establishments, and shipping company and manning agency executives, in order to investigate the performance standards in terms of infrastructure, training facilities, pre-sea cadet selection process, qualification and experience of instructors, standards of curriculum, quality standards system, access to information and communication technology, and monitoring of on-board training programme. As shown in the Figure 5.2a and 5.2b, in all the performance items, the majority of the respondents rated in between 3-5, in scale of 1-10, where 10 is the highest value. It clearly shows that the training standards of private maritime academies are generally seen below the desired level.

However, data collected through the interview and observation of the private MET institutions during the field work reveal that the training standards of these private academies vary significantly. Few of them are with modern training facilities, including full-mission bridge and engine simulators, sufficient number of qualified instructors, and properly implemented quality management system; but others somehow manage their institutions, for example, in a rented house, with minimum training facilities, and mainly by hiring few visiting lecturers. In the interview, one of the management level officers of a reputed private MET institution mentioned, regarding to the training and employment of their cadets:

We follow IMO model courses as curriculum. We divide our cadets according to vessel pool i.e. oil tanker, chemical tanker and container pool. We train our cadets according to the requirement of that kind of vessel so that when they embark on vessels they go with specialized knowledge. Our yearly intake is 120. It takes 6 months for all of them to be on board. They will stay with us for long time.

Another institute, which is also having a good reputation in providing quality MET mentioned:

In private maritime academies we get very low calibre students. They just have GPA 3.5 in their Higher Secondary Certificate examination. It is very difficult to

bring them up. First batch of our cadets have just joined ship for on-board training. Still we do not know how they perform in actual situation.

The interviews also highlighted the issue of shortage of the appropriately qualified instructors. A Surveyor and Examiner of the Department of Shipping emphasized the need of employing permanent instructors and said:

Some instructors have serious lagging; they work in ships. They give some time while they are on holidays. They are not suitable. They are not habituated to give lecture. They do not know which book to refer, which web-site to browse. They are not fully aware of the requirements. That is why we emphasize the academies to employ more permanent instructor.

However, the same Surveyor and Examiner also noted a progress of the private MET institutions through the formal inspection groups for monitoring these institutions:

After evaluating their facilities we have given them the permission. They are gradually improving. Sometimes physically we visit them. We evaluate their question paper and answer script, and the final exam is conducted by our question paper. Recently we made two inspection group; one for Dhaka and another for Chittagong. We took representative from the Nautical Institute and the Institute of Marine Engineering Science and Technology. I hope very soon we can improve further.

The research suggests that with few exceptions, the overall standards of private MET institutions leave much to be desired.

5.2.3 'On board training'²⁴ of cadets

On-board training is considered as the most important part of the seafarers training as it supplements the theoretical knowledge acquired in MET institutions and provides a clear understanding of the subject matter, such as manoeuvring, and the thermal power systems. MET institutions, as well as, shipping companies have responsibilities in monitoring the on-board training of their cadets. During the interview on the on-board training programme in the company, a Senior General Manager of a Bangladeshi

²⁴ STCW'78, as amended, section A-I/6 requires supervisors of in-service training to have appropriate knowledge of instructional techniques and of training methods and practice.

shipping company pointed out the lack of monitoring the knowledge transfer from the officers to cadets:

After signing off from the vessel, we take interviews with the cadets as well as the debriefing from the senior officers. It is not satisfactory. The sense of mentoring is not there. The senior officers say that they are very busy. We understand the consequences; we are the first victim of the bad sailors. We will start looking into it and will emphasize little more. We know that the knowledge and skills can be best transferred in the ship. Actually we are missing a very good opportunity to train our cadets.

In contrary, a Director of a renowned manning agency expressed a different view on monitoring the cadets' learning progress and said:

We have training scheme for our cadets. We take the total of 10 cadets from the Bangladesh Marine Academy every year. We send all of them to the same ship for 4 months training where they work under the supervision of instructors. Then they come back and we send them to different ships. Even for our officers we have controlled our systematic training.

While discussing the on-board training issue with the MET professionals, they expressed their anxiety about the national capacity of providing the opportunities of on-board training to all their trainees. A senior instructor of a private MET institution calculated:

Presently, Bangladesh has approximately 65 foreign-going ships in the merchant fleet. If 4 cadets are employed in every ship, 260 cadets can have the on-board training opportunities at a time. But from BMA and from private METI 500-600 cadets come to the job market every year. It means a total of 300 cadets have to find their job in foreign companies.

Further, on this issue, a Surveyor & Examiner of Department of Shipping pointed to the rapid increase of private MET institutions, as well as, the sharply increased intake at the Bangladesh Marine Academy, causing the over-capacity in terms of training seafarers:

Suddenly we gave permissions to 18 private MET institutions. The government-owned Bangladesh Marine Academy has also increased their intake from 100 to 300 cadets. The global labour market is not good. We just have 65 ships. We request the maritime academies to participate in manning and training conferences. Last year they went to Manila. We ask them to invite foreign ship owners. Let them come and see our training facilities.

The research suggests, due to the emergence of many private MET institutions without having any plan for their training berth on board, both the public and private academies trainees are struggling to get on-board training opportunities. Moreover, MET institutions, including the Bangladesh Marine Academy, do not carry out any feasibility study for the training berth of their cadets before increasing the enrolment opportunities to students. In addition to the MET institutions, shipping companies, which have also responsibilities to train cadets on board, hardly put any emphasize on the training of the cadets. Therefore, an important aspect of the seafarers' training is rather neglected in Bangladesh. It is important for Bangladesh to invite foreign shipping companies and build capacity both internationally and domestically to allow their cadets to access to necessary on-board training, specified in the STCW'78 convention as amended.

5.2.4 Application of quality standards system by Department of Shipping

The questionnaire was distributed to active seafarers, ex-seafarers working in shore establishments, and shipping company and manning agency executives in order to understand the performance of the Department of Shipping in terms of the application of quality standards system. The questions include their monitoring of the MET institutions, their own quality standards system, and the assessment and certification process. The majority of the respondents rated them in between 4-6, in a scale of 1-10 where 10 is the highest value. This suggests that the Department of Shipping, the Maritime Safety Administration of the country, is not currently fulfilling the expectation of the maritime professionals in all the questioned items.

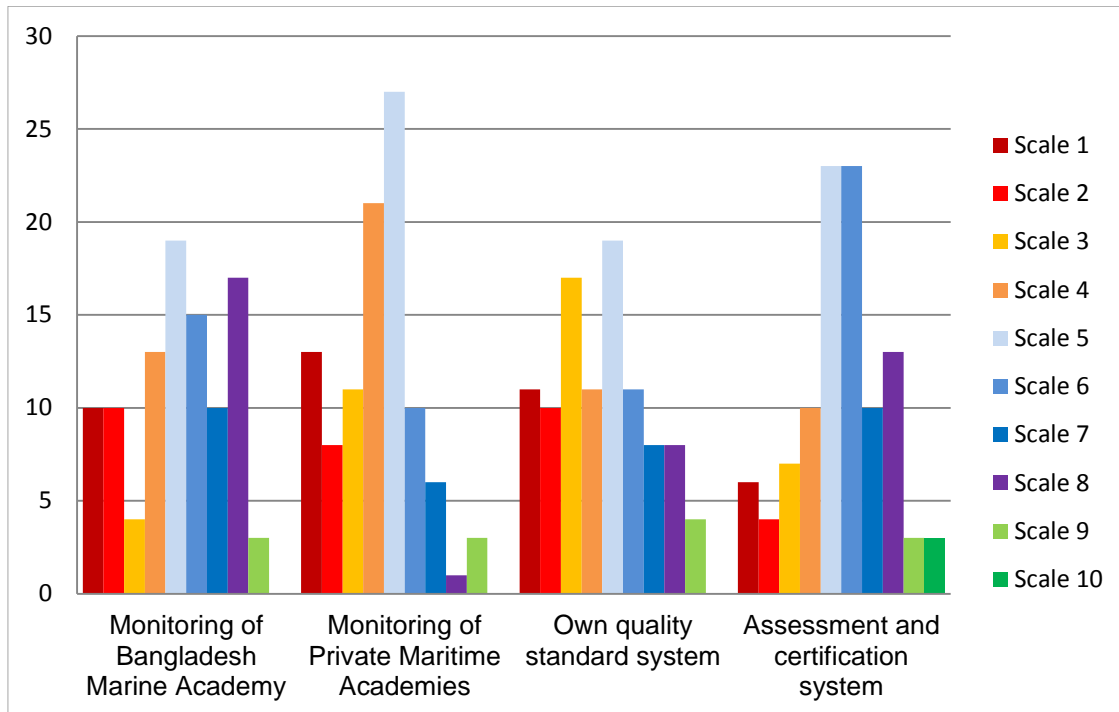


Figure 5.3: Performance rating of Department of Shipping in scale of 1-10.

The similar responses were noted during the interviews with maritime professionals. A Director of a Manning Agency emphasized that Department of Shipping should take proactive measures in order for the recognition of their certificates:

Recognition of our certificate is a problem for employability. Bangladesh does not have bi-lateral agreement with many countries. Recently, we got the approval from European Union. I think Bangladesh just completed a bi-lateral agreement with Germany. But now we need to do bi-lateral agreement with all the individual countries. By lateral agreement, it will increase our numbers of employment.

In terms of the online verification of certificates, all the respondents strongly agreed that the Department of Shipping should introduce this system with immediate effect. Responding the needs, the concerned Surveyor and Examiner of Department of Shipping showed an optimistic view that they will be able to introduce the system very soon:

50% of our certificates are already in data base. By another 6 months we shall be able to start online verification system. You will be able to find the status of certificates, certificate details, competency, and medical details. Yes, in the last HTW²⁵ meeting the issue of fraudulent certificate was raised. Not only Bangladesh, they mentioned about 25 countries. We are trying to find out the source of fraudulent certificates.

When it comes to the challenges they are facing, the same Surveyor and Examiner acknowledged their own workload problem and mentioned:

We have lot of works in our charter of duties. We have very less people. We look after inland vessels, ocean-going vessels as well as seafarers' certification. Recently, we made a panel of examiners from well-experienced, honest and qualified maritime professionals. Our new organogram will be approved soon which will have 15 positions for surveyors and 12 positions for examiners. Once the new organogram is in place and additional people are employed, we will overcome all these difficulties and the Department of Shipping will be able to work properly as the Maritime Safety Administrator of the country.

The above account suggests that the Department of Shipping has the lack of sufficient human resources to discharge their responsibilities in an efficient and effective manner.

5.2.5 Suggestions for improvements

In order to find out the strategies for improvement of MET in Bangladesh, questions were given to investigate how important the following five strategies are: the introduction of distance/e-learning, procurement of training ship, procurement of simulators, introduction of 4-year bachelor degree, and co-operation and networking with internationally reputed MET institutions. As shown in figure 5.4, in all cases, almost all the respondents either strongly agreed or agreed that such measures will improve the MET standards of Bangladesh.

²⁵ HTW: IMO Sub-committee on Human element, Training and Watch-keeping. The 1st session of HTW held on 16 February to 21st February 2014 discussed on the agenda, "Reports on unlawful practices associated with certificate of competency".

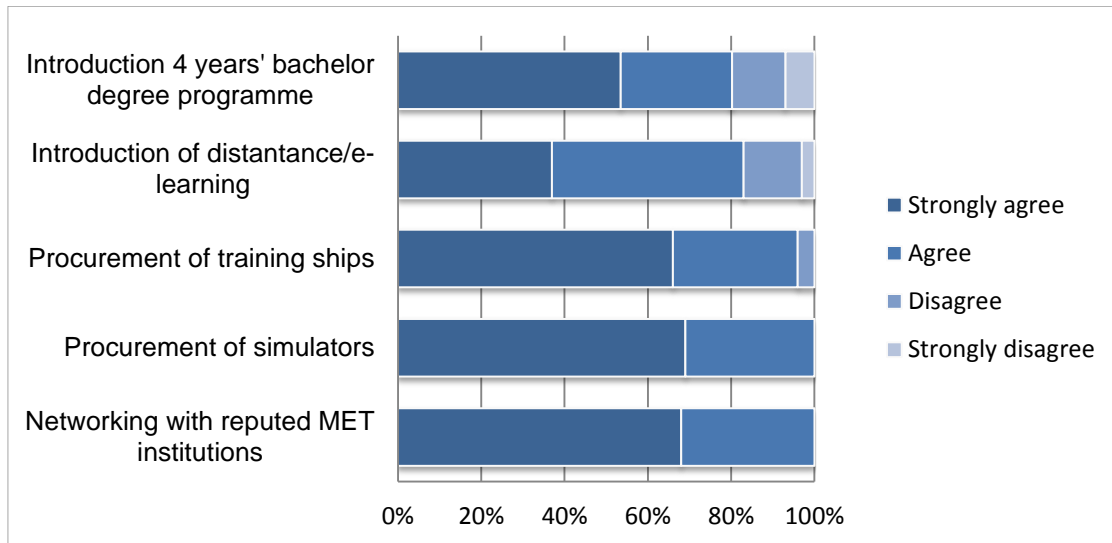


Figure 5.4: Strategies for improvement of MET standards in Bangladesh

The interview with maritime professionals also revealed the similar opinions. Most of them suggested that the introduction of 4-year bachelor degree programme will create a better career path for the seafarers both at sea and ashore. However, others suggested that the 4-year programme will increase the drop-out rate of students. Regarding the enhanced use of simulators, Technical Director of a Shipping Company mentioned that for beginners, the simulation is even more suitable than on-board training and said:

A simulator is very effective training equipment. Sometimes it is even more effective than on-board training. For the first time when the cadets join the ship, they see too many things at a time, and they become confused. But in simulators they can learn many things systematically without hampering anything.

The research suggests that MET institutions in Bangladesh need to modernize their training system by adding simulators, training ship, and e-learning in their training facilities. In addition, there is a strong opinion for networking with leading MET institutions, and restructuring of the present 3-year programme to 4-year bachelor degree programme.

5.3 'Skill'- Skillful practices in seafaring context

'USEM' model includes 'skill' as one of the component of employability with an implication of 'skillful practice' and responsiveness to the context of employment. As seafaring is a skill-based job, the relevant skills are the most important determinants of their employability. Therefore, an investigation has been carried out to identify the skills that are required in seafaring profession, as well as, the skill level of Bangladeshi seafarers.

5.3.1 Skills as determinant of employability

Concerning the skills and attributes as important determinants of employability, questions were given to understand what employers look for when recruiting seafarers: in-depth knowledge, technical ability, sense of responsibility, English speaking and communication skills, leadership ability, and physical fitness.

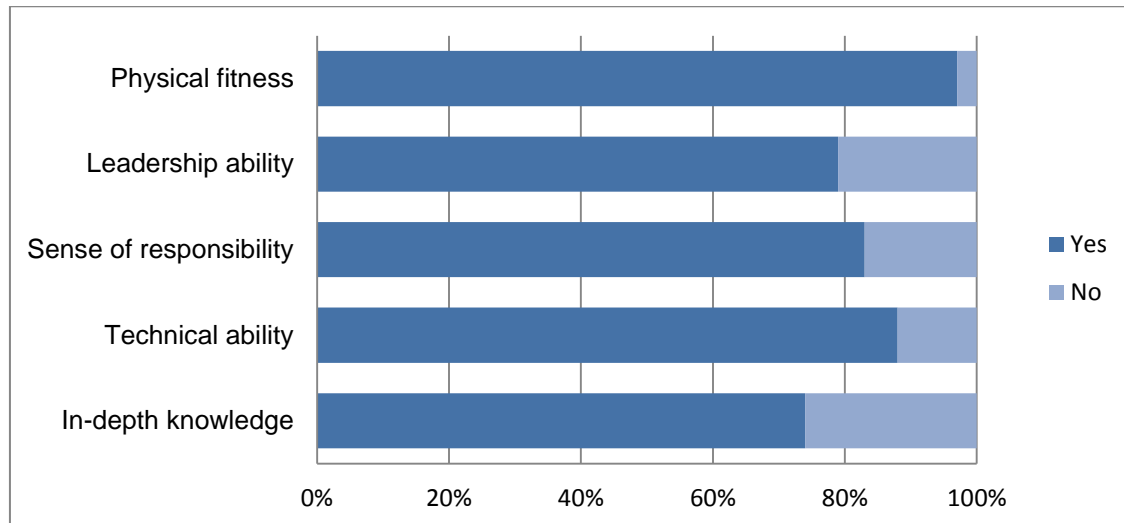


Figure 5.5: Perception of whether employers look for skills and abilities of seafarers

As shown in Figure 5.5, in all cases the majority of the respondents agreed that employers look for those skills and attributes when recruiting seafarers. The interview

with the maritime professionals allowed a closer view on the factors that determine the employability of seafarers. A General Manager of Shipping Company highlighted the need of an effective MET, in compliance with legal matters and marketing strategies and said:

Employability depends on the kind of training seafarers receive i.e. MET of the country, maritime administration's compliance with the requirements and marketing ability of the manning agencies. Actually, administration has to do lot of homework, they have to do right calculation. They have to see that they have right kind of MET, they have right kind of manning agencies and they have to liaison with other government agencies.

However, the interviews reveal that in addition to these factors, there are various external and socio-economic factors that have influence on the employability of seafarers, which will be discussed later in this chapter.

5.3.2 Skills and abilities of Bangladeshi seafarers

The questionnaire included 5 skills and abilities in order to understand the performance of Bangladeshi seafarers: in-depth knowledge, technical skills, English speaking and communication skills, sense of responsibility, leadership and teamwork skill, and physical fitness. As shown in Figure 5.6 the majority of the respondents suggest that Bangladeshi seafarers are in the region of 7-8 in a scale 1-10 where 10 is the highest value, i.e. they suggest that Bangladeshi seafarers possess sufficient skills and abilities for the successful employment.

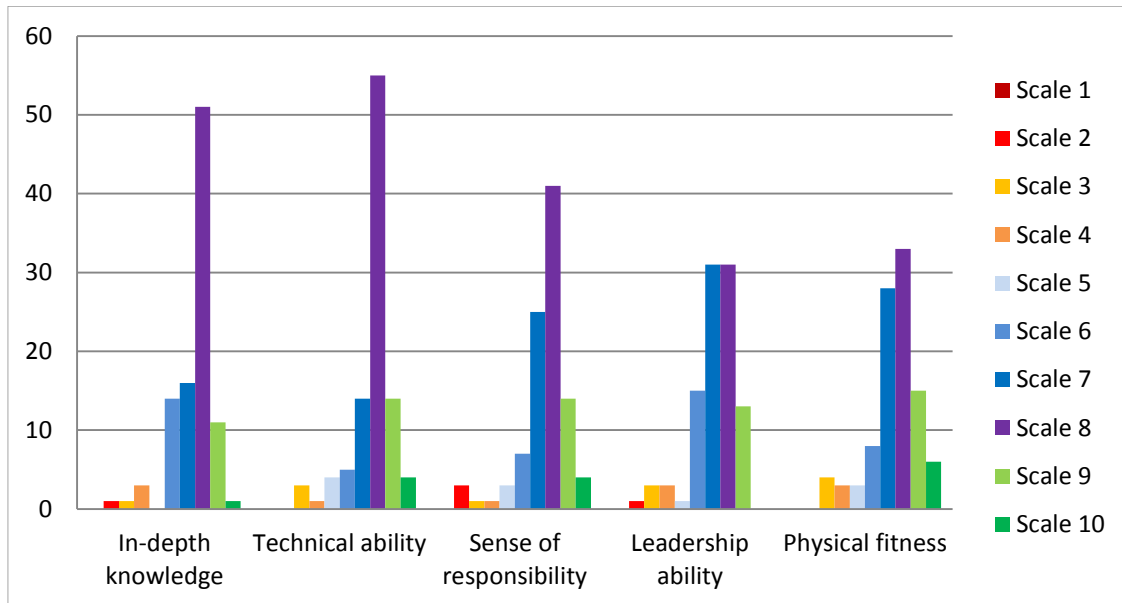


Figure 5.6: Skills and abilities of Bangladeshi Seafarers in scale of 1-10.

The findings through the interview with the maritime professionals in Bangladesh are quite similar. While commenting on the skills and abilities of the Bangladeshi seafarers, an interviewee having working experience both in public and private MET institutions mentioned:

Bangladeshi officers are skilled. They have very good basic and also they come through rigorous training. They know that they are from a developing country. They want to do well and want to survive. They never say 'no'. They know that if they are not working, they will not be there. They have good brain and capacity to learn. Even if they have some drawback in their training, they can pick up very fast.

An Executive Director of one of the most reputed Manning Agencies found the performance of Bangladeshi seafarers very positive and mentioned:

For many years we have been involved in the recruitment of Bangladeshi seafarers for British, Italian, German, Japanese, Singapore and Hong Kong owners. Their ability is better than many major seafarers supply countries. Some countries' people are very vocal, but our people do not try to show off. They work. That is why; if any company recruits our officers, they keep on employing them. Our only problem is that many countries do not know us.

The ship management companies and manning agencies in general agreed that Bangladeshi seafarers are having quite good knowledge and skill and they have good reputation, too. However, a General Manager of a Manning Agency highlighted some of the drawbacks of Bangladeshi seafarers:

Bangladeshi officers are not good for long-term employment. Their main intention is to become master or chief engineer quickly and then leave the job. They value their family life too much. They are home sick and sometimes become frustrated. Some of the cadets have communication problem at the initial stage of their career.

A senior faculty member of a private MET institution who served the Singapore Maritime Academy for many years commented:

Our officers are very hard working and loyal. In terms of knowledge and skill, they are second to none. You all have worked hard, and proved that. In Singapore, you can see in many shipping companies Bangladeshi seafaring officers are working in key technical positions. Why is it so? Because they are capable. In Bangladesh those who are coming in seafaring, are of very high calibre. It is just that the ship owners have to try with our boys.

In order to find out the prospects of Bangladesh to be a major seafarers supply country, there were another two questions in the questionnaire that asked the opinion whether Bangladesh has the potential to produce world class seafarers to be employed in the global merchant fleet, and if Bangladesh should take the opportunities to produce significant number of seafarers to meet the demand of skilled seafarers in the global labour market. The respondents answered very positively.

As shown in Figure 5.7, 79% strongly agreed and another 21% agreed that Bangladesh has the potential to produce world-class seafarers. Regarding to producing the significant number of seafarers, 65% strongly agreed and 32% agreed that Bangladesh should proceed to this direction.

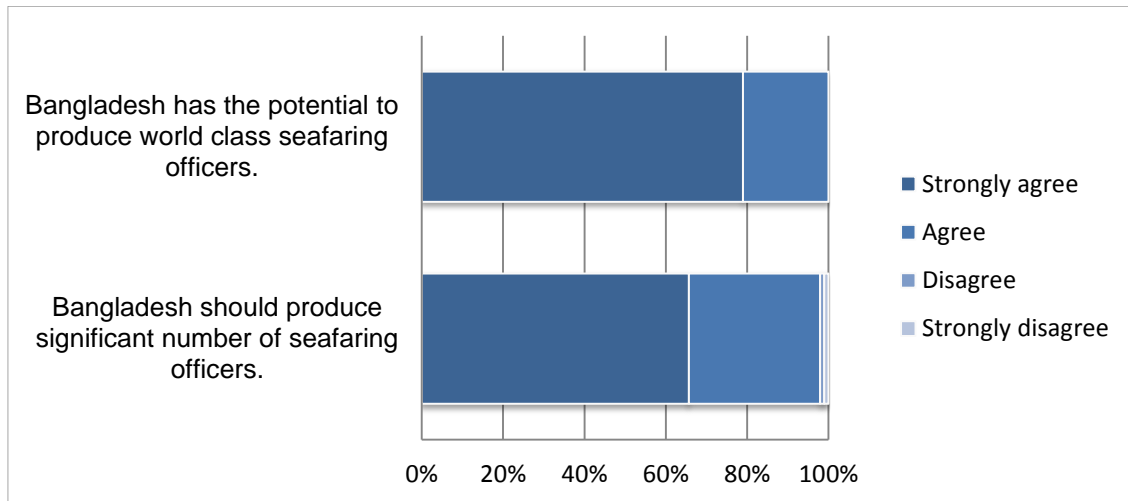


Figure 5.7: Bangladesh’s ability to become a major seafarer supply country.

On this issue of Bangladesh having the potential of becoming a major seafarer supply country, the Chief Business Development Officer of a reputed Manning Agency showed his optimistic view and mentioned:

The IQ level of our young people is very good. If our intake is good and give them good training, then not only seafaring, they are suitable for many high valued job. We have a very high potential in seafaring. Despite of some drawback, we are going in the right direction. But we need to work hard.

The above findings match quite evenly with the findings from the secondary data analysis, described in chapter 4.

5.4 ‘Efficacy beliefs’ - Personal qualities

As discussed in Chapter 2, Knight and Yorke (2006) presented not only the ‘USEM’ model, but also 39 attributes which they consider as essential for employability. Concerning the personal qualities as important determinants of employability, this research investigated whether employers look for loyalty, discipline, indefatigable spirit, adaptability in multicultural environment, and prudence and foresight, when recruiting

seafarers. As shown in Figure 5.8, majority of the respondents agreed that employers prefer these attributes.

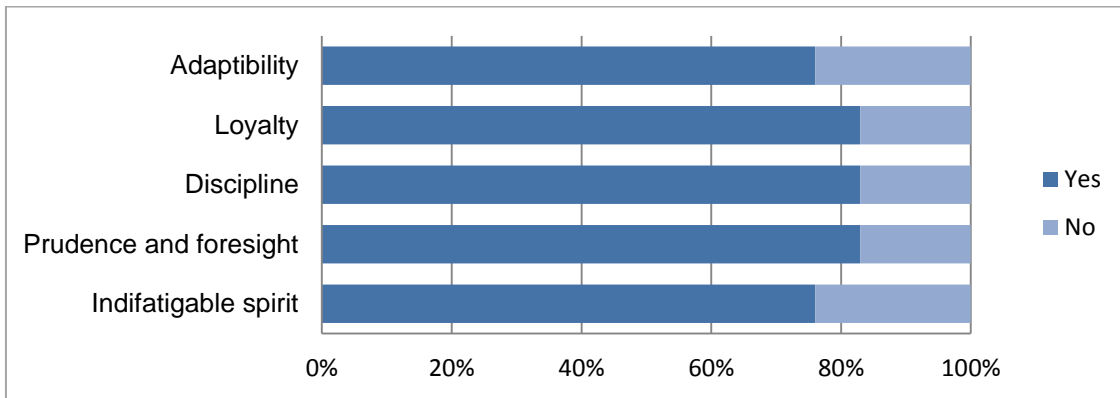


Figure 5.8: Perception of whether employers look for personal qualities of seafarers

In order to identify the personal qualities of Bangladeshi seafarers, questions were given whether the Bangladeshi seafarers are discipline, loyal, adaptable and are having indefatigable spirit, and prudence and foresight ability. As shown in Figure 5.9 most respondents ranked them in between 7-9 in a scale of 1-10, where 10 is the highest value.

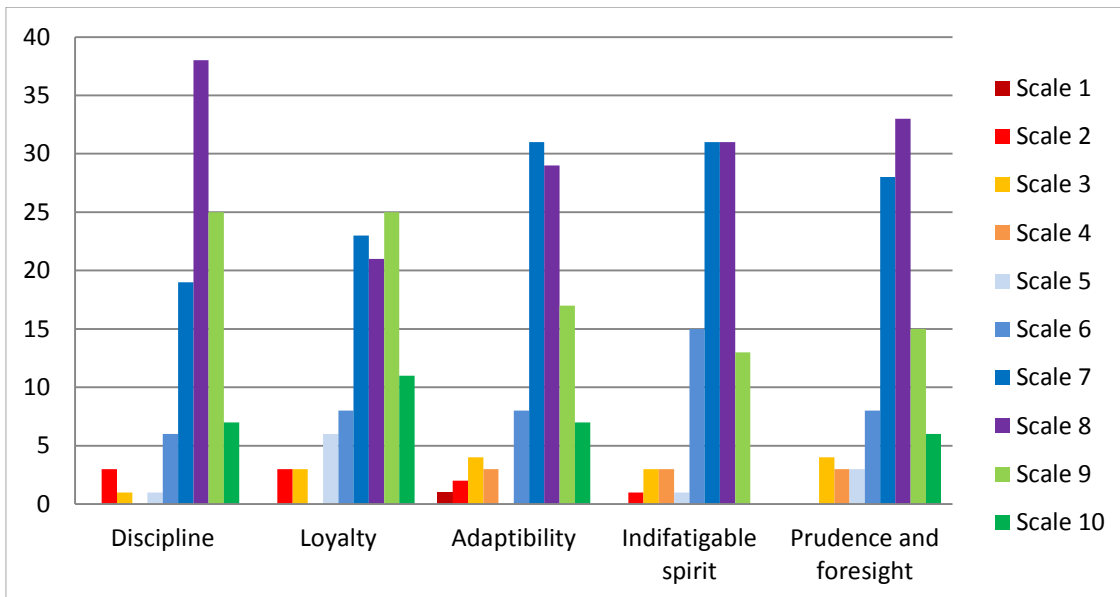


Figure 5.9: Personal qualities of Bangladeshi Seafarers.

The interviews with the maritime professionals revealed the same view about the personal qualities of Bangladeshi seafarers. When asking, what advantages shipping companies will receive by employing Bangladeshi seafarers, a director of a Manning Agency spontaneously mentioned the financial attractiveness of Bangladeshi seafarers, and further added their well-disciplined attitudes towards work, without having alcohol:

Our officers have no attraction for alcohol. They are submissive, disciplined and are always conscious about their duties. They never create any conflict with the company or with the co-workers.

5.5 'Metacognition' - Awareness of one's own thinking process

The 'USEM' model describes 'Metacognition' as an element of 'how to learn' and the capacity of 'self-regulation'. The model suggests that metacognition complements personal qualities. The current situation of MET in Bangladesh needs to focus on the essential baseline of quality seafarers' education and training. However, it may be a future scope for Bangladesh to assist seafarers career development planning and make the shipping industry as an attractive career. This element is particularly important when they step up their career ladders, and these experienced seafarers would be able to support the MET of the country. As discussed earlier, Bangladeshi seafarers tend to consider their families as important as their jobs. If 'Metacognition' as the component of employability is well integrated into MET, it will strengthen not only the personal qualities of Bangladeshi seafarers, but the capacity of Bangladesh as a seafarer supply country to be recognized in the global labour market.

5.6 External factors

In the context of seafarers' employability, the components described in the 'USEM' model are found to be incomplete. The research revealed that various socio-economic and external factors have a significant role in the employability of seafarers. Some of those factors are analyzed in the following sections with supplement of the primary data. Figure 5.10 shows that almost all of the respondents agreed that visa restriction to

certain countries, occasional desertion by seafarers and ship owner’s unwillingness to recruit inexperienced seafarers are the major drawback for the employability of Bangladeshi seafarers.

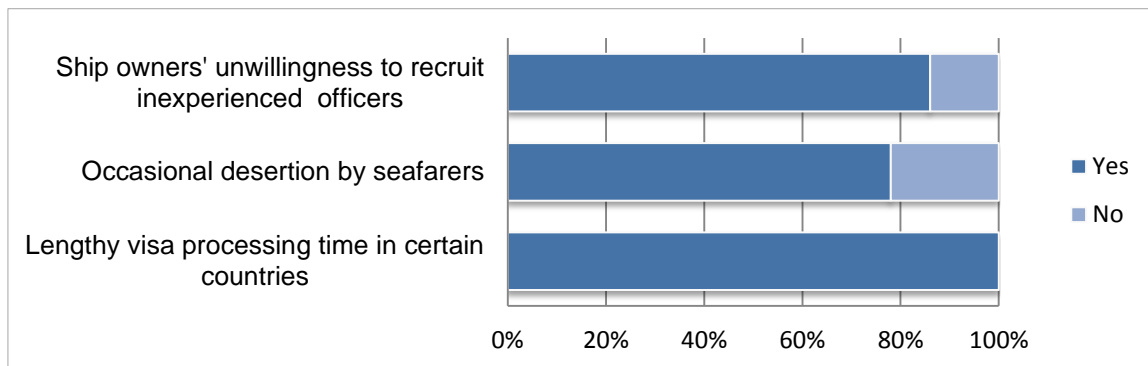


Figure 5.10: Issues negatively affecting Bangladeshi seafarers’ employability.

The interviews with the maritime professionals also reflect the same view and results are discussed in the following paragraphs.

5.6.1 Visa restriction to certain countries

During the interviews with maritime professionals, all the participants raised serious concerns over the visa restriction by some countries. They mentioned that this is a national issue and the government should solve this problem with top priority. One of the management level officials of a reputed private MET institution shared his experience as follows:

Last month I went to Singapore to check the possibility of employment of our cadets in Singapore based companies. Most of the companies said that they do not recruit Bangladeshi cadets. The excuse they show is visa problem in Singapore and UAE ports. Of course visa is a problem. But there is other hidden problem too. Now the cadets’ employment is very competitive. In most of the companies in Singapore, the high officials are Indians. Naturally they prefer their own people.

When asking on the visa restriction in several strategically important countries for maritime activities, a Surveyor & Examiner from Department of Shipping explained the initiatives they have taken:

We received such information from a lot of manning agencies. We have sent request to all those concerned countries through the Foreign Ministry. This is a requirement in MLC²⁶ 2006 convention. We are trying through diplomatic channel. Recently there was a talk with India at the Secretary level. They have given us a commitment that within 3 months this problem will be solved.

5.6.2 Ship owners' unwillingness to recruit inexperienced seafarers

During the interviews, several manning agencies explained the matter in details. Almost all of them had the similar opinion regarding the employment of cadets and junior officers in foreign companies. They described that foreign companies maintain very high standard of performance of their crews. For example, every officer must have rank experience before joining to the foreign companies, and they have to go through rigorous interview and selection process. In this recruitment process, any inexperienced candidates are naturally screened out. A General Manager of a Manning Agency mentioned:

Foreign companies are not for learning; there is no trial and error process. You have to be there for doing the job. In the national fleet the seafarers are mostly from the same community, they understand each other well and senior officers easily become the mentor for the junior officers. The junior officers should learn their job in the national fleet. And when they have some good experience, they can join the foreign companies.

An MET expert from a private MET institution referred to the dependence on foreign shipping companies and said:

Bangladesh does not have a big merchant fleet. We are completely dependent on foreign ship owners. But they feel employing cadet is a burden; cadets are non-productive and they cause additional cost. Therefore, even if we do our best, ship owners will not be able to appreciate our efforts if they do not employ our cadets.

²⁶ MLC 2006, regulation A 2.5 'Repatriation', paragraph 7, requires each member states to facilitate the repatriation of seafarers serving on ships which call at its ports or pass through its territorial or internal waters, as well as their replacement on board.

5.6.3 Occasional desertion

While discussing the issue of occasional desertion, it was revealed that there is hardly any desertion from officers. However, from ratings, there are still occasional desertions reported. The maritime professionals mention that desertion creates a very negative image for their seafarers. A Senior Faculty Member of private MET institution emphasized the government's role in this matter, and said:

Government need to be proactive. They should go to the foreign ship owners to assure that we are taking appropriate measures. Even they can make the concerned government understand that our seafaring officers have better career prospect. So there is no possibility that they will look for some odd job in any other country.

The research suggests that these external factors are as vital as other components of the employability model in order to enhance the capacity of Bangladeshi MET in the future.

5.7 Conclusions

The components included in the 'USEM' model are not independent, rather they are inter-related. Therefore, the employability of seafarers should not be seen as merely the achievement of individual skills or knowledge, but an emphasis should be given on the development of overall factors, relating to the employability of seafarers. The MET plays a vital role in this respect, as the education and training has an influence on all components of employability. This chapter has also highlighted, in addition to the employability components in the model, socio-economic and external factors also have an impact on the employability of Bangladeshi seafarers'. All these findings in the primary and secondary data analysis will be utilized in discussions to answer the research questions.

Chapter: 6

Discussion: Developing an Effective MET System in Bangladesh

6.1 Introduction

This chapter attempts to answer the research questions through an in-depth discussion that synthesizes the literature review and data analysis. It is noted in the primary data analyses that Bangladeshi seafarers' employability does not fully correspond with the 'USEM' model of employability, as there are various socio-economic and external factors that are not included in the model. Therefore, this chapter proposes a model for Bangladeshi seafarers' employability, incorporating the above-mentioned elements into the 'USEM' model. In addition, in light of the literature review and data analysis, this chapter discusses how to develop an effective MET system which should eventually support the competitiveness of Bangladeshi seafarers.

6.2 What are the factors that determine the employability of seafarers?

Based on the literature review there are two broad factors that influence the employability of seafarers: maritime labour market, and individual skills and attributes that influence the employability of seafarers. Shipping is a derived demand from trade. Therefore, the employability of seafarers is a function of supply/demand that arises from the world's economic growth, shipping business growth, and investment climate. Furthermore, it is analyzed that employability depends on various other issues, such as manning cost, economic situation, living cost, and exchange rate of seafarers supply

countries. Other factors include the number of national fleet, and ship owners' employment policies.

On the other hand, seafaring is a skill-based job. As per the literature review, seafarers should have various skills and attributes, such as in-depth knowledge, problem-solving skills, sense of responsibility, leadership and teamwork skills, English speaking and communication skills, and physical fitness. The data analysis of this study suggests that the employers look for these skills and attributes when recruiting seafarers. In addition, both the literature review and data analysis inform that a high-quality seafarer should be characterized by various soft skills, in order to be competitive in today's maritime labour market. For example, seafarers are expected to have indefatigable spirit, adaptability to multicultural environment, prudence and foresight, and situation awareness skill. As skills and attributes are directly related with the quality of the education and training that seafarers receive, the MET quality standards are regarded as the most important determinants of seafarers' employability.

In terms of Bangladeshi seafarers, the research included the third factor, i.e. 'personal circumstances', when designing the questionnaire, as well as the interview guide. The analysis suggests that personal circumstances are relevant to their employability, when they face household problems, which may prevent them from an available employment for a particular period of time. It also includes difficulties that some people may experience to work with particular work culture group.

Considering all these factors, the proposed model of Bangladeshi seafarers' employability incorporates socio-economic and external factors into the 'USEM' model. As the socio-economic condition of a country affects the MET, as well as the personal qualities, their inter-relations are also depicted in the model. In addition, as in the seafaring job contexts, their skills directly affect the employability; therefore, the dotted line in the original model is replaced by a straight line.

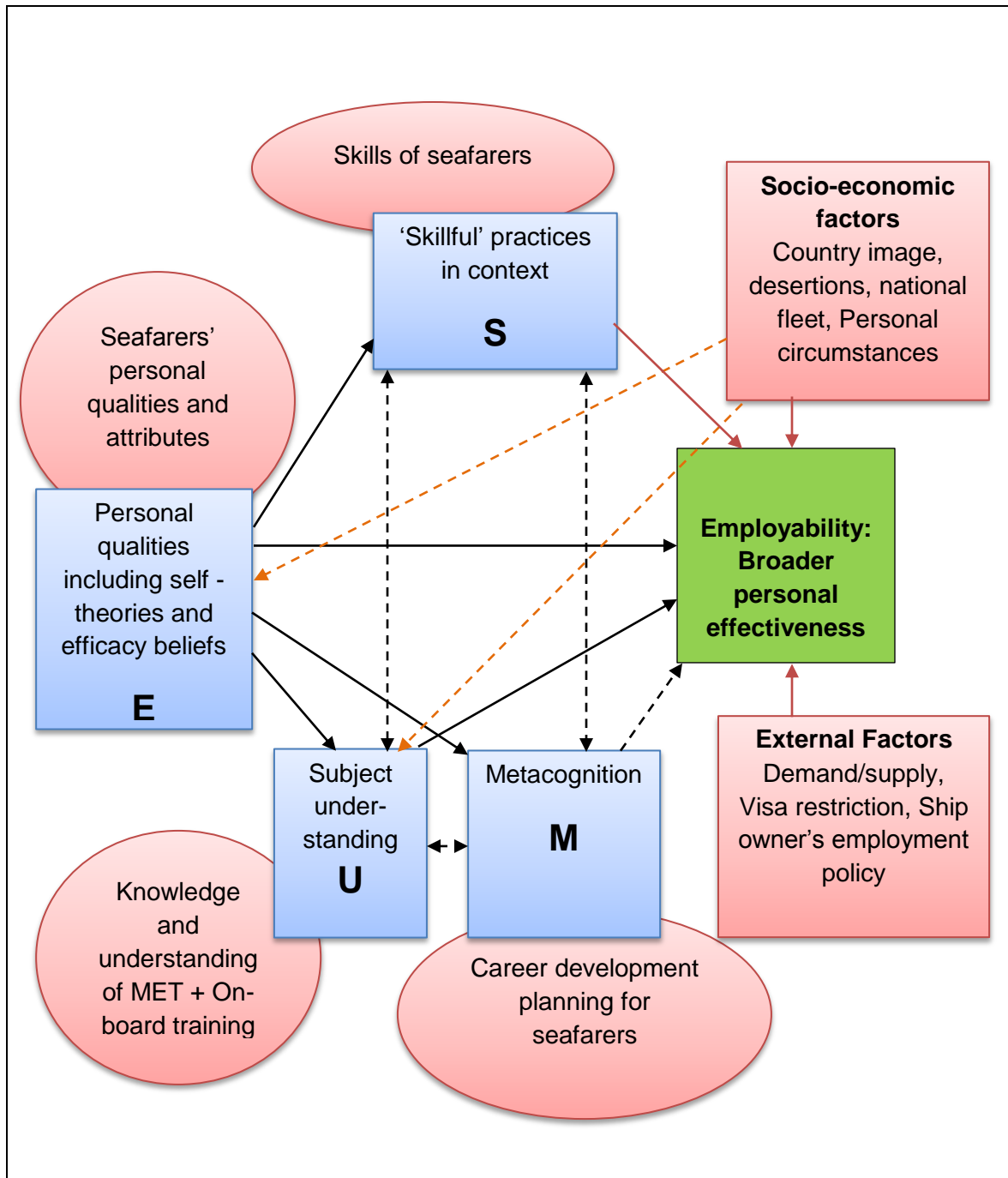


Figure 6.1: Employability model for Bangladeshi seafarers, Source: Adapted and reproduced from Knight and Yorke (2006)

Figure 6.1 shows the suggested model to enhance the employability of Bangladeshi seafarers, where the pink colour represents the incorporated components. According to the model, in order for Bangladesh to become a major seafarers' supply country, there is a need to have sufficient and updated MET infrastructure and instructors with a credible assessment and certification process, proof of quality production, i.e. seafarers skills and ability, and overall good governance in the country.

6.3 What are the limitations of Bangladeshi seafarers on those competitive parameters?

As identified in the analysis, for many years visa restriction in several countries, occasional desertion by crew members, ship owners' policy of not employing inexperienced seafarers, and less number of national fleet has been causing serious problems for Bangladeshi seafarers. Poor governance, lack of transparency, and accountability together with the corruption of government agencies have created poor country images of Bangladesh, which may eventually negatively affect Bangladeshi seafarers' employability. The inability of Department of Shipping to gain acceptance as a transparent and well-organized administration, has also created a problem for seafarers in many aspects, including the recognition of their certificate of competency. It is also identified that Bangladeshi seafarers are not suitable for long-term employment as they like to work ashore when they become master or chief engineer. In fact, this is a major deficiency from a seafarer's point of view, as the services of experienced personnel are highly desirable from employer's perspective.

More importantly, the data analysis suggests the inadequate MET system, along with improper assessment and certification process, is the major obstacle for Bangladeshi seafarers' employability. Neither MET nor assessment and certification system reflect a commitment to quality. This limitation is critical to Bangladeshi seafarers' employability, and it suggests that the effective MET system in Bangladesh is the key to improve the employability of their seafarers.

6.4 What should be the appropriate role of MET in order to support the competitiveness of Bangladeshi seafarers'?

The literature review suggests that the technical innovation in the maritime transport today is quite radical; ships are coming into operation with more and more automation while the numbers of crews are getting reduced. It is difficult to predict what blend of knowledge, understanding and proficiency are required to man the future ships for the safe operation in clean oceans as IMO claims. In addition to the regulatory requirements, there is a need to study the recent trends of MET to develop an effective MET system in the country.

It is the fact that the core of any marketing policies is the quality product itself. This means that the MET institutions in Bangladesh need to develop their trainees as such so that they are fit for their purpose of employment. In this respect, MET institutions are considered to have huge responsibilities of transforming the young talents into useful human resource under the controlled supervision of qualified and experienced instructors and assessors. They should have adequate infrastructure and sufficient training facilities in order to develop the best of knowledge, skill and understanding. Therefore, to develop an effective MET system, the issues listed below emerged from the data in this research:

Application of quality standards system:

From a Bangladesh perspective, specific to private MET institutions, it is inevitable to establish an accreditation council to ensure compliance with the standards, and guaranteeing of a quality in order to inform the stake holders as to the value of the certification. Manuel & Nakazawa (2008) explained that the quality in MET encompasses the concepts of excellence in output.

Employment of qualified and experienced workforce:

MET management in Bangladesh should ensure that compensation and benefit policies reward faculties in a competitive and equitable manner. Armstrong (2012, p.26)

explained that investing in workforce means improving the level of intellectual capital. Therefore, the Ministry of Shipping needs to provide visionary leadership in this regard, and ensure functional strategies are prepared and implemented by the Department of Shipping, and MET institutions. It is worth mentioning that committed faculty members are the corner stones of academic value creation (Lorange, 2002, p.215).

Assessment and certification of seafarers:

In addition to the employment of requisite numbers of appropriately qualified assessors, Department of Shipping should develop an assessment and certification system, incorporating various assessment tools and techniques. (See relevant diagram in Appendix 12). Sampson et al. (2011) explained that where testing methods are more valid and appropriate; systems are more likely to be producing seafarers of an adequate standard.

Review of curriculum:

MET institutions should evaluate and update their curriculum, considering social, technological and educational changes around the world. The major decisions to make are selecting, sequencing, organizing and structuring resources and activities (Fisher, 2014). (See relevant diagrams in Appendix 10 and 11). Curriculum content should promote the process of critical thinking, analyzing the problem, reasoning intelligently, and so on.

Standardization of MET with national curriculum:

Bangladesh government should take the necessary steps to restructure the present 3-year MET programme into 4-year bachelor degree programme, so that MET institutions, in addition to providing specific skills for shipboard use, will offer a flexible education. Such restructuring will be the foundation for further education of seafarers, as well as meaningful employment prospects at sea and ashore.

‘On-board training’²⁷ of cadets:

The period of sea-going training is of paramount importance to enhance technical abilities. Therefore, MET institutions, Department of Shipping, and shipping companies should confirm that trainees make effective use of their on-board training. In addition, it is important that the MET institutions check the feasibility of training berth before offering the enrolment.

Networking with leading METs:

Globalism covers all aspects of the life, social relations, technology, education, art and science (Ziarati et al., 2011, p.1). From a Bangladesh MET perspective, networking and collaboration with leading METs will provide tangible benefit; as well as global recognition as MET institutions of good standing.

Enhanced use of simulators:

MET institutions in Bangladesh should develop a complete training programme including the assessment procedure, incorporating simulation technology as many skills required by seafarers can be effectively transferred and evaluated on simulation technology, without risk to ship or danger to life. Simulation is a realistic imitation, in real time, of any ship handling, radar and navigation, propulsion, cargo, or other ship-system (IMO ISSWG²⁸, 1994).

Development of soft-skills:

MET institutions in Bangladesh should set clear objectives regarding soft skills development, and maintain an organizational culture to achieve those objectives. Relevant to mention that the Michigan State University, and the Journal of Leadership Education Survey found that soft skills are as important as or more important than technical skills in securing employment (Pritchard, 2013). See details in Annex 13.

²⁷ STCW’78 as amended requires a minimum of 12 months on board training that meets the requirements of section A-II/1 for nautical cadets and section III/1 for engineer cadets.

²⁸ IMO ISSWG: IMO Inter-Sessional Simulator Working Group was established in 1994 in order to organize and structure simulator related matters for inclusion in the STCW revision.

Maintaining industry feedback mechanism:

Bangladeshi MET institutions need to maintain an industry feedback mechanism in order to ensure that the trainees receive education and training that is relevant to the industry. Exchange of information and know-how is the main element of system development (Deloitte, 2011, p.8).

‘Distance learning/e-learning’²⁹:

This method of learning has the advantages of geographical barrier elimination, 24/7 accessibility, faster movement of information, and so on. Therefore, by utilizing blended learning, MET programmes can be made more effective and advantageous for learners, as well as to the institutions. Bangladeshi MET institutions should consider introduction of distance/e-learning as a top priority.

Procurement of training ship:

It will be a luxury for Bangladesh to procure a ship only for training purposes. As such the proposal made by Bangladesh Marine Academy, to the government to procure a general cargo ship with extra passenger capacity seems to be practical.

6.5 Conclusions

Seafaring, as a career, has very less visibility in the job market that the mass people hardly know about the prospect of this remotely active profession. Therefore, it is not surprising that government policy may not always reflect seafarers’ employability and their training needs, if there is no immediate economic and political reason. However, for a country like Bangladesh, where there are sufficient seafaring talents, and at the same time, with very high unemployment rate, there is a need to promote seafaring profession nation-wide. Hence, it is believed that a top priority for Bangladesh should yield to establish the MET infrastructure that meets the highest practicable standards in order to enhance the competitiveness of their seafarers.

²⁹ STCW '78 as amended, section B-I/6 recommends for distance/e-learning. IMO circular STCW circ.13/2002 as well highlighted the potential advantages of computer based training.

Chapter: 7

Conclusions

The non-availability of sufficient employment opportunities for Bangladeshi seafarers, particularly cadets and operational level officers, gave rise to the research problem of this dissertation. The literature review and data analysis in this research confirms that the overall demand of seafarers is derived from macro-economic factors such as trends of the world economic growth, seaborne trade growth and investment climate. However, as seafaring is a skill-based job, at the individual level, the employability depends on various skills and attributes, including soft skills. In addition, personal circumstances and long-term employment prospects are found to have an influence on employability as it is seen that seafarers, giving high priority to family, and short-term career plan, are not preferred by employers.

Regarding the employability of Bangladeshi seafarers in the global labour market, although they have sufficient skills and attributes, there are certain issues which prevent them from being chosen by employers. The country's MET system, including the assessment and certification processes, visa restrictions to certain countries, occasional desertion, and the lack of opportunity for on-board training, are identified as major barriers to the employability of Bangladeshi seafarers. It is also a fact that employers do not consider Bangladeshi seafarers as a good choice for long-term employment because the officers generally do not want a prolonged career at sea due to strong preference to family life as well as the attraction to shore-based employment.

Furthermore, a poor country image characterized by the lack of transparency, accountability, corruption and absence of good governance are identified as negative factors as well.

Concerning the enhancement of seafarers' employability, quality assurance is fundamental to the concept of marketing as it tells the ultimate users whether the product is good or bad. It is a fact that due to the high unemployment rate in the country; very high caliber students join in merchant navy. In this respect, if appropriate training is given, Bangladeshi seafarers could easily out-perform many in the region. Commitment to quality in MET will increase the desirability of Bangladeshi seafarers. Hence, it is necessary to ensure that global standards are in place to train and certify seafarers to operate technologically advanced ships in a safe, secure and environment-friendly manner, taking into account the technical developments, stricter safety awareness and social obligations in the maritime industry that require new shipboard competences.

The study in this dissertation makes it possible to point to a few possible measures in order to develop an effective MET system in Bangladesh which will eventually support the employability of Bangladeshi seafarers. The employment of qualified and experienced workforce; an updated and upgraded curriculum; on-board training of cadets; transparent, accountable and credible assessment and certification system; the standardization of the MET system within the national curriculum; the introduction of distance/e-learning; enhanced use of simulators; procurement of a training ship; and networking with leading METs and maintaining an industry feedback mechanism should be considered and given high priority. Furthermore, in today's knowledge-based economy, MET is not confined within seagoing training and skills alone. Following the global trend of MET with 4-year bachelor degrees, the present 3- year programme needs to be restructured into 4-year bachelor degree programme so that a nationally recognized educational qualification is obtained by the seafarers. Such qualifications will equip them with better career prospect ashore within the maritime cluster when they leave the sea.

Finally, it is worth noting to comment that even with all these limitations and constraints, the prospect of Bangladeshi seafarers' employment in the global labour market is good. It brings out that the government authorities, public and private MET institutions, manning agencies and all other stakeholders work together for the sake of the employment of Bangladeshi seafarers, which in turn will earn an increase in foreign currency and help the socio-economic development of the country.

Regarding further research, as there are no accurate statistics regarding the number of Bangladeshi seafarers working in foreign shipping companies, a future study on the issue would complement the present study. Furthermore, research is also recommended to focus upon the future of Bangladeshi seafarers in the event of continuous growth of the private maritime academies in the country. If Bangladesh fails to envision their future MET, there will be no improvement in the overall employment situation of seafarers in the country. Last but not the least, further research is suggested on the employability of seafaring ratings of Bangladesh, who have earned huge reputation for their hard work and sincerity during the British rule but lost their way in the wake of technical advancement.

Seafarers' employability is a wide subject area and to cover all the aspects of Bangladeshi seafarers' employment are beyond the scope of this dissertation, as it is focused on the development of MET to enhance the competitiveness of Bangladeshi seafarers. Other approaches to investigate Bangladeshi seafarers' employability can be considered for future research where the exploratory nature of this dissertation would provide primary information.

With sincere gratitude to 84 individuals who participated in this research, the author wishes the outcome of this study would serve to disseminate knowledge to help Bangladeshi seafarers' employability. The results may not only help individual seafarers to understand what makes them employable, but will also encourage them to upgrade their skills as this dissertation will make them aware of the opportunities awaiting for them. For MET institutions, this dissertation may have implications in their future strategies to develop an effective MET system in order to produce graduates with

additional skills that will enhance the possibility of their on-onboard placements. This dissertation may even be useful to the government policy-makers to gain an overview on present and future global maritime labour market, the potential of Bangladeshi seafarers, and thereafter, to take a deeper look into the problems relevant to the seafarers' employability, including their education and training needs.

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Appendix 1:

Self-administered questionnaire for ship management companies, manning agencies, seafaring officers and ex-seafaring officers working in shore establishment

Section: A (Personal details)

Name				
Position				
Company				
Sea Service experience (For seafaring officers)		Years		Months
Mobile No		Email		

Section: B (Regarding employability)

1. Do you agree that following are the most important determinants of employability for seafaring officers?

- i. Labour market factors Yes No
- ii. Individual skills and attributes Yes No
- ii. Personal circumstances Yes No

2. Do you agree that employers look for the following skills and attributes while recruiting seafaring officers?

- i. In-depth knowledge Yes No

- ii. Technical ability Yes No
- iii. Sense of responsibility Yes No
- iv. English speaking & communication skills Yes No
- v. Leadership ability Yes No
- vi. Discipline Yes No
- vii. Indefatigable spirit Yes No
- viii. Adaptability in multicultural environment Yes No
- ix. Prudence and foresight Yes No
- x. Physical fitness Yes No

3. On a scale of 1 to 10 (where 10 is the highest value), please rate the followings with respect to the Bangladeshi seafaring officers.

i. In-depth knowledge

1	2	3	4	5	6	7	8	9	10
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ii. Technical skills

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

iii. English speaking and communication skills

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

iv. Working ability

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

v. Sense of responsibility

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

vi. Discipline

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

vii. Loyalty to employers

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

viii. Leadership and teamwork skill

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

ix. Adaptation to multicultural environment

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

x. Physical fitness

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

4. Do you agree that the following issues negatively affect the employability of Bangladeshi seafaring officers?

i. Lengthy visa processing time in certain countries Yes No

ii. Not enough vessels in national merchant fleet Yes No

iii. Occasional desertion by seafarers Yes No

iv. Ship owners' unwillingness to recruit inexperienced officers Yes No

5. Do you agree that Bangladesh has the potential to produce world class seafaring officers to be employed in the global merchant fleet?

Answer: Strongly agree Agree
 Disagree Strongly disagree

6. Do you agree that Bangladesh should take the opportunities to produce significant number of seafaring officers to meet the demand of skilled seafaring officers in global labour market?

Answer: Strongly agree Agree
 Disagree Strongly disagree

Section: C (Regarding MET in Bangladesh Marine Academy)

1. On a scale of 1 to 10 (where 10 is the highest value) please rate the followings with respect to Bangladesh Marine academy.

i. Infrastructures that include hostel facilities, dining hall, playground, parade ground, swimming pool.

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

ii. Training facilities that include workshop equipment, laboratories and seamanship training facilities and well equipped class room, library.

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

iii. Qualification and experience of instructors and assessors

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

iv. Standards of course curriculum and syllabus

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

v. Quality management system

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

vi. Cooperation with shipping companies to meet their requirements

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

vii. Access to information and communication technology

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

viii. Monitoring of onboard training programme

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

2. Do you agree that co-operation with international MET institutions will have positive impact on MET quality?

Answer: Strongly agree Agree
 Disagree Strongly disagree

3. Do you agree that procurement of full mission bridge and engine simulator can play significant role in improving the training standard of Bangladesh Marine Academy?

Answer: Strongly agree Agree
 Disagree Strongly disagree

4. Do you agree that procurement of training ship can play significant role in improving the competence of Bangladesh Marine Academy cadets?

Answer: Strongly agree Agree
 Disagree Strongly disagree

5. Do you agree that introduction of distance/E-learning by Bangladesh Marine Academy might enhance the quality of MET in Bangladesh?

Answer: Strongly agree Agree
 Disagree Strongly disagree

6. Many MET institutions in foreign countries provide 4 years' bachelor degree programme. Do you agree that having the similar programme will create a better career path for Bangladeshi seafarers?

Answer: Strongly agree Agree
 Disagree Strongly disagree

Section: D (Regarding MET in Bangladeshi private maritime academies)

1. On a scale of 1 to 10 (where 10 is the highest value), please rate the followings with respect to private maritime academies in Bangladesh.

i. Infrastructure that include hostel facilities, playground, parade ground, swimming pool.

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

ii. Training facilities that include workshop equipment, laboratories, seamanship training

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

iii. The Pre-sea cadet selection process is highly competitive and purely on merit basis

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

iv. Qualification and experience of instructors and assessors

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

v. Standards of course curriculum and syllabus

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

vi. Quality management system

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

vii. Access to information and communication technology

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

viii. Monitoring of onboard training programme

1	2	3	4	5	6	7	8	9	10
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Section – D (Roles of Department of Shipping)

1. On a scale of 1 to 10 (where 10 is the highest value), please rate the followings with respect to Department of Shipping (DOS).

i. Monitoring of Bangladesh Marine Academy through quality standard system.

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

ii. Monitoring of the Private Maritime Academies through quality standard system in order to ensure compliance with STCW '78 as amended.

1	2	3	4	5	6	7	8	9	10
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iii. Maintaining its own quality standards in compliance with STCW '78 as amended.

1	2	3	4	5	6	7	8	9	10
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iii. Assessment and certification system of seafarers confirming STCW'78 as amended.

1	2	3	4	5	6	7	8	9	10
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2. Do you agree that DOS should introduce online verification of certificates with immediate effect?

Answer: Strongly agree Agree
 Disagree Strongly disagree

Congratulations. Thank you very much.

Appendix 2: WMU Research Ethics Committee Protocol form



WMU Research Ethics Committee Protocol

Name of principal researcher:	Md.Manjurul KABIR
Name(s) of any co-researcher(s):	N.A
Name of supervisor, if any:	Dr.Momoko KITADA
Title of project:	Enhancement of seafarers' employability through Maritime Education and Training (MET): A case study of Bangladesh
Is the research funded externally?	The researcher will travel to Bangladesh during non-teaching period at the end of July 2014. Research will be conducted during that period and within Bangladesh only. Therefore, no external funding is required.
If so, by which agency?	N.A
Where will the research be carried out?	Bangladesh
How will the participants be recruited?	Professionals will be requested to take part in an interview. Questionnaires to ship management companies, manning agencies, seafaring officers and ex-seafaring officer working in shore based establishment will be sent through e-mail.
How many participants will take part?	Interview: 15 persons Questionnaire: Will be sent to 400 persons
Will they be paid?	No

If so, please supply details:	N.A
How will the research data be collected (by interview, by questionnaires, etc.)?	Interview and Questionnaires
How will the research data be stored?	Interviews will recorded electronically and preserved for 5 years. Questionnaires response will also be preserved for 5 years.
How will the research data be disposed of?	Research data will be destroyed/deleted after 5 years.
Is a risk assessment necessary? If so, please attach	No

Signature(s) of Researcher(s):

Date: 23 June 2014

Signature of Supervisor:

Date: 24 June 2014

Please attach:

- A copy of the research proposal
- A copy of any risk assessment
- A copy of the consent form to be given to participants
- A copy of the information sheet to be given to participants
- A copy of any item used to recruit participants

Appendix 3: Request letter to questionnaire respondents

Date: 19 July 2014, World Maritime University, Malmo, Sweden.

TO: Maritime professionals in Bangladesh

Subject: Request to response to the questionnaire

Dear Sir,

I am currently perusing M.Sc. programme in Maritime affairs in World Maritime University (WMU), Malmo, Sweden. As partial fulfillment of the M.SC degree, I am undertaking a dissertation on 'Enhancement of seafarers' employability through capacity building in Maritime Education and Training (MET): A case study of Bangladesh'. Without the opinion from ship management companies, manning agencies, seafaring officers, ex-seafaring officers working in shore establishment the study will surely remain incomplete.

In light of above, I would be highly pleased if you could kindly respond to this questionnaire in order to share your opinion which will be helpful for me to analyze the issue and finally answer the research questions. I confirm that this research will be conducted in accordance with WMU research ethics involving human factor. The information obtained from the questionnaire will be used for the academic purposes only and the identity will be treated with anonymity.

Thanking you.

Md.Manjurul KABIR

Henrik Smith Residence, Disponentgatan 6, 211 57 Malmo, Sweden.

Phone: +46727716351, E-mail: s14056@wmu.se, kabirmanjurul@gmail.com

Dissertation Supervisor: Dr.Momoko KITADA

Lecturer, World Maritime University, Malmo, Sweden.

Appendix 4: Consent form for Maritime professionals

'Enhancement of seafarer's employability through capacity building in Maritime Education and Training (MET): A case study of Bangladesh'

I confirm that I was explained and understood the information for the above study. I have had the opportunity to consider the information, ask questions and have had these answered to my satisfaction. I understand that my participation is voluntary and that I am free to withdraw at any time.

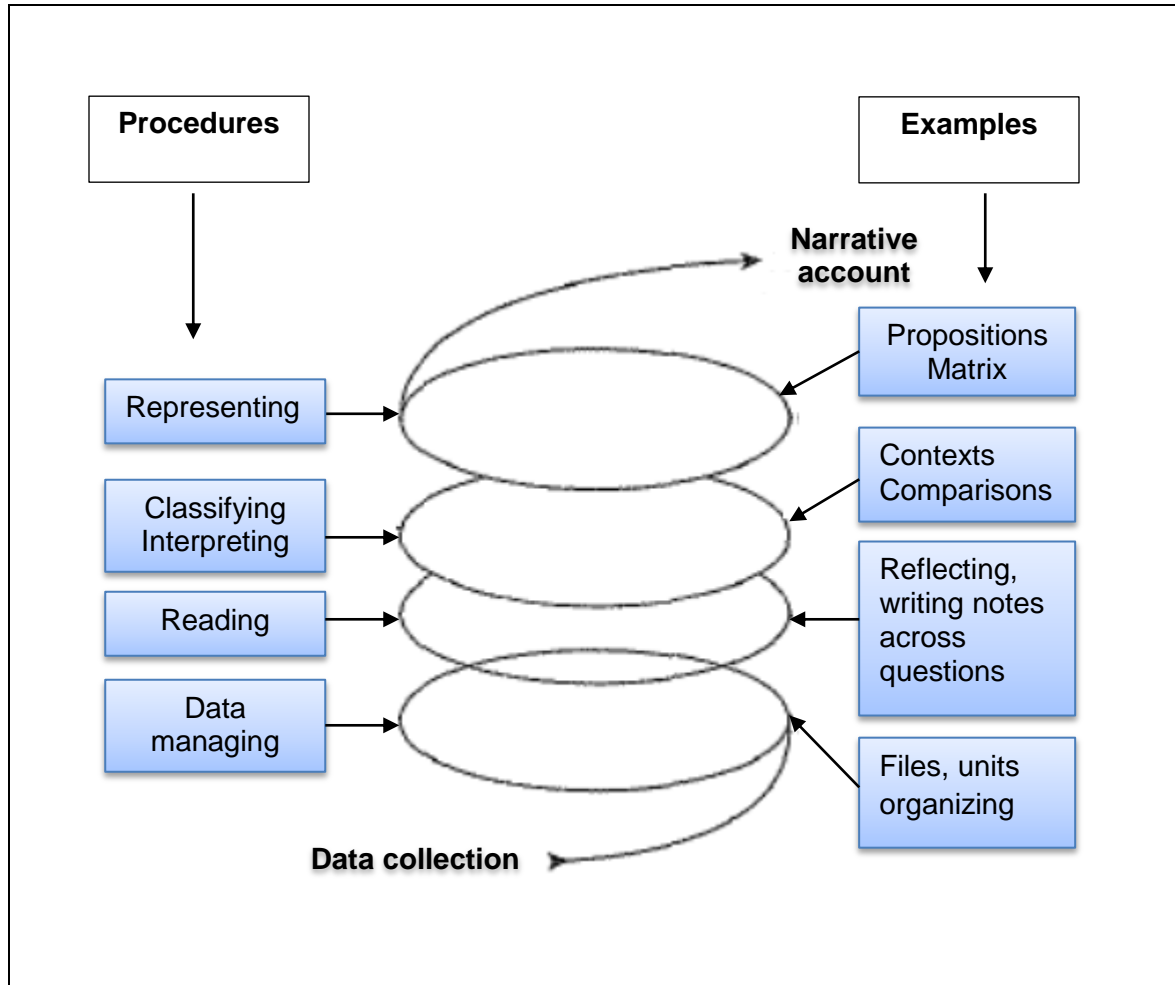
Please tick the box below:

- Yes, I agree to be interviewed with audio recording.
- No, I do not want to participate in the interview.

The objectives and purpose of the research have been clearly explained to me and I have been assured of the confidentiality and anonymity. I therefore give permission for any appropriate use of the information I give in any subsequent writings and publications.

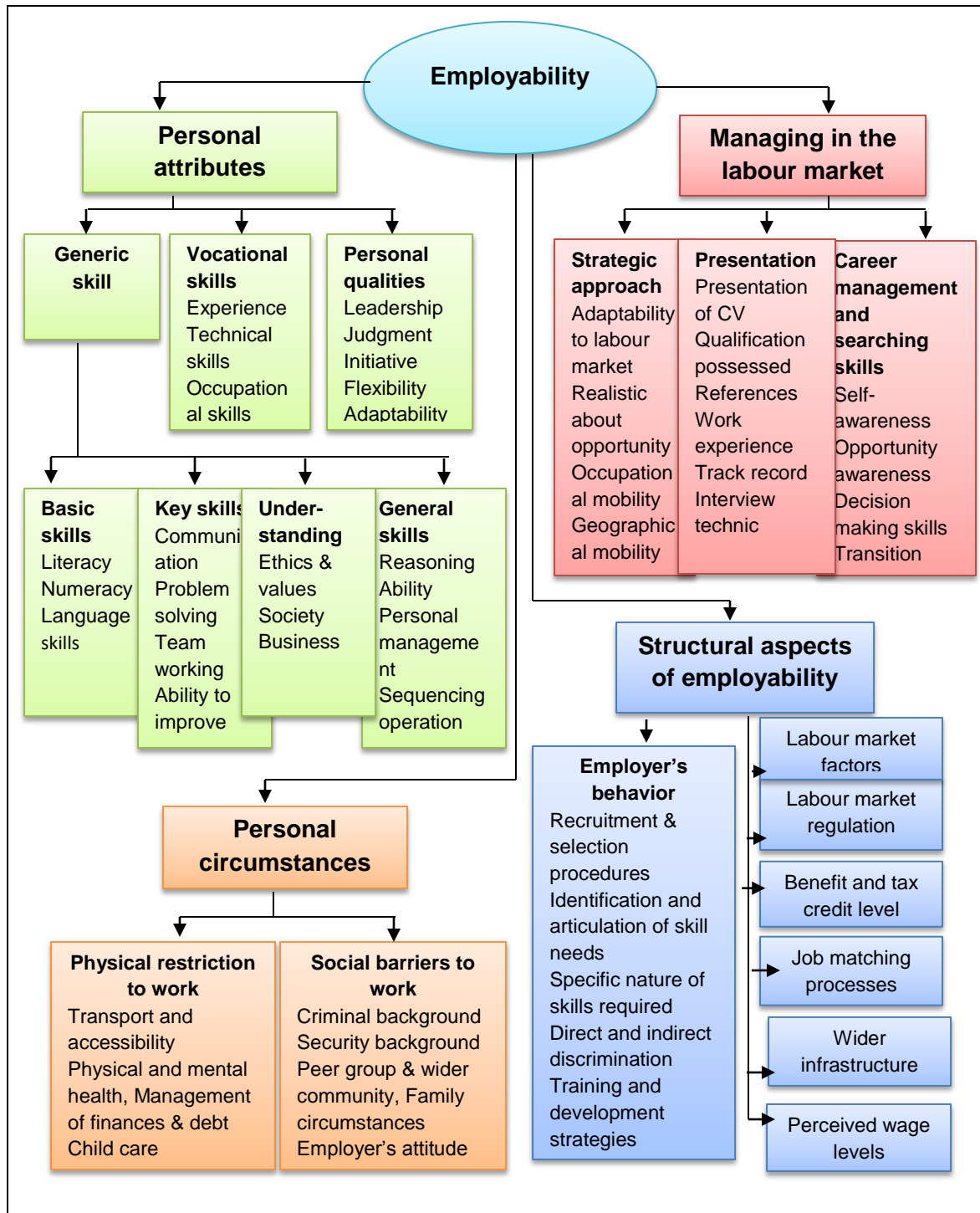
(Signed).....(Dated).....

Appendix 5: Data analysis spiral

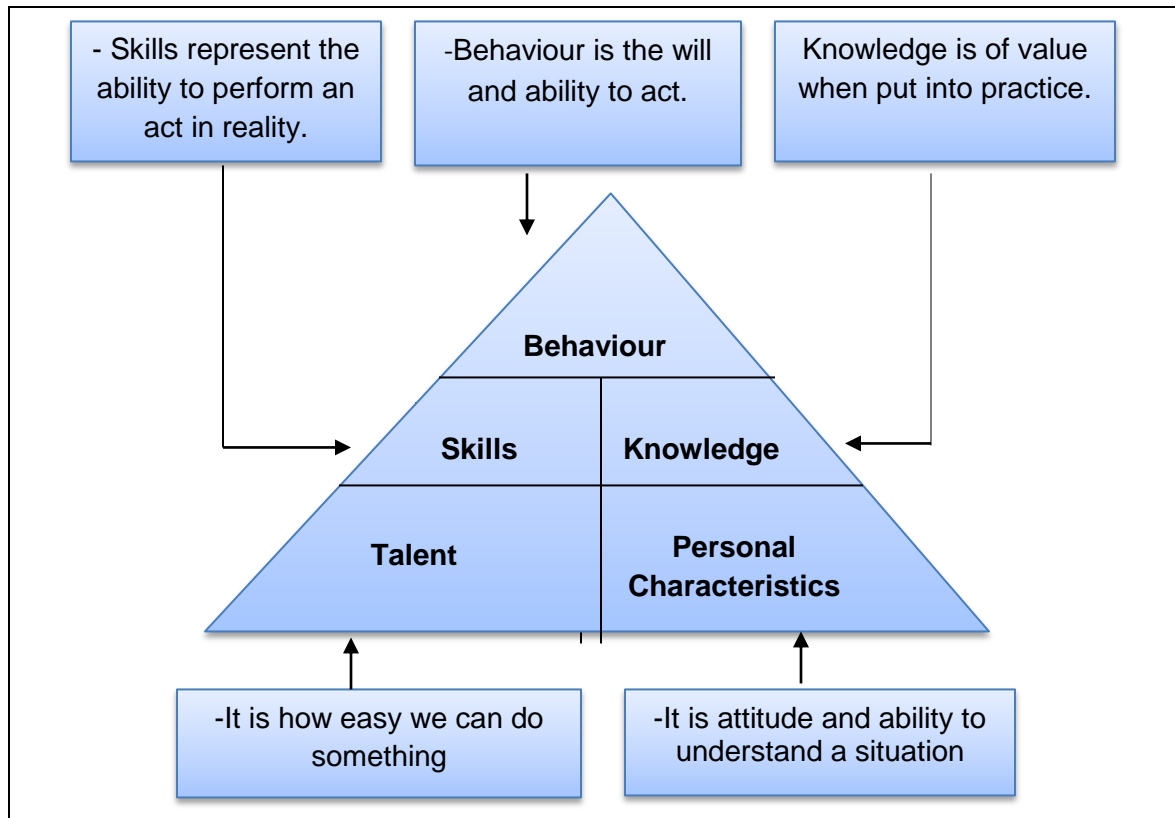


Source: Creswell (2007, p.151)

Appendix 6: Factors affecting employability, Source: DHFETE, Northern Ireland

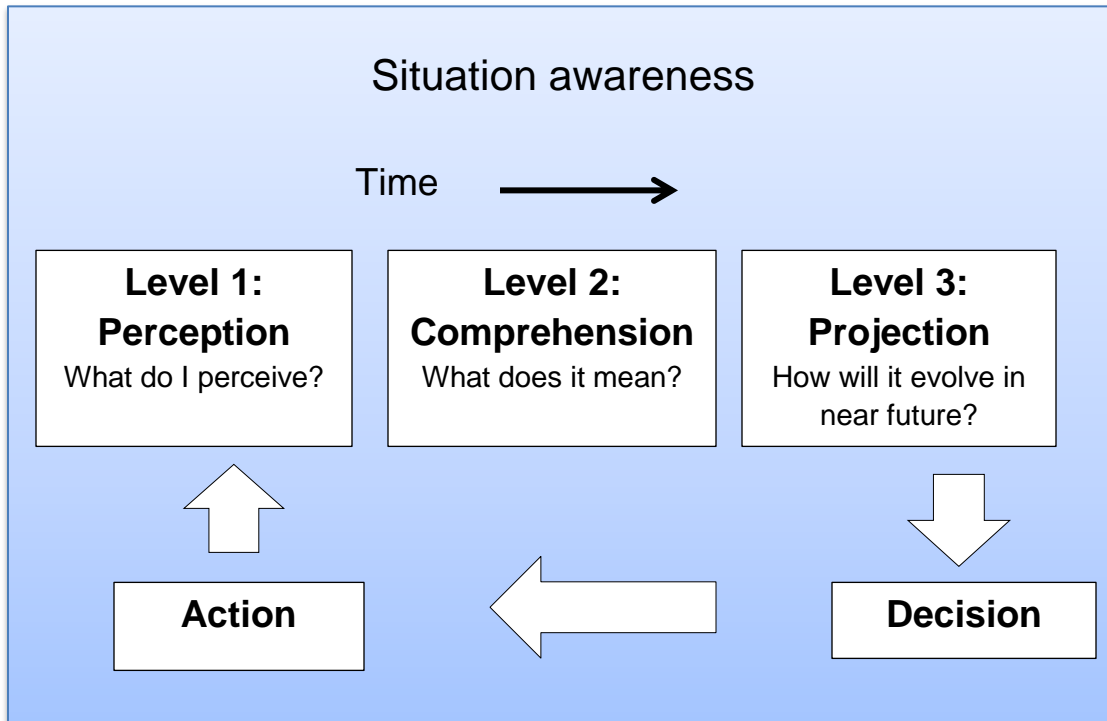


Appendix 7: Personality and competence requirements for seafarers



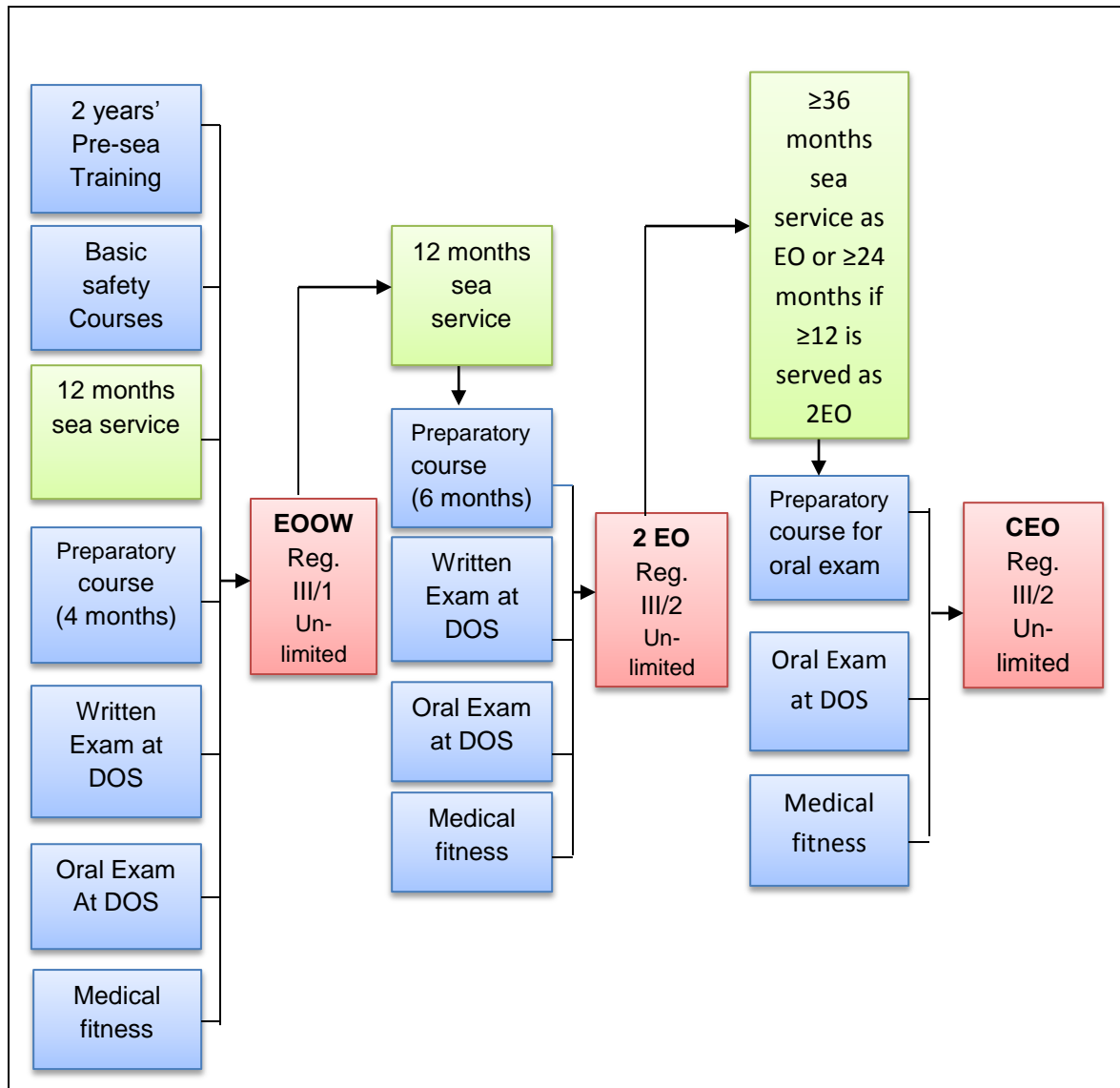
Source: Jensen (2014)

Appendix 8: Dynamic evolution of mental image for situation awareness



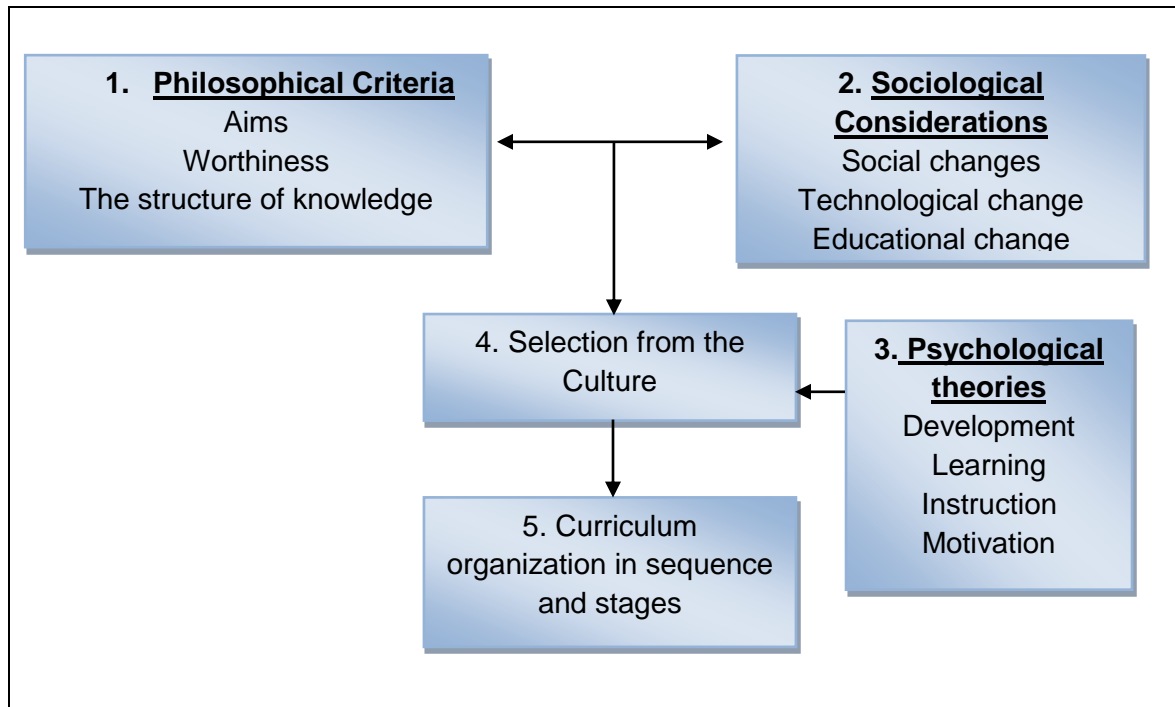
Source: Clostermann (2014)

Appendix 9: Career progression path for engineering cadets



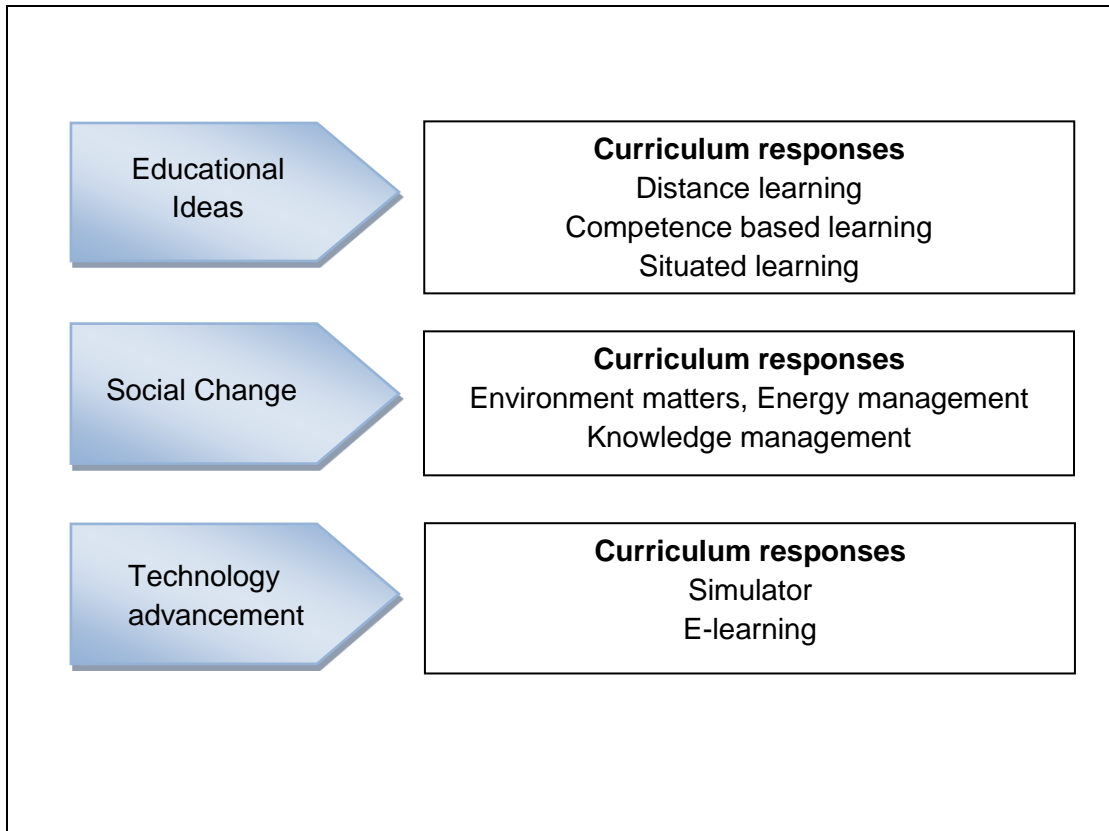
Source: Bangladesh Marine Academy (2014)

Appendix 10: Factors affecting curriculum decisions



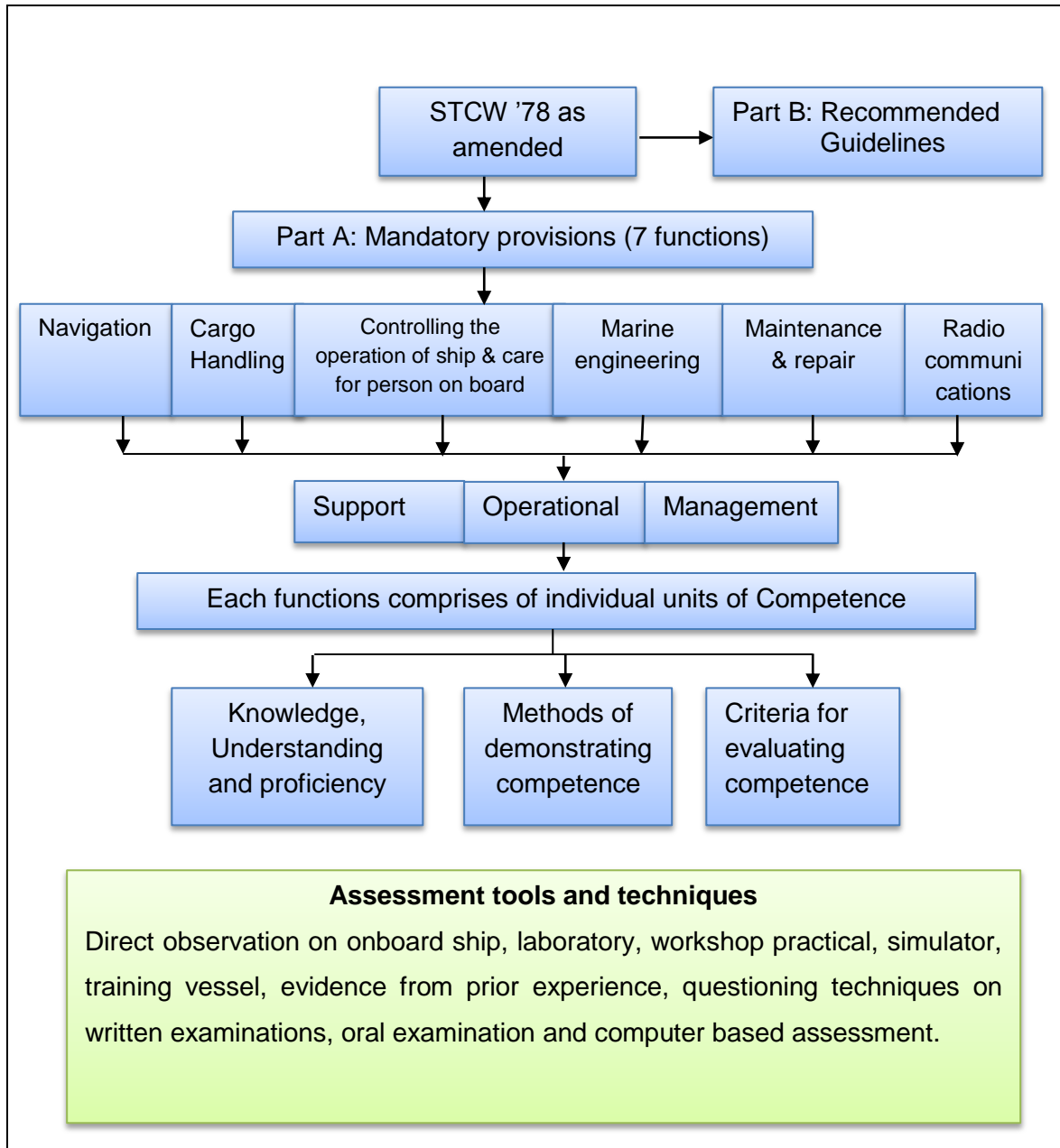
Source: Fisher (2014)

Appendix 11: Curriculum responses to social changes



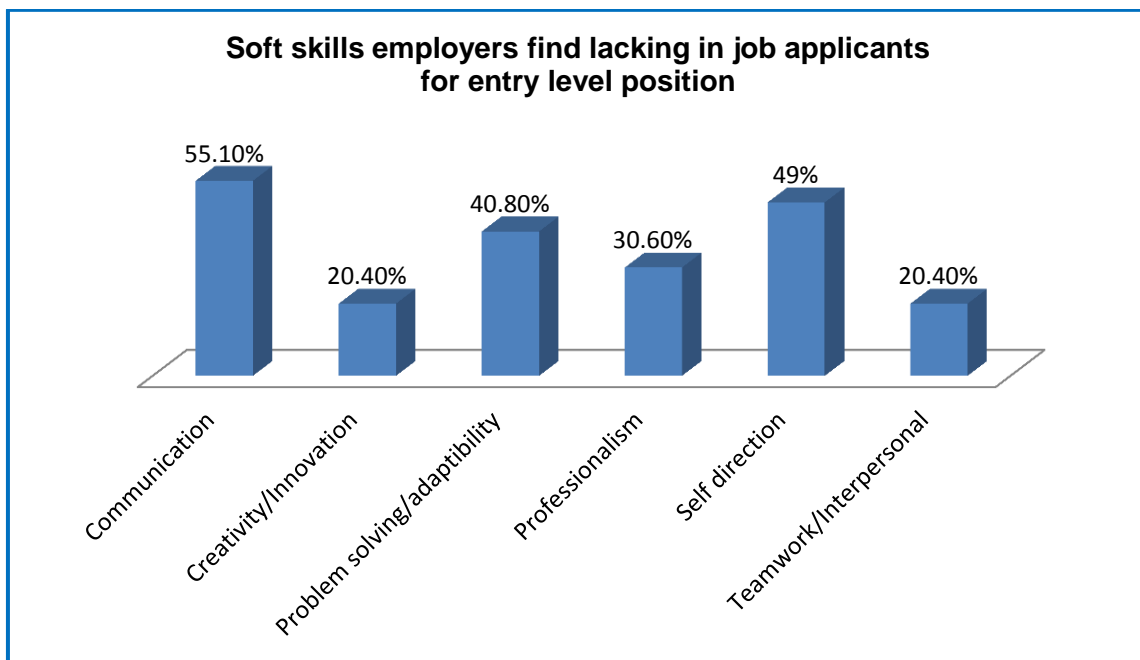
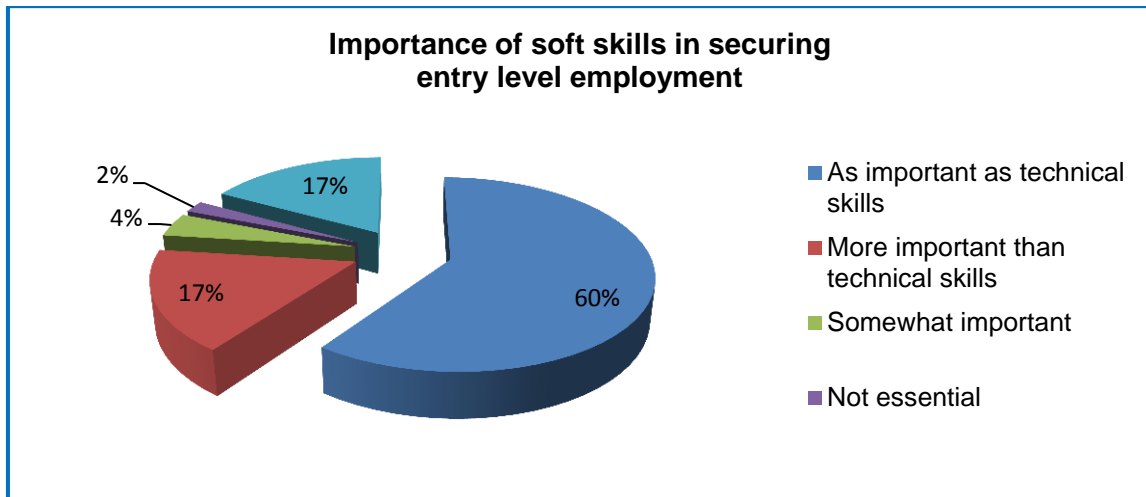
Source: Fisher (2014)

Appendix 12: Functions, levels and methods for assessments



Source: IMO (2011)

Appendix 13: Importance of soft skills in securing entry level employment



Source: Pritchard (2013)