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Approaches to teamwork and leadership training in maritime education and training institutions: a comparative analysis of the perspectives of seafarers towards teamwork and leadership across different regions

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Approaches to Teamwork and Leadership Training in Maritime Education and Training institutions

A comparative analysis of the perspectives of seafarers towards teamwork and leadership across different regions

By

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Declaration

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

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

Signature :  **.....**

Date : **18th September 2019**

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Abstract

Title of Dissertation: **Approaches to Teamwork and Leadership Training in Maritime Education and Training institutions: A comparative analysis of the perspectives of seafarers towards teamwork and leadership across different regions**

Degree: **Master of Science**

Teamwork and leadership skills play a vital role in all activities on board a vessel. Taking into consideration the importance of the human element, the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended (STCW) went through another substantive revision in 2010 called the Manila Amendments which focused on updating the convention and addressing issues which are anticipated in the near future. One of the integral changes included new requirements for teamwork and leadership training. This amendment required seafarers to undergo mandatory training in leadership and team working skills at operational level and leadership and management skills at management level. Since then, a number of Maritime Education and Training institutions (METIs) across different regions of the world have started training its seafarers to inculcate these skills.

Despite teamwork and leadership skills being so important for the safety of a vessel, there are no well-defined guidelines to train the trainee seafarers studying at METIs, and the METIs across different regions train the students using different methods. There is a significant room for improvement. The METIs appear not to take into consideration the trainee seafarer's perception of teamwork and leadership. This study, following a bottom-up approach, examines trainees' and experienced seafarers' perspectives of teamwork and leadership across different regions of the world through a review of relevant literature, questionnaires and semi-structured interviews. The results from the questionnaires and semi-structured interviews are analysed and conclusions are drawn. The conclusions discuss the various perspectives towards teamwork and leadership training across different regions of the world, sufficiency of training provided at METIs to inculcate the skills, and discusses the trainee and experienced seafarers' awareness of teamwork and leadership training at the METIs. The research also presents recommendations for METIs to make their teamwork and leadership training more effective.

Keywords: teamwork, leadership, METIs, training, STCW Convention

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List of Abbreviations

AEMTC - Anglo-Eastern Maritime Training Centre
AGCS - Allianz Global Corporate & Specialty
AL - Autocratic leadership
BIMCO - Baltic and International Maritime Council
CL - Charismatic leadership
CR- Contingent Reward
CRS- Creative Research Systems
DL – Democratic leadership
HELM - Human Element Leadership and Management
ICS - International Chamber of Shipping
IMO - International Maritime Organisation
LfL - Laissez-faire leadership
MBE- Management-by-Exception
MCA - Maritime & Coastguard Agency
METIs- Maritime Education and Training Institutions
MIT- Ministry of Infrastructures and Transports
MSIU - Marine Safety Investigation Unit
OECD- Organization for Economic Cooperation and Development
SE - Sea Experience
SL – Servant leadership
SLT - Situational Leadership Theory
STCW- International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended
TfL - Transformational leadership
TxL- Transactional leadership

1. Introduction

1.1 Background

1.1.1 General Background

Shipping is a global industry and the most international of the world's greatest industries. Maritime operations can be a risky venture due to the environment in which it occurs and the complexity associated with all high-risk industries dependent on socio-technical systems. Shipping is one of the most essential components for continuous sustainable economic improvement at a global level (IMO, 2019a). Present-day merchant shipping could be characterised as a complex and specialised operation that is administered by extensive rules and regulations. The International Maritime Organisation (IMO), a specialised agency of UN responsible for the safety and security of shipping, administers world shipping by seeking to create and maintain "a regulatory framework for the shipping industry that is fair and effective, universally adopted and universally implemented" (IMO, 2019a). To ensure that the international shipping sector remains safe, environmentally sound, energy efficient and secure, all the elements of international shipping including vessel design, construction, manning, operation, equipment and disposal are covered by IMO measures (IMO, 2019a).

The safety and security of the life at sea and more than 90% of the global trade depends on the expertise and competency of the seafarers (IMO, 2019b). Over time, the number of ships has increased and modern vessels have become bigger and are equipped with modern technology. Despite the technological breakthroughs, statistics have indicated that shipping is still a high-risk industry (Grabowski & Sanborn, 2002; Borch et al., 2012; Acejo et al., 2018). The number of maritime accidents has been fluctuating since 1979. It declined from a peak of 3152 in 1979 to 959 in 2001. However, since 2002, it increased again and reached a peak of around 2100 in 2008. The average number of deaths per year from 1978- 2013 was 1777 (Leo & Shin, 2019). According to another source, around 2000 seafarers, on average, lose their lives every year (George R. , 2015).

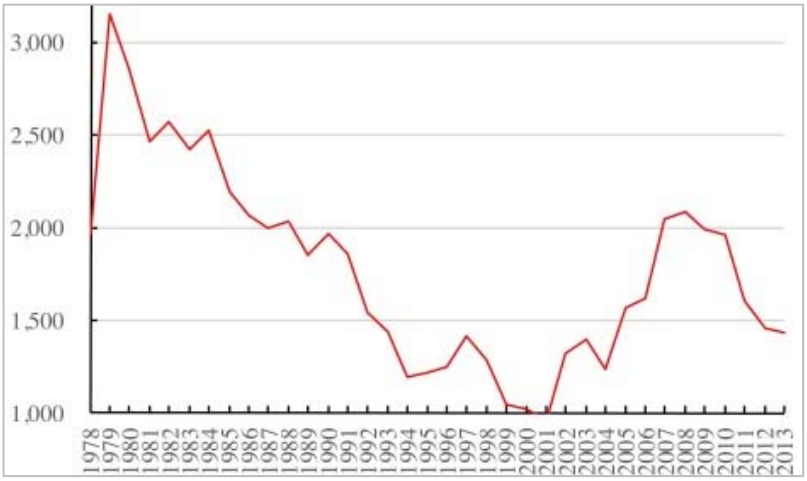

Figure 1- The number of maritime accidents 1978-2013

Source: (Leo & Shin, 2019)

In most of the cases, the safety of the ship is closely associated with the human element. Automation may definitely help to reduce workload of humans operating complex systems on board a vessel. However, it can also broaden the risk of human errors which can be destructive to system control prompting mishaps at sea (Hanzu-Pazara, Barsan, Arsenie, Chiotoroiu, & Raicu, 2008). Around 80% of marine causalities are said to arise from human factors and human failures in managing different activities on board a ship (El Ashmawy, 2012). A study by Allianz Global Corporate & Specialty (2018) estimates 75%- 96% of marine accidents may be attributed to human error. From the above statistics, its apparent that the human element is one of the prevailing sources for accident initiation. Accordingly, all the major stakeholders recognise that addressing the human element is highly imperative.

Taking into consideration the importance of the human element and to focus on the issue of minimum standards of competence for seafarers, the STCW was adopted on 7 July 1978 and entered into force on 28 April 1984. It was the first internationally-agreed convention to focus on the issue of minimum standards of competence for seafarers. It went through a major revision in 1995 to “clarify the standards of

competence required and provide effective mechanisms for enforcement of its provisions" (IMO, 2019b). On 25th June 2010, the STCW Convention & Code went through another substantive revision called the Manila Amendments which focused on updating the convention and addressing issues which are anticipated in the near future. There were a number of significant changes to every chapter of the convention and code with one of the integral changes including "New requirements for marine environment awareness training and **training in leadership and teamwork**" (IMO, 2019c). This amendment required seafarers to undergo mandatory training in leadership, resource management and team working skills at operational level and leadership and management skills at management level (AEMTC, 2018).

To further implement the STCW Convention and to aid access to the knowledge and skills demanded by ever more advanced maritime technology, the IMO designed a set of flexible teaching aids, called model courses, which METIs and its staff could use to organise and introduce new courses, or to enhance, update or supplement existing material for training. One such model course is the IMO Model Course 1.39-Leadership and Teamwork (IMO, 2019d). This model course has developed the teamwork and skills requirement at operational level. The seafarers undergoing this course will be able to demonstrate effective leadership and teamwork skills that will improve various key aspects like communication, team building, situational awareness, decision-making and conflict management (IMO, 2019e).

1.1.2 Teamwork and Leadership

According to experts, teamwork plays a vital role in all the activities on board a vessel. Although every individual member of a team may have a unique variety of styles and characteristics, team-members are interdependent and require from each other experiences and strengths to be more effective (Driver, Brousseau, & Hunsaker, 1998). Working together as a team, the team can achieve extraordinary results and they can push things together to heights of excellence (Karvelas, 1998). Teamwork is considered to be an integral factor for safe performance in the shipping industry

(Charlsen, 2009). For the team to work effectively, there must be effective leadership (Varsami, Popescu, & Hanzu-Pazara, 2012). However, all the seafarers must exhibit leadership characteristics and it is not only about one functional leader.

It is often inferred that leadership is eminent and complex. A number of studies have focussed on the importance of leaders in influencing the safety and attitude of the employees in a workplace (Kelloway, Mullen, & Francis, 2006). A study by Clarke & Taylor (2018) discusses the importance of leaders and their right decision-making skills in improving the safety culture at a workplace. Another study by DeArmond, Bass, Cigularov, Chen, & Moore (2018), also stresses on the positive relationship between leadership and safety performance and the goal commitment of the subordinates.

Most shipboard operational activities are collective activities and require two or more individuals to work together. Safety on board is also a collective matter and a negligent act of any individual has the potential to put the whole ship at risk (Varsami, Popescu, & Hanzu-Pazara, 2012). When there is an emergency on a vessel, it is highly important that all the crew have an understanding and acknowledge the fact that they will have to work together as a team to get through the hurdle. In particular, the master should possess good leadership qualities so as to make right decisions at the right time. However, similar qualities are required of all crew members so that they can optimally lead at the appropriate levels. Teamwork skills and leadership qualities are hard to measure and hence finding the right balance is highly crucial. Right leadership is one of the most essential elements in the safe operation of vessels.

Due to the globalisation of the maritime industry, having multinational crew on board a vessel is quite common. There are various challenges that arise from having crew from different parts of the world on the same vessel. A few of the most concerning issues are language issues, collaboration and formation of sub-groups, and individual attitudes and expectations. The captain (leader) of a vessel plays a crucial role to foster

team spirit among crew members and help overcome some of the challenges of working with a multinational crew (Brenker, et al., 2017). Appropriate teamwork and leadership skills can undeniably help to overcome the various challenges of working with a multinational crew.

The synergistic relationship between leadership and teamwork cannot be overstated. An effective leader will be able to identify the potential of every member in the team and use that to achieve excellence. Effective leaders are the individuals who are able to attain the reciprocity of other individuals and to achieve their goals by harnessing the resources provided (Rosser, Johnsrud, & Heck, 2003). Effective leadership can be broadly defined as the successful application of influence towards goal completion (Chemers, 1993). In this increasingly knowledge-intensive and technology-driven world, if the team that the leader is leading fails to recognise the leader's objectives and gets derailed, even the most competent leader would be staring failure in the face. In the world of shipping, such failure can be catastrophic as it might endanger the lives of the people on board and sometimes, the whole vessel. Indeed, teams can be rudderless without proper and effective leadership. Without an effective leader who makes rational decisions, even the best team cannot thrive. Teamwork and leadership go hand in hand and they have to be understood, harmonised, balanced, integrated, and synergized for the safety of the life of seafarers on sea.

1.2 Problem Statement

Leadership and teamwork skills, despite being so important, have not seen much research carried out to analyse the different approaches to teamwork and leadership training for trainee seafarers. Most studies have focused on a top-down approach to teamwork and leadership (Surugiu & Dragomir, 2010; Saeed, Bury, Bonsall, & Riahi, 2016; Wake, 2004; Röttger, Vetter, & Kowalski, 2016). There exists a gap in the research literature when it comes to how the seafarers themselves view teamwork and leadership. Similarly, there is not much research analysing teamwork and leadership

training or the issue of generational shift relating to the notions of leadership from the perspective of the seafarer trainees in what may be called a bottom-up approach.

In accordance with the Manila Amendments in 2010 to the STCW Convention 1978, the seafarers are required to undergo mandatory training in leadership and teamworking skills which are aimed at improving awareness and safety of life at sea. Most countries focus on just mandatory compliance with the requirements of the STCW Convention 1978, as amended, and conduct teamwork and leadership training at the operational and management level, without realising the importance of the appropriate teamwork and leadership skills training for the seafarer trainees who are the future of the shipping industry. There are no defined legal requirements to conduct teamwork and leadership training for seafarer trainees and different countries approach the training differently.

1.3 Aims and Objectives

This research focuses on the different approaches to teamwork building and leadership skills across different regions across the world from the perspective of the students. It tries to ascertain how trainee seafarers with no sea-experience and seafarers with different levels of sea experience (SE) perceive their training directed towards teamwork and leadership skills. The gap mentioned earlier is problematic and understanding the seafarers' views on teamwork and leadership will help the METIs across the world to better train them in inculcating these skills. This study explores various leadership and teamwork practices and identifies the notions of effective leadership and teamwork skills from the perspective of the seafarers. The objectives to achieve the aim are:

1- To find out how seafarers perceive and approach teamwork and leadership skills,
2- To investigate the various attributes of teamwork and models of leadership,
3- To find out how METIs train seafarers to develop the teamwork and leadership skills required in the seafaring profession,

4- To find out if the seafarers are aware of the teamwork and leadership training provided to them,
5- To recommend effective methods to further develop teamwork and leadership skills in the seafaring profession.

1.4 Research questions and/or hypotheses

1- What are teamwork and leadership skills from the perspective of the seafarers?
2- How do seafarers approach teamwork and leadership skills?
3- How are METIs training seafarers to develop these skills?
4- Are seafarers aware that they are being trained to have these skills inculcated in them?
5- How can teamwork and leadership training be made more effective?

1.5 Methodology

This research primarily uses a qualitative methodological approach aided by questionnaires and interviews and a degree of quantitative data collection and analysis. The qualitative approach is chosen as the primary approach as it helps the researcher gain a deeper understanding of the various elements of leadership and teamwork. A qualitative approach also helps understand what leadership and teamwork training mean to seafarers. The research questions are answered with a procedure as follows:

1. Identify a representative sample of seafarers:

   Firstly, the trainee and experienced seafarers across various METIs in different regions were targeted as a research population in order to collect their views about what constitutes good teamwork and leadership and how these skills can be trained for.

   The consequent sampling from this population was determined following the grouping categories used in the Manpower Report of 2015 by Baltic and International Maritime Council (BIMCO) and International Chamber of Shipping (ICS) (BIMCO & ICS, 2015).
2. Developing questionnaires:

Secondly, questionnaires were developed to collect the detailed data regarding the research questions.

3. Administering the questionnaires:

   Thirdly, the questionnaires were administered and the semi-structured interviews carried out by telephonic conversation and where possible, face-to-face.

4. Analysing the findings:

   Lastly, the questionnaire replies and the interviews were analysed. The questionnaire also presented open-ended questions to the respondents to yield qualitative data for a deeper understanding of training and perspectives towards teamwork and leadership skills.

The detailed methodological process is explained in Chapter 3.

1.6 Ethical Issues

The researcher went through a proper protocol of getting approval from the WMU Research Ethics Committee (REC), with the research instruments used only after with approval from the REC. The ethics statement is discussed in detail in section 3.3.

1.7 Outcomes of the research

The study augments the theoretical understanding of different perceptions and approaches to teamwork and leadership skills from the perspectives of trainee seafarers and seafarers with SE from different regions across the globe. The research also gives an insight into the different teamwork and leadership training delivered by various METIs around the world. Practically, outcomes of this research might help in laying a foundation to provide more effective leadership and teamwork training in the METIs. This research might also be used for future scientific research, formulating policies for METIs regarding effective teamwork and leadership training that meets the needs of the future, designing curricula for training for teamwork and leadership skills. Furthermore, it can be used by academic staff for improving teaching techniques and learning activities related to the subject.

1.8 Limitations

This research, like others, is subject to a number of constraints. The margin of error for this research is kept at conservative percentage of 14.5% and the confidence level is kept at 95% resulting in a relatively small sample size. A lower margin of error, or a higher confidence level would result in a larger sample size which would increase the validity and credibility of the conclusion. The number of responses from different regions across the world is a significant factor as regards to the quality of the research. The number of responses required from each region was 30, making the total sample size for the research as 120. However, only 92 responses were obtained. Adequate responses from Organization for Economic Cooperation and Development (OECD) and Eastern Europe regions would have increased the validity of findings and comparative analysis. Insufficient responses from these regions, therefore, was a limitation to this study. Another limitation of the research is the low participation of seafarers who are lecturers for interviews. This study conducted semi-structured interviews with 3 respondents who have a seafaring and a teaching background. However, more respondents for the interviews would have helped in improving the validity of the research.

Lastly, the research focussed on trainees' and experienced seafarers' perspectives of teamwork and leadership across different regions, and the training provided at METIs to develop these skills. Further research will be needed to study various elements of different leadership theories like emergent leadership theory and androgyny leadership theory, a variety of different leadership models like behavioural, functional, integrated and trait based model, and different strategies to acquire teamwork and leadership skills to make the training of developing the skills more effective.

2. Literature Review

The purpose of this chapter is to review and discuss the relevant literature on the various perspectives and models of leadership and teamwork. This chapter discusses the various definitions of leadership in a broad context followed by discussions of various approaches to and theories of leadership and teamwork. These discussions will be related to the safe operation of ships and maritime accidents caused due to lack of teamwork and leadership skills in that context. This chapter will also discuss the teamwork and leadership training offered by METIs and its challenges. Lastly, this chapter will discuss the various learning theories which can be applicable to train the seafarer trainees to develop their teamwork and leadership skills.

2.1 Definition of Leadership

"There are almost as many definitions of leadership as there are people attempting to define it" (Rosenbach, 2018). This statement is absolutely true as there are multiple and different definitions of leadership; thus trying to form a coherent whole of the different definitions of leadership is a challenge. According to Wren (2013), "leadership is one of the most observed and least understood phenomenon on earth". Bailey & Axelrod (2001), in an interview with James Macgregor Burns, opined that leadership could be learned. Allio (2005) shared the same view. In Allio's research, one of the main findings was that leadership training programs in general failed to produce leaders. The leadership training programs were argued to have promoted "leadership literacy" but not "leadership competence". He further stated that leadership cannot be taught but it can be learned, and that people could become leaders by practice (Allio, 2005). Various researchers, theorists and scholars provide a variety of different definitions, philosophies, styles and models of leadership.

In general, leadership styles can be categorised as autocratic, bureaucratic, Laissez-faire, transformational, transactional, servant, charismatic and democratic. The following sections discuss these perspectives of leadership and the various styles of leadership in detail.

2.2 Perspectives on Leadership

Like the numerous definitions of leadership, there exist various models, theories and perceptions of leadership identified by various researchers. Different perspectives and models of leadership are elaborated below with 2 proposed categories:

- Leader-centric perspective of leadership
- Relational perspective of leadership

2.2.1 Leader- centric perspective

A leader-centric approach to leadership focuses exclusively on the desires of the leader (Haber, 2011). This approach is a historically dominant approach to leadership (Antonakis, Cianciolo, & Sternberg, 2004). It focuses on achieving organisational success through the self-projection of the leader. The organisations which depend on authority and strict deadlines for tasks follow this approach to leadership (Maslennikova, 2007). This style of leadership has faced various critisisms. Haber (2011) suggests that the leader-centric approach is a top-down approach where the leader makes a decision and the subordinates need to follow the order. He further stressed the fact that the leader-centric approach was *unidirectional*, and that this perspective on leadership fails to account for the role of other members in the group and their interactions. This approach to leadership is an *industrial* view of leadership. Autocratic, authoritarian, transactional and charismatic leadership styles are an examples of the leader-centric approach.

2.2.2 Relational perspective

"Relational leadership is not a theory or a model but a way of being in the world that embraces a relationally responsive way of thinking and acting" (Antonakis, Cianciolo, & Sternberg, 2004). The relational approach to leadership builds on post-industrial models of leadership and emphasises reciprocal relationships (Komives, Dugan, Owen, Wagner, & Slack, 2011). The leader and the subordinates mutually influence each other in this approach to leadership. While the industrial view of leadership is a leader-centric approach, which believes in a top-down approach, the post-industrial

view of leadership, a relational approach, reflects mutual influence and shared purpose among the leaders and subordinates/followers. The leaders and the subordinates work towards a consequential change that goes beyond themselves (Haber, 2011). This approach to leadership gives a voice to subordinates and they have the ability to impact the decisions of the leader. The leader, in this approach, realizes that he/she is not always right. This style of leadership is perceived by some to be laudable as the leader and the subordinates work together to reach the goals. It is very useful in the context of high risk industries, especially during accidents or threats wherein the subordinates help the leader to make the right decision. A few of the relational perspectives and models of leadership are servant leadership, authentic leadership, participative leadership and transformational leadership.

Rost (1993, p.102) defined post-industrial leadership as "an influence relationship among leaders and their collaborators who intend real changes that reflect their mutual purposes". Komives & Woodard Jr (2003) added to Rost's definition of leadership and noted that in the post-industrial leadership, the line between leaders and collaborators is blurred and their roles are in a flux responding to the demands from the surroundings. The definition of Rost highlights 2 integral elements in the definition. First, leadership is a collaboration of people sharing a same purpose who pool all their resources and knowledge to bring about any kind of positive change. Next, it also highlights the attempts of the people to influence each other and the system them inhabit. The post-industrial leadership reflects adaptive working to bring about a positive change.

2.3 Leadership Styles

2.3.1 Autocratic leadership (AL)

AL style of leadership is usually considered as the classical approach (Khan, et al., 2015). In this leadership style, maximum power and decision-making authority is retained by the leader. The leader wants the subordinates to follow the orders given without asking any questions (Varsami, Popescu, & Hanzu-Pazara, 2012). In other

words, the leader has control over everything in the workplace. He/she makes the decisions and the subordinates have to follow them. The motivation environment in AL is driven by rewards and punishments. While some advantages exist with AL (e.g. having a good control and overview, prompt decision making and more discipline amongst the subordinates), the negatives of having an AL outweigh the positives. AL has the following negatives:

- Defiance on the part of subordinates,
- reduced self-confidence,
- rivalry (and possibly hatred) amongst the group members,
- suppressed ability to criticize,
- weakened independence of the group,
- increased fear which can turn into aggression,
- no talent recognition,
- increased absenteeism (Khan, et al., 2015).

According to Cooper (2012), when AL is overused or misused, it can negatively affect the environment and result in a lack of trust and respect, a climate of fear, reduced creativity and a lack of praise. Because of the negatives, a lot of researchers have criticised this style of leadership. Bass & Stogdill (1990) criticised AL and stated that this leadership style is more likely to create dissatisfaction and hostility in subordinates compared to other forms of leadership. Another researcher, Cremer (2006), identified AL as a leadership style which fails to consider the socio-emotional dimensions of groups or teams.

2.3.2 Bureaucratic leadership

Bureaucratic leadership is a leadership style where the leader follows the book of rules and procedures and makes their followers follow these rules. According to Amanchukwu, Stanley, & Ololube (2015), this leadership style is apropriate for high risk jobs. They stress the importance of this leadership style in a workplace where the individuals perform routine tasks. Santrock (as cited in Amanchukwu, et al., 2015)

argued that the drawbacks of this leadership style is that the leaders get innefective when elements of flexibility, innovation and creativity are taken into account.

2.3.3 Democratic leadership (DL)

DL is defined as the effectiveness of 3 elements: distribution of responsibilities among the members, empowerment of all the group members, and supporting in the decision making process for the group (Gastil, 1994). Gastil further noted that in a DL style, the above functions are served by most or all the group members and the roles of leader and subordinates are regularly exchanged. White & Lippit (as cited in Choi, 2007) noted that a leader following this leadership style encouraged group participation, discussion and group decisions. In this style of leadership, the team members feel more involved and committed to the tasks and they can share their ideas and thoughts. The democratic leader encourages creativity and new ideas which also empowers the subordinates to bring out their best.

This downside to this kind of leadership is that the decision making process is usually prolonged. In times of critical situations or emergencies where speedy and decisive action is necessary, there will arguably be problems with this style. Another downside that can be observed with this leadership style is that not all group members would be equipped with the required competence and knowledge to give quality inputs during the decision making process.

2.3.4 Laissez-faire leadership (LfL)

According to Robbins, Decenzo & Coulter (as cited in Long & Thean, 2011), a LfL style is a passive leadership style where the leader gives his/her subordinates full flexibility to make decisions or to complete tasks in whichever way they think appropriate. In this style of leadership, because freedom is given to the subordinates, they are responsible for determining goals, making decisions, and resolving their problems (Sharma & Singh, 2013). LfL style of leadership lets the subordinates have their own social structures, gives them freedom to choice, and

reduces the burden for the leader (Khan, et al., 2015). However, since total freedom is given to the subordinates, prompt decision-making might be compromised unlike AL. Delayed action, ignoring leadership responsibilities and not taking timely decisions is not healthy for an organisation and might result in heavy losses and in the context of the maritime sector, loss of life. Osborn, Schermerhorn, & Hunt (2008, p.258) opine that the LfL style "abdicates responsibilities and avoids decisions". This leadership style is associated with a variety of negative outcomes like job dissatisfaction, leader ineffectiveness, low organizational commitment, burnout reactions and bullying (Skogstad & Notelaers, 2015). This form of leadership is also described as the most prevalent destructive behaviour for the team as it usually leads to poor outcomes (Aasland, et al., 2010). It is also referred to as delegative leadership or hands-off leadership, which has more demerits than merits.

2.3.5 Transformational Leadership (TfL)

"Transformational leaders are those who stimulate and inspire followers to both achieve extraordinary outcomes and, in the process, develop their own leadership capacity" (Riggo & Bass, 2006). They are the leaders who are open minded to the ideas of the subordinates, and they empower their subordinates to help them achieve their goals, and in the process develop into better leaders. This type of leadership is all about initiating and driving a change. To test the impact of TfL on the subordinates development and performance, researchers Drvir, Eden, Avolio & Shamir (2002) conducted an experiment whose results indicated that TfL has a greater positive impact on direct subordinates' development and on indirect subordinates' performance than other styles of leadership. According to Tichy & Devanna (1986), transformational leaders can help an organisation navigate through cultural shifts, help the organisation develop a new vision, and institutionalize changes over time. These leaders have the ability to create something new from something old. Because of the perceived and ongoing paradigm shifts arising from globalisation, digitalisation and the need for climate adaptation, TfL would have an edge over other styles of leadership in today's global context. While TfL has direct effects, which can be observed in any organisation

or workplace, they also have some indirect effects. A broader perspective of the indirect effects of TfL is discussed in the figure below.

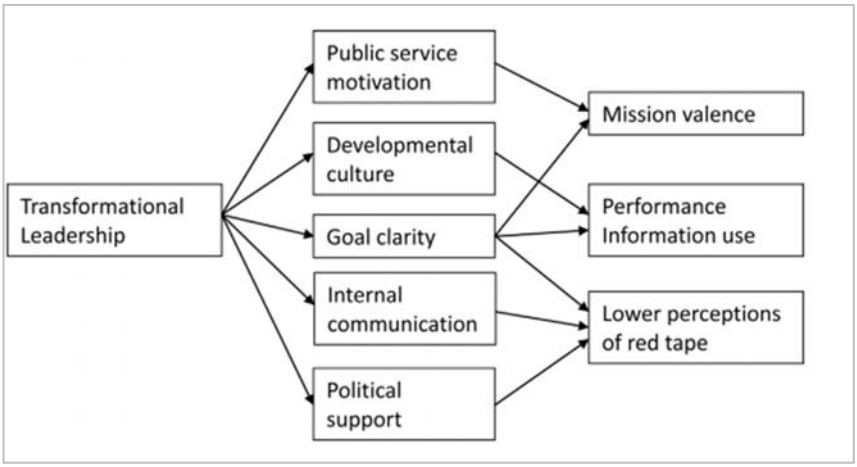

Figure 2: The indirect effects of TfL

Source: Moynihan, Pandey, & Wright (2014)

Bass & Riggo (2006) have identified various components of the TfL style, also called as the 4-Is which are as follows:

- Idealized Influence: The leader's behaviour helps them serve as role models. In this style of leadership, the leaders are looked up to and are trusted. The subordinates of the leaders try to mirror their behaviour. The individuals showcasing TfL style of leadership are "endowed by their followers as having extraordinary capabilities, persistence, and determination".
- Inspirational Motivation: The leaders are motivators. They motivate their subordinates by giving them work and goals which are challenging and meaningful. Such leaders display enthusiasm and optimism.
- Intellectual Stimulation: The leaders encourage creativity and do not criticise the subordinates publicly. They stimulate their follower's efforts to be creative by making them think critically. The followers are encouraged to experiment with new and different approaches and to solve old problems in new ways.
- Individualized Consideration: The leaders play the role of mentors to help the subordinates achieve their goals. Individual differences between subordinates

are identified and considered by the leader. Further, the leader delegates tasks to subordinates and regularly monitors the performance of these delegated tasks to provide support and assess the progress made (Riggo & Bass, 2006).

2.3.6 Transactional Leadership (TxL)

According to Burns (as cited in Bass & Stogdill, 1990), transformational and transactional leadership are at "opposite ends of a continuum". Burns (as cited in Macit, 2003, p.425) notes, in regards to TxL, that such leadership

> … is the reciprocal process of mobilising, by persons with certain motives and values, various economic, political, and other resources, in a context of competition and conflict, in order to realise goals independently or mutually held by leaders and followers. The nature of those goals is crucial. They could be separated but related; that is, two persons may exchange goods or services or other things in order to realise independent objectives. This is transactional leadership.

The point of this style of leadership is exchange. The transactional leaders expect certain behaviours from subordinates, which when evident are then compensated with monetary or non-monetary rewards. With the help of these exchanges, the leaders can meet the objectives, get tasks done and avoid unnecessary risks. According to McCleskey (2014), the exchanges between the leaders and their subordinates allow the leaders to motivate followers through contractual agreements, direct the behaviour of the subordinates to reach the desired goals and focus on improving organisational efficiency. TxL depends on contingent reinforcement which can be positive or negative as discussed in detail below:

Contingent Reward (CR): In this constructive transaction, a leader assigns a particular task to a subordinate with an agreement of a reward on executing the task to the leader's satisfaction (Riggo & Bass, 2006). This method can get the desired job done for the leader. While the leader gets a task done or a target achieved, the subordinates get a reward. Hence, it's a win-win situation for both the leader and the subordinates.

Management-by-Exception (MBE): This is more ineffective compared to CR and it is a corrective transaction. This can be of two types - active or passive. In active MBE,

the leader regularly monitors the subordinates' progress while executing a task, and in case of any deviation from rules and regulations, or in case of any errors, a corrective action is taken by the leader. In the passive form of MBE, the leader takes corrective actions once the error or deviation to occurs (Riggo & Bass, 2006).

2.3.7 Charismatic leadership (CL)

CL has been a subject of multidisciplinary studies from literatures in management, psychology, anthropology, sociology, political science, religious, and security studies (Hofmann, 2017). Despite multiple studies across these different areas of interests, sociologist Max Weber's work is highly recognised and appreciated. Weber (1968, p.48) termed charisma as:

> A certain quality of an individual's personality by virtue of which he is set apart from ordinary men and treated as endowed with supernatural, superhuman, or at least specifically exceptional powers or qualities. These are such as are not accessible to the ordinary person, but are regarded as of divine origin or as exemplary, and on the basis of them the individual concerned is treated as a leader.

The above quote suggests that CL style at its foundation relies on subordinates' perception of the "special" nature of the leader and not on the acceptance of the legitimate authority derived from any norms or rules. According to Hofmann (2017), charismatic leaders have the ability to challenge the status quo and bring about a change - socially and/or organisationally - as their authoritative legitimacy is not bound by any conventional or institutional norms or rules.

Grabo & Van Vugt (2016) described CL as the ability to influence the subordinates and "serve as a focal point for aligning and synchronizing prosocial orientations" in them, reducing the mutual risk and increasing the certainty of perceived cooperative collegial rewards. Conger (2015) defined CL as an acknowledgement of the subordinates' understandings and interpretations of their leader's behaviour. It may be noted that no single behaviour is exclusively associated with CL. Charisma is attributed to a constellation of behavioural characteristics. (Shamir, House, & Arthur,

1993) presented an argument that CL engages the subordinates' self-concept in the direction of the vision expressed by the leader. A charismatic leader makes use of a mix of various emotions like compassion, admiration and anger to direct the acts of their subordinates. Charisma is often treated as a "complex construct consisting of multiple components" and is often heavily criticized for its ambiguity (Sy, Horton, & Riggio, 2018). It can also be observed that TfL has some elements of CL in it. Idealised Influence and Inspirational Motivation are the 2 elements in TfL that involve charisma. The difference between TfL and CL is that a transformational leader is focused on positively transforming the followers and the organisation, while a charismatic leader challenges the status quo.

2.3.8 Authentic Leadership

Individuals enacting their true selves in their duties as a leader are considered as authentic leaders (Leroy, Anseel, Gardner, & Sels, 2015). Authentic leaders are the ones who are aware of their drawbacks and continuously try to overcome them. They empower their subordinates, and create and drive a positive change. These leaders are guided by the qualities of heart and mind (George B. , 2003). Authentic leaders are looked upon by their followers as the leaders are motivated by a bigger purpose, and as they focus on long term sustainability. Authentic leaders can influence subordinates trust during change. Authentic leadership positively influences a subordinate's trust in the leader and also reduces the drive of negative emotions (Agote, Aramburu, & Lines, 2016). These leaders encourage openness and appreciate new ideas. Cavazotte, Duarte, & Gobbo (2013) conducted a research on the influence of authentic leadership on worker's safety and they observed that authentic leaders promote safe behaviours among their subordinates and drive for a safe working environment.

2.3.9 Servant leadership (SL)

Greenleaf (2002) defined SL as a kind of leadership where the servant leader ensures that the subordinate's 'greatest' needs are met and therefore becoming "healthier, wiser, freer, more autnomous, more likely themselves to become servants". Rainey &

Burela Schiopoiu (2013) elaborated Greenleaf's definition and stated that "a servant leader accomplishes the mission of the organisation in consonance with a sustainable vision and helps people understand their roles and responsibilities, doing their job in harmony with an explicit or an implicit vision." They further stated that SL is a 'philosophy' which is directed at "a desire to serve others and a commitment to lead". Such leaders empower their subordinates. Komives & Woodard Jr (2003) agreed with this argument stating that followers feel empowered by the servant leaders creating mutiple opportunities for them. Servant leaders are often focussed on the success of their subordinates over their own success. They help the subordinates discover and reach their full potential. The subordinates of a servant leader are treated as equals which makes their followers resonate with the goals of the leader.

2.4 Definition of Teamwork & Big-Five Teamwork Model

Teamwork is defined as "the combined actions of a group of people working together effectively to achieve a goal" (Cambridge Dictionary, 2019). Some researchers opine that studies on teamwork have disintegrated through the years and the "findings are generally unable to be used practically" (Salas, Sims, & Burke, 2005). Salas and colleagues (2005) argued that it is possible to reach the foundations of teamwork research done over the years and divide it into components as indicated in their "Big Five" model. The five core elements of teamwork in the Big Five model include team leadership, backup behaviour, team orientation, mutual performance monitoring, and adaptability. These five core components work with the supporting coordinating mechanisms which have varied importance during a team task. The 3 supporting coordinating mechanisms are *shared mental models,* which signifies an organization of the knowledge framework of interactions between the team members, *closed-loop communication,* which indicates the information exchange between 2 entities regardless of the medium, and *mutual trust,* which is a mutual belief of all the team members fulfilling their duties and protecting their team members' interest (Salas, Sims, & Burke, 2005). The five core elements are discussed below:

- Team leadership: The capability to conduct and coordinate the activities of all the members of the team, develop team knowledge and skills, evaluate team performance, designate tasks, motivate team members and create a positive atmosphere.
- Backup behaviour: The ability to foresee the needs of other members of the team through definitive knowledge about their duties. It is also the ability to realise the causes of high workload and pressure, and shuffling the workload among the members of the team to achieve the right balance.
- Team orientation: The tendency to take the team members' behaviour into consideration while interacting in a group, and recognising the importance of achieving a team's goal over individual team members' goals.
- Mutual performance monitoring: The ability to establish a mutual understanding of the team environment, and accurately monitor the team's performance by applying appropriate task strategies.
- Adaptability: The capacity to alter actions based on the information collected from the work conditions by using backup behaviour and reallocating the intra-team resources. In other words, it is the ability to alter a plan or a process in response to changing internal or external conditions (Salas, Sims, & Burke, 2005).

In a maritime context, usually on board a vessel, teamwork is the key to ensuring the success of any particular task and safety of the vessel. The five core components along with the supporting coordinating mechanisms contribute to team effectiveness and result in safety of life at sea.

2.5 Maritime implications of different leadership styles

> There is no single "best" style of leadership – one size rarely fits all. For a maritime leader of the future, it is not about traditional power and control, but the ability to adapt to people and to work situations. Our future leaders have no option but to be good change managers.
>
> Dr. Cecilia Osterman, Kalmar Maritime Academy (Llyod's Maritime Academy, 2018)

AL style is highly suitable in a maritime operation when there is limited time for decision making and a quick decision must be taken. Bureaucratic leadership style is favourable when working in a high risk environment like handling and working with high risk machinery and dangerous cargo. CL style is desired in situations when new seafarers get on board a vessel. The charismatic leaders would be role models for the junior cadets and would be able to guide them in the right direction. It is very important, therefore, that leaders having CL characteristics set a right example for the juniors to follow. DL style is preferable when various solutions and opinions are needed to address a particular problem on board a vessel. This leadership style will help the seafarers feel involved and will increase the probability of achieving an optimum solution. LfL style of leadership is not very preferable in a maritime context as the juniors have no direction and have freedom to do what they want, which is highly unfavourable in the maritime industry. TxL style is favourable in a situation where the leader wants particular tasks done. Rewards or punishments are offered based on the completion of the tasks. This leadership style has some drawbacks when displayed on board a vessel as when punished, the subordinates might go through emotional damage and fatigue. TfL style is highly favourable on board a vessel because of its components- 4 I's. They encourage, motivate, and inspire the subordinates to work better. This leadership style is also highly suitable when junior seafarers come on board a vessel. SL style is arguably unfavourable in maritime operations as the captain should focus on getting tasks done and safe operations of a vessel over meeting the needs of the team on the vessel.

Given the above, it can be argued that leaders in an operational maritime context (on board ships) should adapt to the situation and use the most appropriate style of leadership to complete a task safely. A more contemporary approach to leadership theory envisages this need for adaptation contingent on the specific situation. The theory of leadership which adapts to specific external circumstances is a situational theory of leadership. The next sub-section is a brief discussion on the situational leadership theory.

2.5.1 Situational Leadership Theory (SLT)

According to Woods (2019), SLT "draws on the views from contingency thinking" and highlights the significance of contextual factors. Hersey and Blanchard (as cited in Bass & Stogdill, 1990) created the Situational leadership model and argued that situational leadership is based on the interaction between the following elements:

- Task behaviour- the extent of direction given by a leader,
- Relationship behaviour- the extent of socioemotional support provided by the leader,
- The "readiness" level exhibited by the subordinates for a specific objective that a leader wants to accomplish through his/her followers.

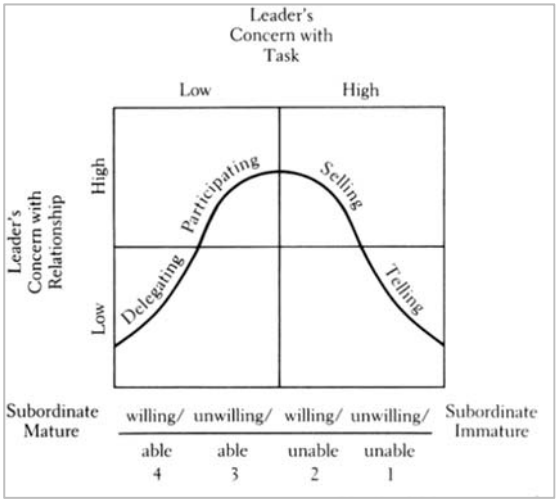

Figure 3: Hersey- Blanchard model of relationship between leader style and maturity of followers

Source: Hersey and Blanchard (as cited in Bass & Stogdill, 1990)

The Hersey- Blanchard STL model is depicted in figure 3. This model can be characterised into 4 parts:

- High-task/low-relationship behaviour- This stage involves a one-way communication between the leader and the subordinates.
- High-task/high-relationship behavior- In this stage the leader undertakes a two-way communication and provide socioemotional support to the subordinates.

- High-relationship/low-task behavior- This stage also comprises of a two-way interaction between the leader and the subordinates as they engage in the decision making process.
- Low-relationship/low-task behaviour- This stage involves giving freedom to the subordinates.

The primary understanding of this model is that with the increase of subordinate maturity, effective leadership behaviour will involve less task and relationship behaviour. During the start of a subordinates term, a low relationship behaviour and a high task behaviour is suggested to be ideal. As the maturity of the subordinate increases, the need for structuring reduces while the relationship behaviour increases. Over a certain level of maturity, both the need to structure and the relationship behaviour reduces. At the maximum subordinate maturity, tasks of supervising and social behaviours get redundant to effective follower performance (Vecchio, 2007).

2.6 The Influence of Leadership and Teamwork on Maritime Accident Causation

The role and influence of human factors on the safety of life at sea has been one of the most significant issues in the maritime industry. There have been many accidents attributed (at least in part) to less than optimal leadership and teamwork in high risk industries (Manuel, 2011). This section discusses three very recent and high profile accidents in the maritime industry.

2.6.1 Costa Concordia

According to a report published by the Ministry of Infrastructure and Transports (MIT) of Italy, the Italian cruise ship Costa Concordia, hit rocks in Giglia, ran aground and capsized leading to the loss of 32 lives (gCaptain, 2013). According to their report, the accident was a prime example of how bad leadership or wrong leadership decisions in synergy with less-than-optimal teamwork can cause a disaster. The captain of the ship, Francesco Schettino, ordered his crew to conduct a risky unofficial manoeuvre which resulted in the ship hitting the rocks and risking the lives of 3229 passengers, injuring 157 passengers and killing 32 passengers (MIT, 2013).

2.6.2 Capri and tanker Brightoil Legend

Bulk carrier Capri and the tanker Brightoil Legend encountered a devastating collision in Singapore in July 2015. According to reports, the communication errors and incompetent teamwork by the crew aboard Capri resulted in the accident. The Marine Safety Investigation Unit (MSIU), Malta, in their investigation to find the cause of the accident reported that "ineffective teamwork between the crew members on the bridge and the pilot" resulted in the collision and heavy damage to both the vessels (World Maritime News, 2016).

2.6.3 USS Fitzgerald and MV ACX Crystal

On June 17, 2017 a collision occurred just off the coast of Japan between USS Fitzgerald and MV ACX Crystal which lead to 7 fatalities and many more injured. In a statement released by Chief of Naval Operations Adm. John Richardson of the United States navy, he said that the accidents could have been prevented if there was good teamwork and communication amongst the crew members (Seck, 2017). The accident report also focussed on the bad leadership of the commanding officer and stated that "Many of the decisions made that led to this incident were the result of poor judgment and decision making of the commanding officer" (Schmitt, Gibbons-Neff, & Cooper, 2017).

2.7 Teamwork and Leadership Skills: Training and its Challenges in the Maritime Context

Teamwork and leadership skills contribute immensely to the overall understanding of the ship safety concept. IMO realised the importance of such skills and in the 2010 Manila Amendments to STCW Convention, introduced mandatory competence standards for teamwork and leadership skills at management and operational level (AEMTC, 2018). The general vision for the introduction of these standard was the need for all the seafarers to be trained in teamwork and leadership as these skills would be required in all the activities on board a vessel, from leading their own team to

working in a team with crews from various nationalities and different levels of competencies.

The UK Maritime and Coastguard Agency (MCA) has subsequently approved Human Element Leadership and Management (HELM) courses which UK are conducted by various METIs to train the seafarers to develop these skills. The HELM course provided by Warsash Maritime Academy (WMA) trains the seafarers at operational and management level to develop cognitive skills and social skills which include **"**leadership and team working, communication, operating effectively in a multi-cultural environment, planning and coordinating skills to optimise work load management and delivery" (WMA, 2019). Various other METIs conduct multiple academic programs, distance learning courses, and skill development programs to help the seafarers inculcate these skills.

The challenges in teamwork and leadership training lies in the training provided at METIs for the trainee seafarers. The biggest challenge is that the training for the skills are not standardised across METIs nor do they take into account the generation shift and the perceptions of the trainees towards leadership and teamwork. Various METIs across different regions train the trainee seafarers differently to inculcate the skills. However, there have been multiple arguments that the institutions fall short in developing their leadership and teamwork curricula to ready trainees for the future (Coll & Weiss, 2016; Drew G. , 2010). Researchers Au-Yong-Oliveira, Gonçalves, Martins, & Branco (2018) argued that a new generation of students want to be taught and trained for authentic leadership over traditional styles of leadership like AL. They further argued that the new generation of trainees prefer practical training over theoretical classes and that they desire the lectures to be as realistically applicable as possible. There is an apparent need for METIs to understand the perceptions of the new generation of seafarers and develop their curriculum in such a way that it accomodates the needs of the students and the industry - present and future.

2.8 Learning Theories: Developing Tools to Effectively Deliver Teamwork and Leadership Skills

Learning theories provide a framework to understand how individuals learn and how learning can be explained, described, analyzed and predicted. The 4 main theories of learning are behaviorism, social cognitive, existentialism and constructivism. Pavlov proposed the Classical Conditioning Theory which discussed that learning would occur during a repetitive association of an individual's action and its impulse from the environment. This approach was termed as *behaviourism.* Albert Bandura extended his Social Learning Theory and developed the Social Cognitive Theory which emphasised that learning would occur through observation of others. J. Lave and Wenger proposed the Situated Learning Theory which discussed that learning occurs through collaboration and social interaction. Carl Rogers proposed Existentialism theory which expressed that every individual has an essential impulse to learn, and a teacher facilitates the learning process. Further, this theory suggests that the learner's threat is kept to a minimum, distinct concepts are simplified, and learning is not merely just an accumulation of information (Kitada, 2019). The sociocultural theory was developed by Vygotsky which discussed the development of critical thinking skills by social interactions and cultural exposure (Kozulin et al., 2003).

There are many learning theories today and academic staff at METIs need to adopt a learning theory which best suits the context in which they are teaching. Every learning theory has its merits and demerits and the teachers need to use the learning theory which is the most effective for the delivery of a particular element of teamwork and leadership training, so that it results in an effective learning, developing and acquisition of these skills.

3. Research Methodology

This chapter discusses in detail the methodology and methods adopted in carrying out the study. It discusses the research design, sources of data, instruments for data collection and techniques for data analysis. The methodological approach used by this research is essentially a qualitative one while a multiplicity of methods were used to collect the data including both qualitative and quantitative tools.

According to Hammarberg, Kirkman & de Lacey (2016), the use of qualitative methods help to "answer questions about experience, meaning and perspective", from the point of view of a participant. A qualitative approach helped the researcher dive deeper into the problem and get a deeper understanding of the various elements inherent to leadership and teamwork in particular from the perspective of trainee as well as experienced seafarers. To meet the research objectives, a pragmatic multi method approach was used to collect the data. A qualitative data collection method using semi-structured interviews, and a quantitative data collection method using questionnaires were used. Questionnaires were the main data collection instrument. The sequential steps used to address the research questions are presented in the following sections.

3.1 Identification of a Representative Sample of Seafarers:

First, a target sample of trainee and experienced seafarers from various METIs across different regions was determined in order to collect data relating to teamwork and leadership attributes. Categories to be found in the target sample were determined based on the categories used in The Manpower Report of 2015 from BIMCO and ICS (BIMCO & ICS, 2015). The respondents were then randomly chosen using the contacts and network of the researcher and the researcher's WMU colleagues[1]. Specific requests to participate in responding to the questionnaire were sent out to

[1] The WMU students/colleagues either have a seafaring background or work at METIs across different regions of the world. This profile of theirs made them a good choice for contacts and networks.

various METIs across the world with the target numbers indicated in categories used in the BIMCO Manpower Report 2015 in view. Further, METI staff across different regions having sea-experience were also chosen for semi-structured interviews. The use of the categories mentioned in the Manpower Report 2015 is discussed in the following sub-section.

3.1.1 Manpower Report 2015

The Manpower Report is a report on the global supply and demand of seafarers. The report is published every 5 years, the most recent on being that of 2015. It is developed and prepared by the BIMCO and ICS. The manpower reports are considered as "the most comprehensive assessment of global supply of and demand for seafarers" (BIMCO & ICS, 2015). According to ICS (2018), the two main objectives of the report are to construe the current global demand and supply of the seafarers and to likely predict the status in 5-10 years' time so as to help the maritime industry prepare for the developments and take appropriate measures. The Manpower Report 2015 has a detailed comparison of estimated supply of seafarers by economic and regional groupings in the years 2005, 2010 and 2015.

According to the Manpower Report 2015, there are 5 groups namely:

- OECD,
- Eastern Europe,
- Africa & Latin America,
- Far East,
- Indian sub-continent (BIMCO & ICS, 2015).

	2005				2010				2015			
	OFFICERS	%	RATINGS	%	OFFICERS	%	RATINGS	%	OFFICERS	%	RATINGS	%
OECD	133,000	28%	174,000	24%	184,000	29%	143,000	19%	176,000	23%	118,000	14%
Eastern Europe	95,000	20%	115,000	16%	127,000	20%	109,000	15%	135,000	17%	125,000	14%
Africa & Latin America	38,000	8%	110,000	15%	50,000	8%	112,000	15%	65,000	8%	82,000	9%
Far East	133,000	28%	226,000	31%	184,000	29%	275,000	37%	300,000	39%	477,500	55%
Indian Sub-Continent	68,000	15%	96,000	13%	80,000	13%	108,000	14%	98,000	13%	71,000	8%
TOTAL	467,000	100%	721,000	100%	625,000	100%	747,000	100%	774,000	100%	873,500	100%

Figure 4: Comparison of Estimates of the supply of seafarers by economic and regional groupings 2005-2015

Source: Manpower Report 2015 (2015, p.34)

From the comparison above for the year 2015, it can be observed that the Far East region estimates the highest supply of seafarers, supplying 39% of all the officers and a significant 55% of all the ratings globally. This is because both Philippines and China, the top two labour supplying countries are in this region. The Far East region is followed by the OECD, Eastern-Europe, Indian sub-continent and then Africa & Latin America regions. This regional grouping is used in this research for sampling purposes.

The required sample size was calculated using 'Raosoft' sample size calculator (Raosoft, 2004). The sample size was calculated with the following attributes:

- Margin of error - 14.5%
- Confidence level - 95%
- Response distribution - 20%

The above 3 factors determine the target sample size of any given population. The margin of error and the sample size are inversely related. A lower margin of error would lead to a larger sample size. According to Conroy (2015), for a size of population over 5000, the accepable margin of error is ±20%. The margin of error for this research was kept below 15%. The response distribution was selected as 20% as most of the questions would be provided with a 5 point Likert Scale. The confidence level was chosen as 95% as the typical confidence levels are 90%, 95% and 99%

(Raosoft, 2004). According to Rumsey (n.d.), the confidence levels vary from 80% to 99% with 95% being the most common confidence level by researchers. Table 1 shows the sample size based on the total seafarer supply for different regions across the world according to Manpower Report 2015.

Table 1: Target sample size based on the total seafarer supply for various regions according to Manpower Report 2015

Regions according to Manpower Report 2015	**Total seafarer supply (Ratings+ Officers)**	**Sample Size**
OECD	249,000	30
Eastern Europe	260,000	30
Africa & Latin America	147,000	30
Far East	777,500	30
Indian Sub-continent	169,000	30

The target sample size for all the regions was determined to be 30. According to CRS (2012), the population size is a factor only when it is a small group of people. Similarly according to Australian Bureau of Statistics (2018), the population size plays an important role if the sampling is done from a finite population size. Hence, for the different numbers of seafarer supplies in all the regions, the sample size resulted as the same.

3.2 Development and Administration of Research Instruments

Secondly, the researcher developed questionnaires and semi-structured interviews data collection instruments to address the research questions. The questionnaires and semi-structured interviews helped get the perspectives of the trainee seafarers and the experienced seafarers about teamwork and leadership. The questionnaires were first developed as a hard copy (paper-based form) and were later converted into an online questionnaire for circulation. The researcher used an online questionnaire as they were more convenient. Furthermore, as the respondents were situated across different parts

of the world, online questionnaires were more accessible and were anticipated to lead to more responses from various regions. Online questionnaires are flexible, cheaper and help in quicker analysis (Smart Surveys, 2019). The online platform for the questionnaire helped the researcher facilitate the data analysis process, and the responses of the participants were automatically saved on an online drive.

The online questionnaire was aimed at helping the researcher determine the various notions of teamwork and leadership from the perspectives of seafarer trainees and experienced seafarers across different regions. A general overview of semi-structured interviews is discussed below:

- A brief discussion about how the teamwork and leadership training is provided to the students at their METI.
- Their perceptions of the importance of teamwork and leadership training is for the seafarers
- The view of the interviewees of how the student's perceptions of teamwork and leadership are changing.

Once the online questionnaires were ready, they were distributed among the identified sample of seafarers. The semi-structured interviews were carried out face-to-face and using internet-based audio/visual tools, due to geographical limitations.

A total of 92 responses were received from experienced and trainee seafarers across various regions of the world. The responses were then screened and 2 omitted during the screening phase, resulting in a final figure of 90. The researcher also carried out 3 semi-structured interviews.

3.3 Ethics Statement

"Every researcher has the responsibility to protect the participants in an investigation" (Drew, Hardman, & Hosp, 2007). The researcher ensured the quality and integrity of the research using the rigorous protocols of the University including taking maximum care to ensure the anonymity and confidentiality (as relevant) of trainee seafarers, seafarers with experience and METI staff who were the participants in the research.

There are various quotations from the respondents and interviewees in the analysis below, and the names of their have been anonymised to maintain higher level of ethics. The researcher ensured that their participation was voluntary and based on informed consent with participants not exposed to any harm for expressing their views. All the participants were made to feel comfortable during their participation. Respondents were provided with a consent form. On the consent form, the following statements were included:

- All the gathered information will strictly be used for educational purposes only,
- All the data and information collected from the respondents will be treated with complete confidentiality,
- The participant has every right not to participate in the survey and may withdraw at any phase during the survey,
- All data collected will be incidentally stored on an online drive and will be deleted after earning the degree.

All the research instruments and processes described above followed the WMU Research Ethics Committee guidelines.

3.4 Analysing the findings

Lastly, the questionnaire replies and the interviews were analysed. The online forms were automatically compiled to pie-charts and graphs. The data was also converted to spreadsheets for easier analysis. A detailed analysis of the responses is presented in Chapter 4.

4. Findings and Analysis

As mentioned in section 3.2, a total of 90 valid responses were received from seafarers and trainee seafarers from different regions across the globe as categorised in the Manpower Report 2015. The number of responses from different regions is indicated in figure 5.

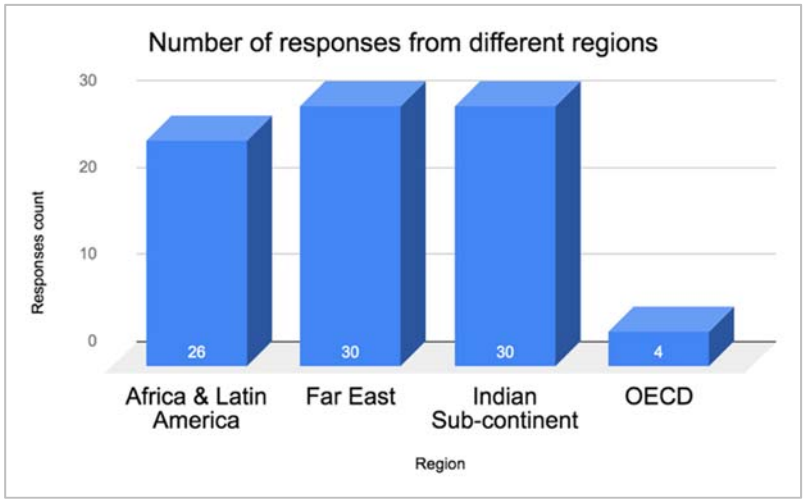

Figure 5: Responses count from different regions

A total of 60 responses were obtained from the Far East and Indian sub-continent regions, followed by 26 responses from the Africa/Latin America region. However, only 4 responses were obtained from the OECD region and no responses were obtained from the East European region. Given that there were only 4 responses from the OECD region (no external validity of the study to that population), an in-depth analysis was done only for the responses from the Africa/Latin American, Far East, and Indian sub-continent regions.

One interviewee each from African and Latin American region, Far East region and Indian sub-continent region participated in the semi-structured interviews. All the three interviewees have a seafaring background and are teaching at METIs in their respective regions. The category of seafarers (trainee or with experience) who responded to the questionnaire from all regions is indicated in figure 6.

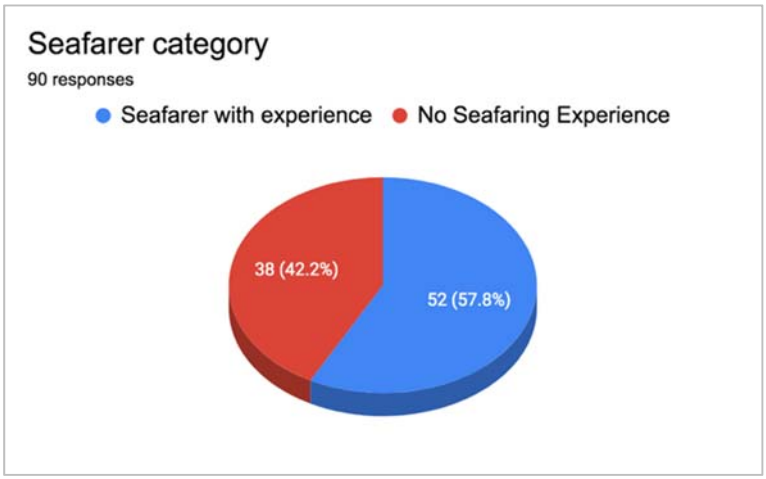

Figure 6: Category of seafarers

From the above figure, it is indicated that 57.8% of the respondents have seagoing experience. The seagoing experience of the seafarers across various regions is indicated in figure 7.

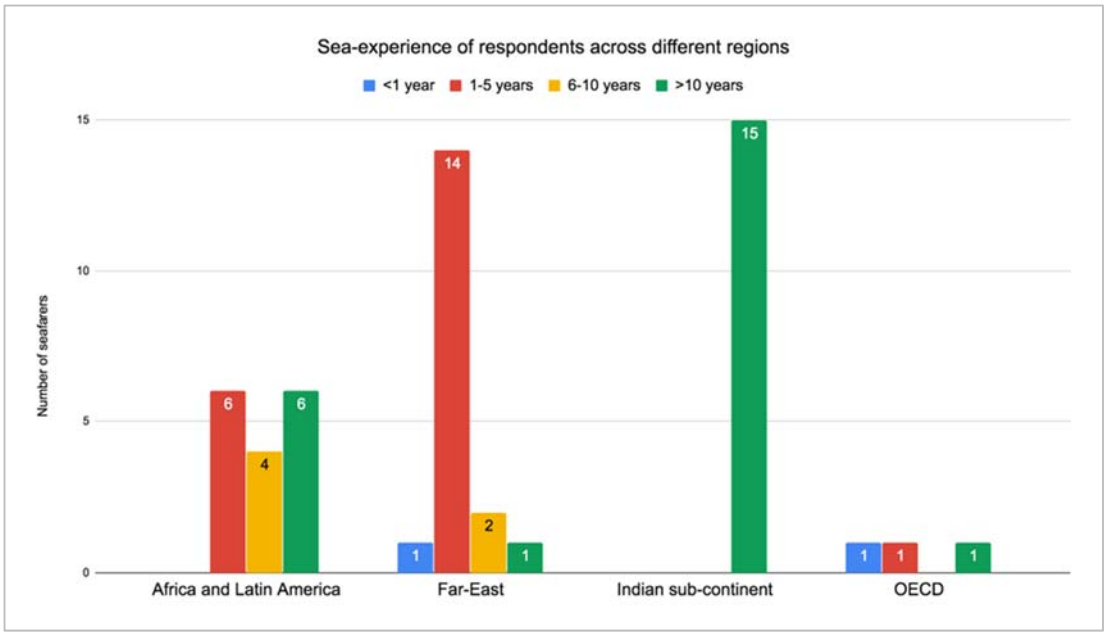

Figure 7: Sea-experience of respondents across different regions

In the questionnaire, various questions based on the perceptions of leadership and teamwork skills, and the training at METIs were posed. First, the respondents had to

choose the leadership style they thought was ideal for operations on board a vessel. The responses for the regions Africa and Latin America, Far-East and Indian sub-continent are indicated in figure 8, figure 9 and figure 10 respectively.

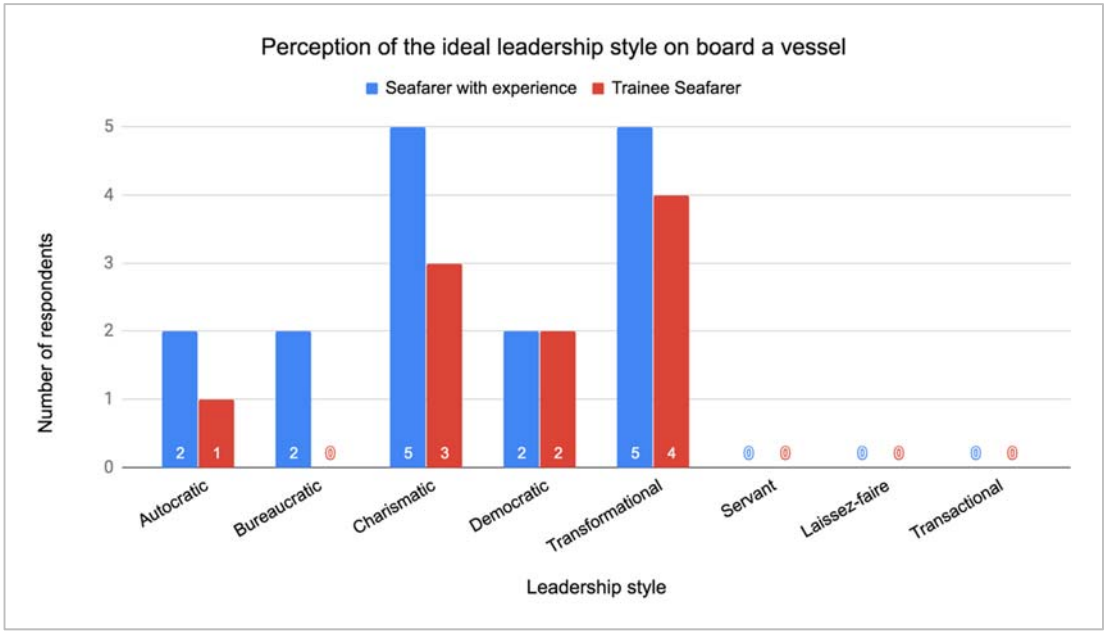

Figure 8: Ideal leadership style for the **Africa and Latin America** region

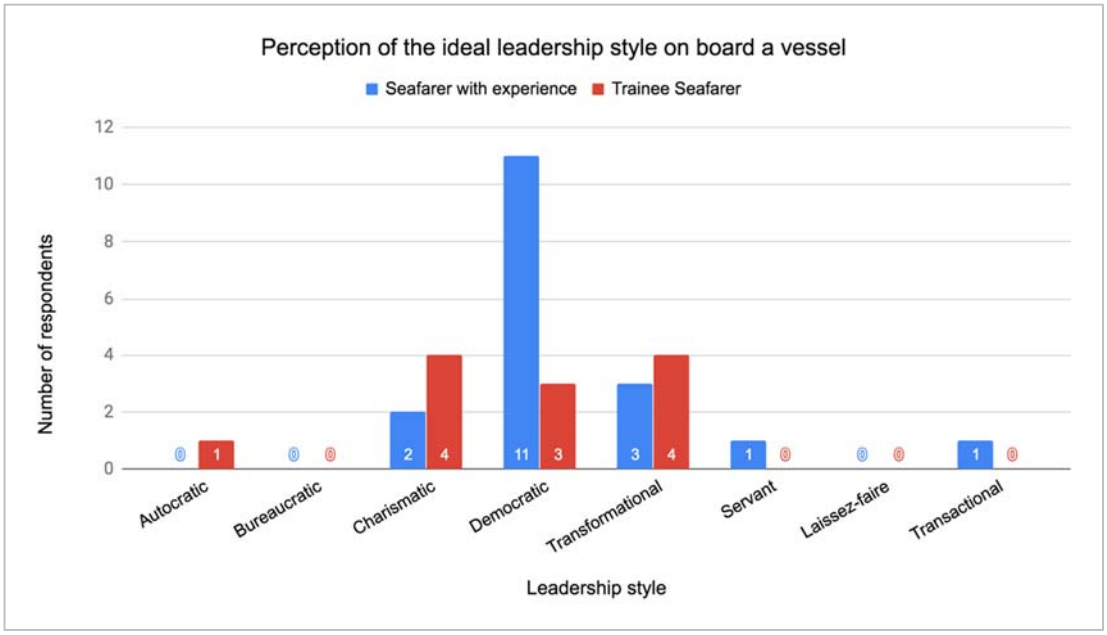

Figure 9: Ideal leadership style for the **Far-East** region

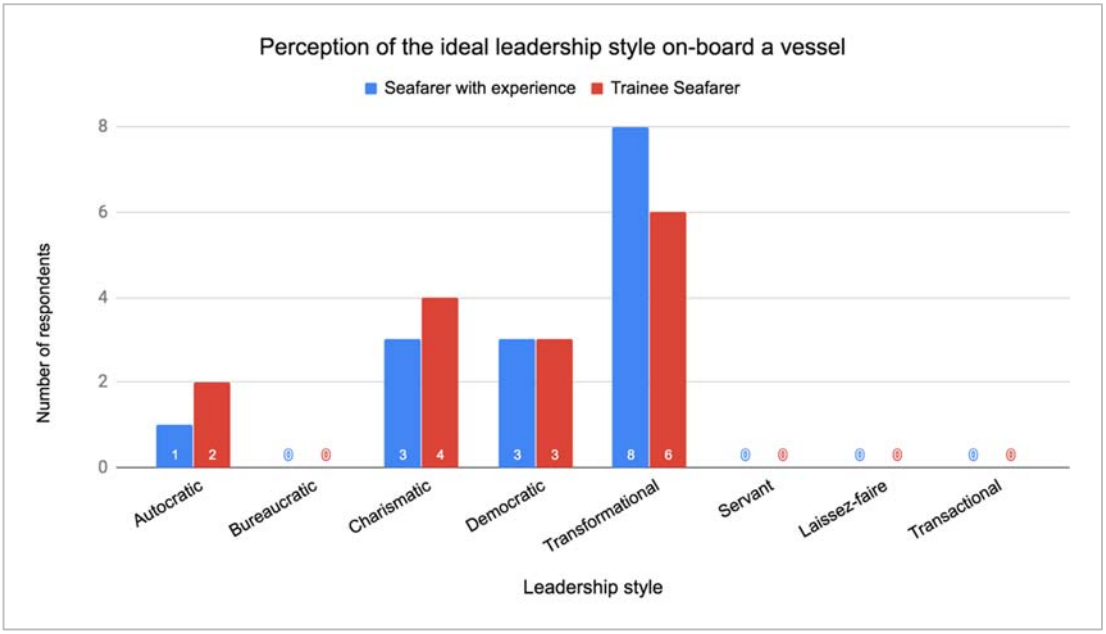

Figure 10: Ideal leadership style for the **Indian sub-continent** region

From the above data, it can be observed that the 90.9% of the experienced seafarers and 70% of the trainee seafarers in the Africa and Latin America regions perceive TfL and CL styles to be the ideal leadership styles on board a vessel. In the Far-East region, 61.1% of the experienced seafarers perceive DL to be the ideal leadership style whereas 66.6% of the trainee seafarers perceive TfL and CL as ideal leadership styles. In the Indian sub-continent region, 53.3% of the experienced seafarers, and 40% of the trainee seafarers perceive TfL as an ideal leadership style on board a vessel. The three regions- Africa and Latin America, Far-East and Indian sub-continent account for 72% of global seafarer supply (BIMCO & ICS, 2015). From the above data, it can be observed that a huge number of the trainee seafarers from the 3 regions perceive TfL be the ideal leadership style, followed by CL. As discussed in chapter 2, TfL style also has elements of charisma in it. It was opined in Chapter 2 that LfL, SL and TxL are not preferred styles in a high risk environment like maritime operations. The data presented above suggest that – in agreement with this opinion - these leadership styles are also not perceived by the respondents to be ideal for onboard ship operations.

The respondents were presented with various leadership and teamwork characteristics; their responses to the questions would indicate how they perceive teamwork and leadership. Figure 11 and figure 12 show their aggregate responses to leadership and teamwork characteristics respectively.

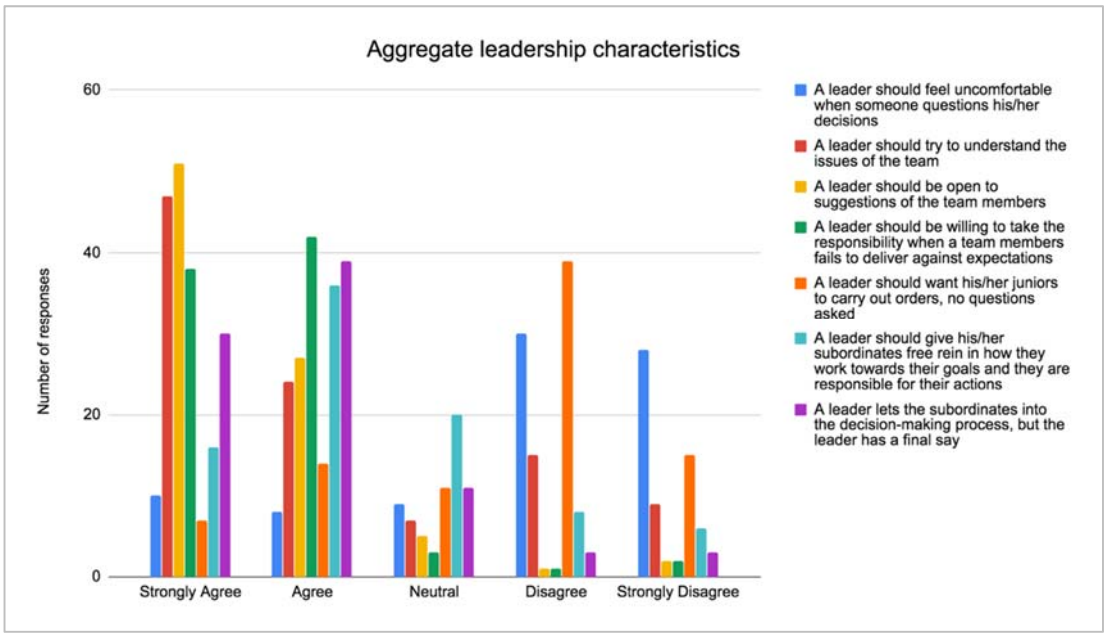

Figure 11: Leadership characteristics across the regions

Figure 11 is an indication of the respondents' perceptions to various characteristics of a leader. 59.3% of the trainee and experienced seafarers strongly agree that a leader should be open-minded about receiving suggestions from the team members. 54.65% of the respondents also strongly believe that a leader should understand the issues of the team. 45.3% of the respondents disagree to the comment of a leader wanting his/her team members to carry out the tasks without any questions whereas 34.8% of the respondents disagree that a leader should feel uncomfortable when their decisions are questioned. From the above figure, it is reflected that a majority of trainee and experienced seafarers across various regions perceive leadership styles like TfL, CL, and DL to be more desirable whereas leadership styles like AL is seen as a negative leadership style.

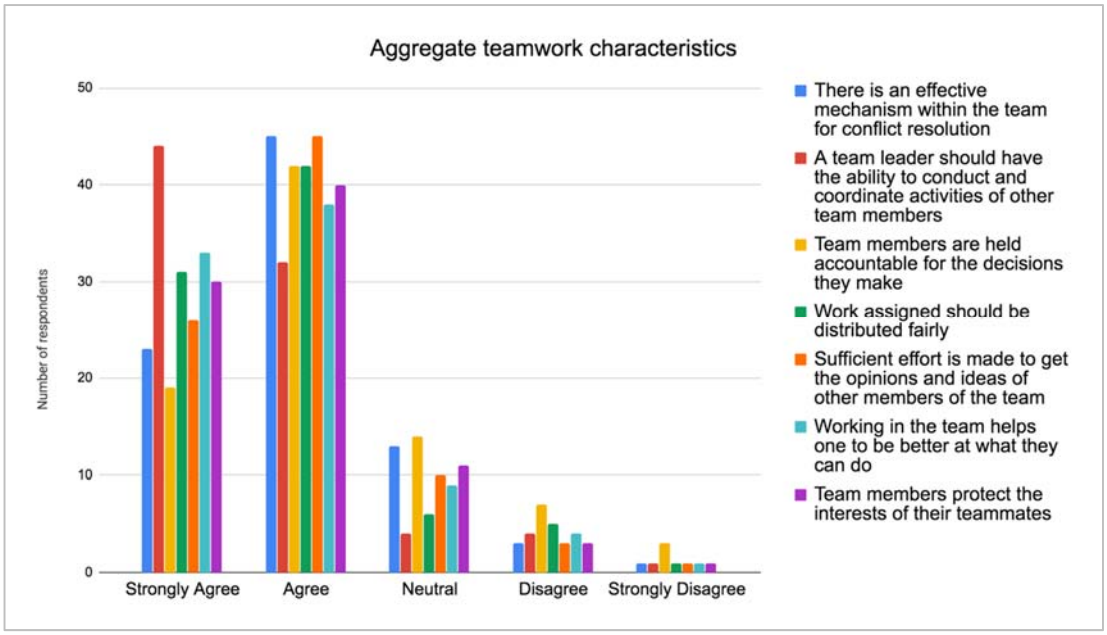

Figure 12: Teamwork characteristics across the regions

The perspectives of trainee and experienced seafarers towards teamwork characteristics is indicated in figure 12. 51.16% of the respondents strongly agree that a team leader should be able to conduct and coordinate activities of the team members, which is a core element of teamwork as discussed in Chapter 2. 52.32% of the respondents agree to the statement of having an effective mechanism for conflict resolution within a team, which is a sign of teamwork. A similar percentage of respondents also agree that all the team members have the freedom to give ideas within a team. 48.8% of the respondents agree that team members are held accountable for their decisions whereas 8.1% of the respondents disagree and 3.4% of the respondents strongly disagree to that statement.

A comparative analysis of teamwork and leadership characteristics between trainee seafarers and seafarers with SE was done to understand the generational shift in the perceptions towards teamwork and leadership skills. No significant difference appeared between the perception of younger respondents (with no SE) and older experienced respondents in the perceptions of teamwork and leadership training. The analysis leading to this finding is elaborated on in Appendix 1. An in-depth analysis

about the leadership and teamwork perspectives and training across the 3 regions is discussed in the following sections.

4.1 Africa and Latin America

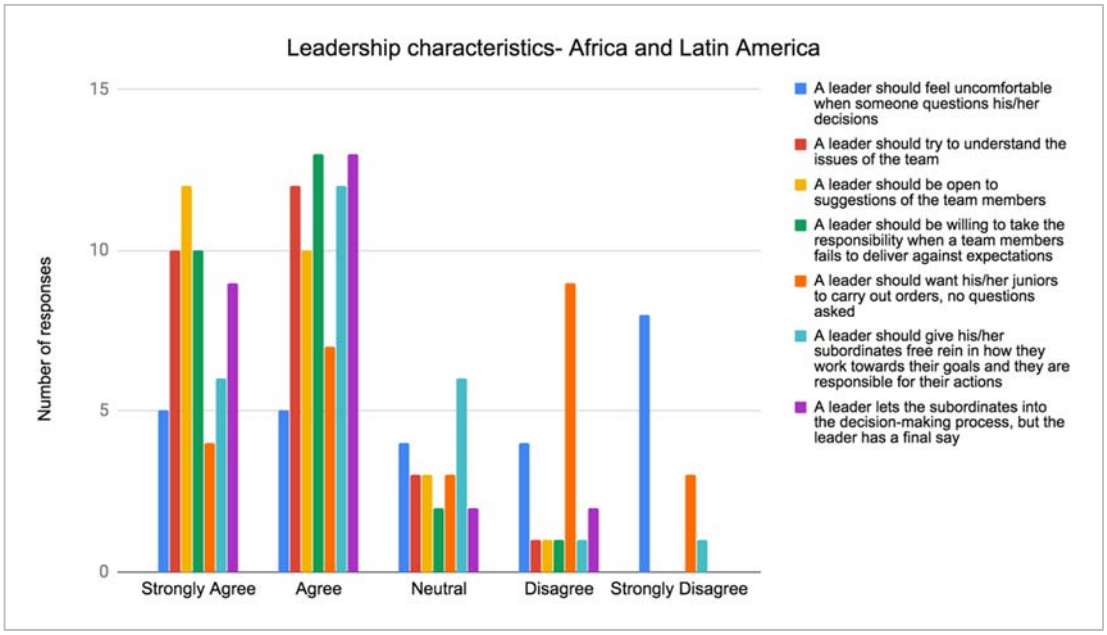

Figure 13: Leadership characteristics in the region **Africa and Latin America**

Figure 13 is a reflection of the perspectives of trainee and experienced seafarers in the Africa and Latin America region. It indicates that 46.15% of seafarers in this region strongly believe that a leader should be open to suggestions from the other team members and 30.76% of the seafarers strongly disagree that the leader should feel uncomfortable when his/her decisions are questioned. In an interview with interviewee Clark[2] (personal communication, August 14, 2019), he indicated how seafarers' perspectives towards teamwork and leadership have changed over time:

> …the changing environment requires a versatile seafarer who can adapt. The new generation of seafarers are rather adaptive and quick to re-orient hence a big shift from the older generation especially with increase in multinational

[2] The names of the interviewees have been anonymised to follow the ethical procedures.

> crewing and manning of ships. There is also a need to sensitize the seafarers of the other forms and frameworks of leadership other than the strict and rigid hierarchy on board[3].

From the above responses and the interview with Clark, it can be concluded that the respondents do not perceive AL to be a desirable form of leadership. In this leadership style, the maximum power and decision-making authority is retained by the leader. According to Varsami, Popescu, & Hanzu-Pazara (2012), an autocratic leader wants the subordinates to follow the orders given without asking any questions. 50% of the seafarers in this region agree that a leader involves his/her subordinates in the decision making process and takes full responsibility of the team members and their actions. As noted in Chapter 2, White & Lippit (as cited in Choi, 2007) note that a DL encourages group participation, discussion and group decisions, which make the team members more involved with the goals of the leader.

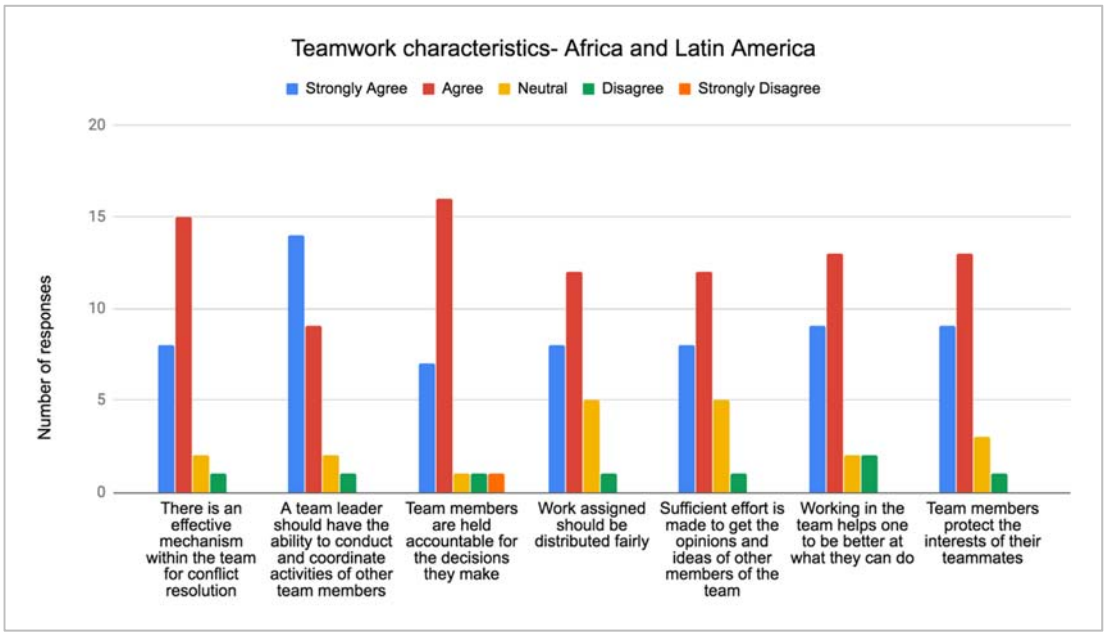

Figure 14: Teamwork characteristics in the region- **Africa and Latin America**

The perspectives of trainee and experienced seafarers towards teamwork in this region is indicated in figure 14. It can be observed that 61.5% of the respondents in this region

[3] All the quotes from respondents and interviewees are produced verbatim.

agree to the importance of accountability of team members for their actions and the importance of having a mechanism within a team for resolving conflicts. 53.8% of the respondents strongly agreed that having a team leader who can conduct and coordinate activities of the team members is important. The ability to conduct and coordinate activities of the team is a core element of teamwork (Salas, Sims, & Burke, 2005). While 46.15% of respondents agreed to fair distribution of work, 19.2% of the respondents were neutral about it and 3.8% of the respondents disagreed with the statement.

> there will be some tasks which cannot be distributed fairly as someone might be able to do the same task more efficiently and effectively. Hence we cannot vouch for fair distribution of work always while working in a team (Liberia, trainee).

In the questionnaire, the respondents were asked if they were provided with teamwork and leadership training at the METIs they were trained at, or are currently getting trained. Their responses are indicated in figure 15.

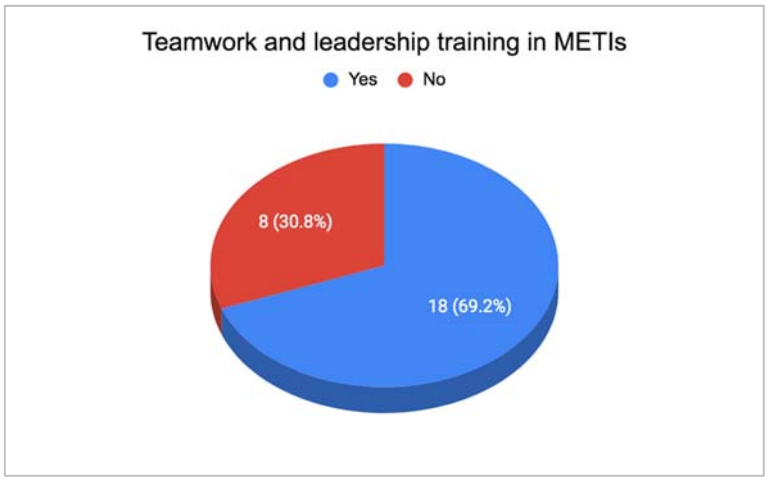

Figure 15: Teamwork and leadership training in METIs- **Africa and Latin America**

From the above figure, it can be implied that 30.8% of the respondents have not been/ are not given teamwork and leadership training in METIs. The remaining 69.2% of the respondents were asked how they were trained by their METIs to inculcate these skills and the respondents gave the following comments:

1. As a Navy Officer, every batch at the Naval Academy is moving all together as a team. That includes sports activities, academic activities, training activities, practical activities on board. Normally the leadership role changes between participants (Argentina, 20 years SE).
2. We have weekly leadership knowledge transfer sessions (Nigeria, student).
3. Delegating students events and other essential activities (South Africa, 6 years SE).

Other respondents reported that the METIs organise short lectures, and encourage sports activities to train them for teamwork and leadership skills. During a personal interview, interviewee Clark gave his opinion about the training provided by the METIs to the students to inculcate these skills and also shared his views about what METIs could do to make the training more effective. He said:

> METIs are doing enough to the required minimum standards and more. The flexibility is mostly dictated by the global trends where an METI needs to first conform to the norms and practice of the industry as it would be worthless to training highly qualified but unemployable graduates. Stakeholder consultation is key to innovative training.

The respondents of the questionnaire were also asked what METIs could do to improve the training and the seafarers responded with the following comments:

1. More practice should be conducted and it should be in real situation. Leadership simulation is another effective method that should be done (Namibia, 4 years SE).
2. Soft skills should be embedded in the curriculum, not just a stand-alone course (South Africa, 2 years SE).

Most of the respondents in this region commented on the importance of integrating the training of these skills into the curriculum, and more practical training to be provided to develop these skills.

4.2 Far-East

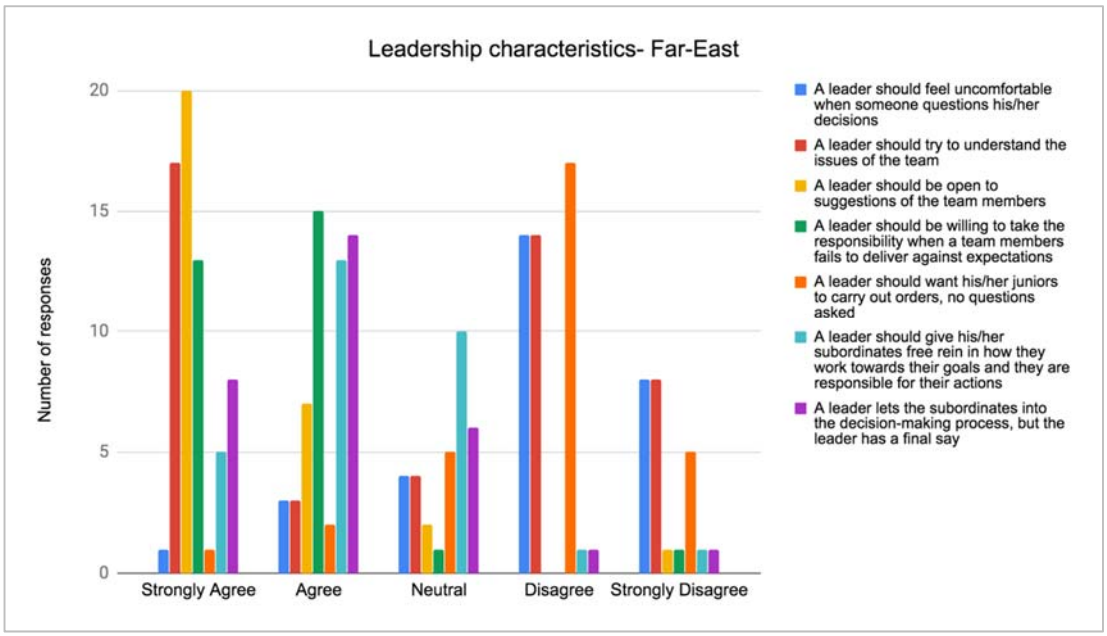

Figure 16: Leadership characteristics in the **Far-East** region

Figure 16 is an indication of the different perspectives of seafarers towards leadership in the Far-East region. 66.66% of the respondents from this region strongly agreed that a leader should try and understand the issues of the team, and 56.66% of the respondents agreed that a leader should be open to suggestions from the team members. A transformational leader entertains new ideas and listens to the suggestions of the team members, among other qualities. As discussed in chapter 2, Riggo & Bass (2006) noted that transformational leaders are open minded to the ideas of the subordinates, and they empower their subordinates to help them achieve their goals, and in the process develop into better leaders. 56.66% of the respondents disagreed that a leader should expect the followers to carry out the assigned tasks without any questions. This indicates that the seafarers, trainee and experienced, in this region opine AL is undesirable.

> Transformational and charismatic leadership is the ideal type of leadership for the next-gen students. Autocratic leadership is highly undesirable and is effective only in special case scenarios (Myanmar, student).

As discussed in literature review, Khan, et al. (2015) stated that AL reduces self confidence and increases fear, which is the opposite of what the trainee seafarers are looking for.

While interviewing interviewee Aramis (personal communication, August 8, 2019), he indicated the importance of teamwork and leadership skills and how it is important to train all levels of seafarers. He said:

> …teamwork and leadership skill are generally pronounced in emergency situation. However, that is not the case. Without this skill efficiently, it will be difficult to control the situation and may lead to the risk of life, cargo and marine environment. Training for teamwork and leadership skill is now essential for every rank of ship's officers rather than for the management level officers in past. During my sailing days, we had autocratic leaders. We had to listen to everything they said and obey the orders without asking any questions. However, the millennials don't prefer to be led by an autocratic leader. They follow leaders who listen to them, teach them, and motivate them."

Interviewee Aramis's views indicated that the new generation of seafarers do not perceive AL to be desirable, and that they are more inclined towards TfL leadership style. This perception of an inclination towards TfL leadership style was also concluded from the questionnaire analyses of responses from the region. In the questionnaire, the respondents were asked to choose their agreement or disagreement with a number statements about teamwork. Their responses are indicated in the figure below.

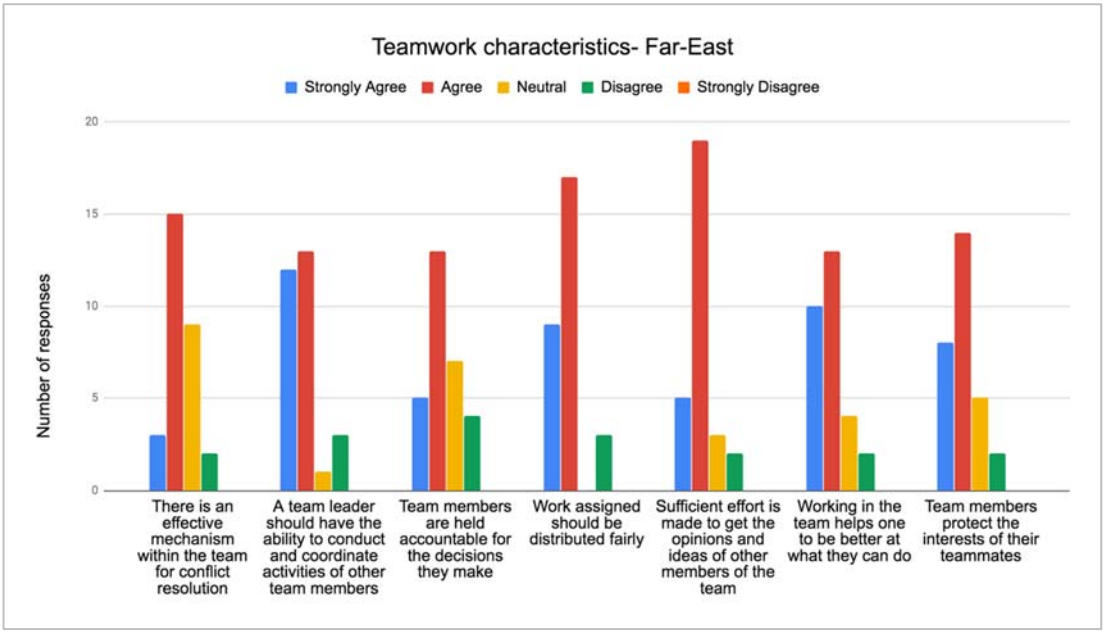

Figure 17: Teamwork characteristics in the region- **Far-East**

Figure 17 gives an insight into the perspectives of trainee and experienced seafarers towards teamwork. 40% of the respondents strongly agreed to the comment of a team leader being able to conduct and coordinate activates of other team members. As discussed in Chapter 2, the above statement is a core element of teamwork and it can be indicated that 40% of the respondents agree to a significant element of teamwork. 63.3% of the respondents agreed that efforts should be taken to get the opinions and ideas of the fellow team members which signifies good teamwork. The maximum disagreement from the seafarers was with regards to accountability for decisions. While 43.3% of the respondents agreed with the statement of team members being accountable for their decisions, 13.3% of the respondents disagreed to the same, and one of the respondents said the following:

> In the team, the team leader should be responsible for the decisions of the team members. The team members should be accountable for their actions to those decisions (Filipino, 2 years SE).

Figure 18 is an indication of whether the respondents were provided with teamwork and leadership training at the METIs they were trained at, or are currently getting trained in. The aggregate response is indicated in the below figure.

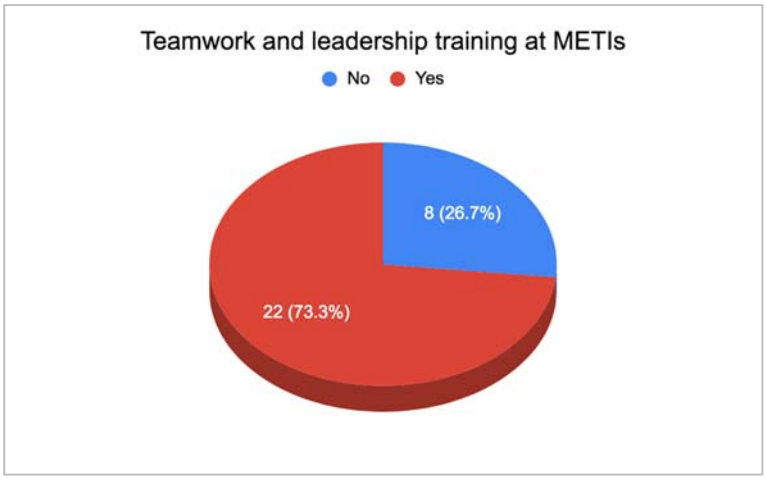

Figure 18: Teamwork and leadership training in METIs- **Far-East**

From the above figure, it can be implied that 26.7 % of the seafarers have not been/ are not given teamwork and leadership training in METIs. The remaining 73.3% were asked how they were trained by their METIs to inculcate these skills and the respondents gave the following comments:

1. We had a class of Bridge Team management (Myanmar, 2 years SE).
2. We attended training programs as part of professional development including elements which focussed on leadership role (Filipino, 4 years SE).

A majority of the respondents commented that the METIs organise academic lectures, and encourage sports and teamwork activities to train for teamwork and leadership skills. The respondents were also asked what the METIs could do to make the training for the skills more effective and the respondents gave the following comments:

1. METIs should arrange group tasks similar to onboard operations with the aid of practical training materials or should bring students to actual marine field to get the knowledge (Myanmar, 3 years SE).
2. METIs should train the seamen as an actual team of a ship (Myanmar, 1 year SE).
3. Third party: cooperative training with Royal Thai Navy (Thailand, 6 years SE)
4. Conducted on a regular basis and with involvement of all the staff (Myanmar, 1 year SE).

5. Take regular feedback from the trainees (Thailand, trainee).
6. Must have leadership training and decision-making in important moments as well. Practiced emotional control and communication with those under control to understand and be able to work together (Thailand, 1 year SE).

Most of the seafarers were of the view that the METIs needed to include lectures and subjects on these skills with more practical elements in the learning activities. They also suggested that METIs should conduct group activities to make the training more effective.

4.3 Indian sub-continent

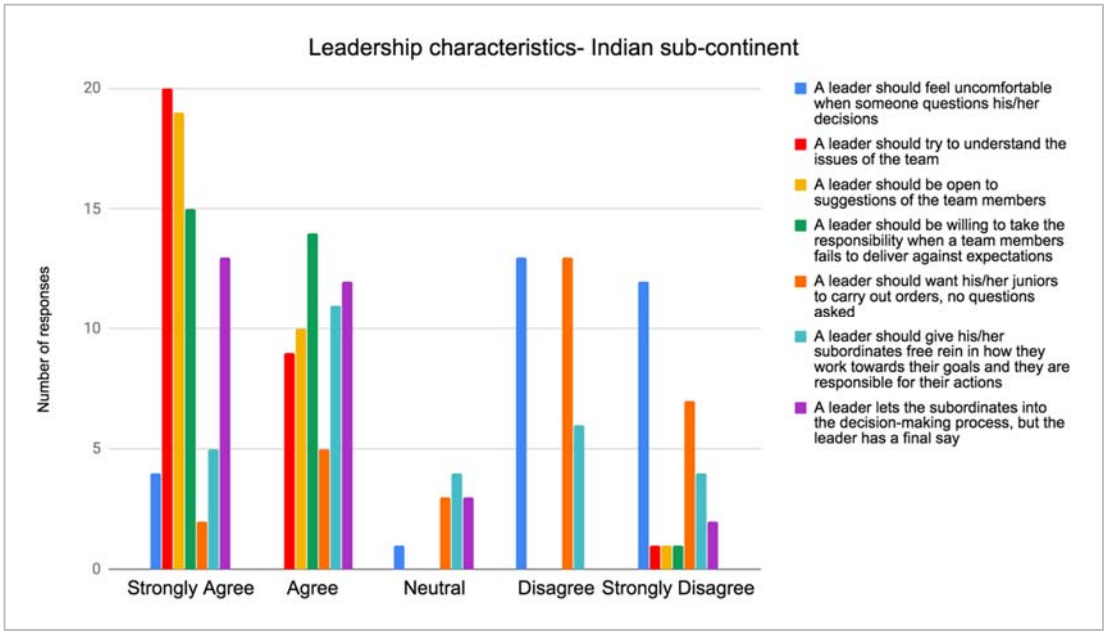

Figure 19: Leadership characteristics in the **Indian sub-continent** region

Figure 19 is an indication of the trainee and experienced seafarers' perspectives on leadership. It can be reflected that 66.66% of the respondents strongly agree to the characteristic of a leader to understand the issues of the team. It is closely followed by 63.33% of the respondents who strongly agree that a leader should be open to suggestions from the team members. This is a quality of transformational leaders. In TfL style, the leader is open minded about the inputs and ideas from the team members, as discussed in chapter 2. The maximum disagreement in the questionnaire was at a

characteristic of a leader who should feel uncomfortable when their decisions are questioned. 43.3% of the respondents from this region disagree with that statement. The same number of seafarers also disagree with a characteristic of a leader who wants his/her juniors to carry out the tasks without asking any questions. The preceding two leader characteristics are attributable to the AL style of leadership. Hence it can be concluded that the respondents in this region also perceive AL as undesirable. An interview with interviewee James (personal communication, August 1, 2019) gave an insight of how perceptions towards leadership have changed over time. He said:

> When I had joined the sea in 1994, Master & Chief Engineers had unquestionable authority over the operations on board [indicating AL style]. Whatever they said was taken as non-negotiable, even if they were wrong, normally no one would object them. Fast forward to present era, and the scene is totally opposite. Leaders on board encourage their juniors to challenge their orders[motivating them, a characteristic of TfL style], not that present day Masters & C/E are weak. This is the essence of Teamwork. Any mistake has a huge repercussion and if anyone points out seniors faults or has a safer way of getting things done, it is always appreciated.

From the interview, the shift in the perceptions of leadership can clearly be understood. It can be concluded that AL was the unsaid norm over two decades ago and seafarers perceived it to be an ideal form of leadership. However, a new generation of seafarers perceive leadership styles like TfL as more desirable. The respondents were then asked to choose their agreement or disagreement with some comments about teamwork characteristics. The results are indicated in figure 20.

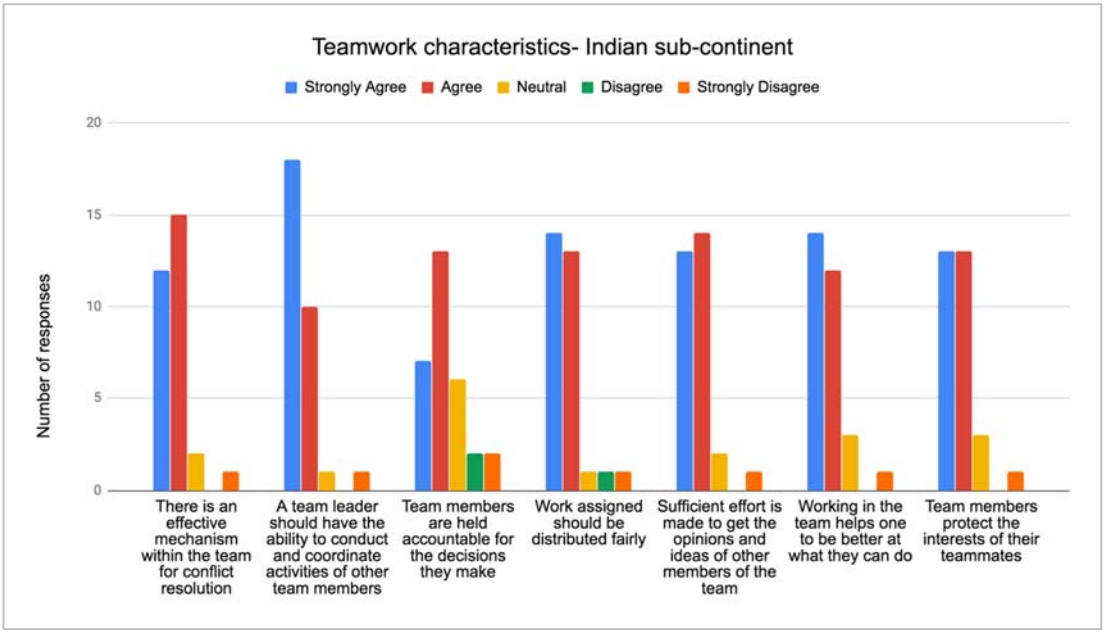

Figure 20: Teamwork characteristics in the region- **Indian sub-continent**

From the figure, it can be observed that 60% of the respondents in this region strongly agree with the comment of having a team leader who has the ability to conduct and coordinate activities of other team members. 46.6% of the respondents strongly agree with a fair distribution of work within a team as a sign of teamwork. In the questionnaire, another comment was that working in a team would help one perform better. 46.6% of the respondents strongly agreed with that statement while 40% of the respondents agreed with it. It can hence be concluded that most of the seafarers in this region perceive working in a team as a medium to perform better. The maximum disagreement in the questionnaire was with the comment relating to accountability of the team members for their decisions. While a majority of the respondents agreed that team members should be held accountable for the decisions they make, 13.3% of the respondents disagreed with that comment.

The respondents in the questionnaire were also asked to indicate if they were provided with teamwork and leadership training by the METIs.

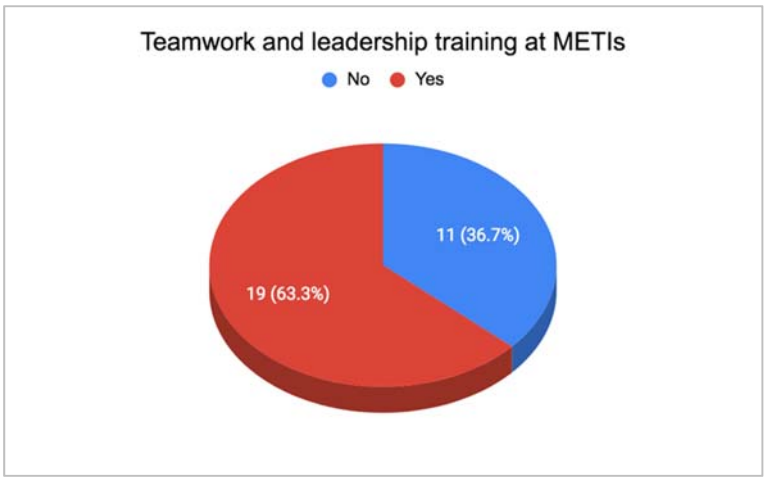

Figure 21: Teamwork and leadership training in METIs- **Indian sub-continent**

Figure 21 indicates that 36.7% of the trainee and experienced seafarers have not been given training to develop their teamwork and leadership skills by the METIs. The remaining 63.3% of the respondents were asked to comment on how they were trained by their METIs to develop these skills. The respondents gave the following comments:

1. Role play and lectures (India, 20 years SE).
2. Team building, leadership development, behaviour based study workshops (India, 18 years SE).
3. Assigned the role of class leader (India, trainee).

The rest of the respondents commented that the METIs would organise workshops, courses, and seminars, and would encourage participation in student events, activities, and sports. Interviewee James also discussed on how the training for inculcating these skills has changed over time and also expressed the role of METIs in training for the skills:

> …during early days of my training, we were told leaders are born. We assumed that leaders would automatically take over when time comes, no special or formal training is required. Many seafarers just copied wherever their seniors did or behaved, whether good or bad. Gradually with concept of ISM biting in, many mistakes done on board were coming to the forefront and there was a slow change of mindset that future leaders have to be nurtured over a period of time to ensure they turn out to be effective. Syllabus were amended to train this crucial aspect in MET. However it is important to note that these skills are gained over a period of time by seafarer based on his practical experience on board. MET can only cover limited aspects in this regards. The various means

> we use to train the students are chalk & talk, videos, case studies and also role play to emphasize the importance of teamwork and leadership skills.

He also expressed his opinions on what METIs could do to make the training more effective.

> …as I mentioned earlier, candidates are in METIs only for a very limited period of time. Teamwork & Leadership skills are best learnt on-scene, where they are exposed to real-life situations. The confidence one gains by handling such situations is far greater than what is achieved by attending a 6 hours of classroom sessions.
> MET can only train candidates on various methods of leadership skills & importance of teamwork. It is purely candidates' choice to implement it on board ships where lots of real-life constraints (time / resource / man-power / materials) also needs to be looked into.

The respondents were then also asked to comment on how METIs could make the training more effective to which the following comments were received:

1. Maintaining a good interaction with candidates and encouraging interaction among the candidates (India, trainee).
2. Should be given more freedom in decision making (India, trainee).
3. Regular team based activities such as sport, cultural or academic should be organised. And it should not focus on competition; it should promote a teamwork (India, trainee).
4. Interactive classes and simulator based training (India, 12 years SE).

Rest of the respondents opined that the METIs should focus more on practical training and the application of teamwork and leadership skills, provide latest examples of the importance of the skills and formalise the training of these skills into the course curriculum.

The seafarers from all the regions who were provided with teamwork and leadership training by their METIs were asked whether they were aware that they were being trained to inculcate these skills, the result of which is indicated in figure 22.

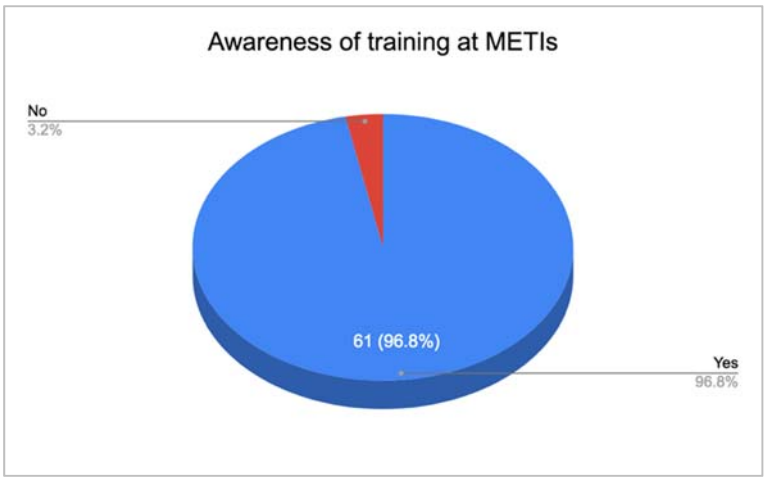

Figure 22: Seafarers' awareness to be trained to inculcate teamwork and leadership training provided at the METIs

From the above figure, it is noted that 96.8% of the respondents across all the regions were aware that they were being trained to develop their teamwork and leadership skills at the METIs. Further, the trainee and experienced seafarers who did not undergo teamwork and leadership training at the METIs were asked if it was necessary for the METIs to conduct formal and informal teamwork and leadership training to which 100% of the respondents commented that the training of both teamwork and leadership skills was highly important for the future seafarers.

5. Conclusions and recommendations

5.1 Conclusions

Through this study, the researcher has discovered and expressed a number of problems and challenges relating to the present approach to teamwork and leadership training in METIs. A number of follow-up recommendations are discussed in the following sub-section, to improve and make more effective such training in METIs. In accordance with the 2010 Manila Amendments to STCW Convention 1978, seafarers at operational and management level are required to undergo mandatory training to gain leadership and teamwork skills. There also exists the IMO model course 1.39 which was developed to make requirements for teamwork and skills at operational level. However, there is no mention about the teamwork and leadership training for seafarer trainees at the METIs. Since there are no defined legal requirements to conduct teamwork and leadership training for seafarer trainees, different countries across different parts of the world approach the training differently. Further, the training provided by METIs for the seafarer trainees do not consider the generational gap and how the perspectives of the future seafarers has changed over time. While reviewing the relevant literature, the researcher found out that the definition of leadership is broad with various researchers from different fields having diverse (sometimes complementary) views about it. This work interrogated and then discussed the different perspectives to leadership as well as the multiple styles of leaderships and its implications in the maritime industry. Leadership in the maritime industry is different from other industries. The maritime industry is a high-risk industry and hence the suitable leadership styles are different for different scenarios.

A qualitative methodological approach was used in this research whereas mixed methods of qualitative and quantitative tools were used by sending questionnaires to trainee and experienced seafarers, and by conducting interviews with the METI staff. The analysis of the questionnaire responses and interviews helped the researcher understand the various perspectives to teamwork and leadership for the trainee and experienced seafarers across different regions. Through this research, the researcher

was also able to find if the seafarers thought the leadership and training provided to them was sufficient, and how to make the training of these skills more efficient.

In answer to the research questions, the research and its analysis indicate the following:

1. Trainee and experienced seafarers across different regions perceive and approach various elements of teamwork and leadership differently, but a majority of the seafarers across all the regions find the characteristics of TfL more desirable for shipboard operations.
2. Since there are no well-defined guidelines for METIs to train the trainee seafarers to develop their teamwork and leadership skills, most of the METIs train their trainees in different ways which include lectures, sports activities, group events and roleplay.
3. From the findings and analysis discussed in the previous section, a conclusion can be drawn that over 96% of the trainee and experienced seafarers were aware that they were being trained to inculcate these skills.
4. From the findings, it is also evident that METIs can do more to make teamwork and leadership training more effective.

The next sub-section gives recommendations which METIs across different regions can follow to make teamwork and leadership training they conduct more effective.

5.2 Recommendations

To make teamwork and leadership training more effective, and to prepare the future seafarers and to ensure safety of life at sea, the METIs need to realize that inculcating these skills into seafarers is a slow and continuous process which cannot be effectively conducted by just giving lectures or group activities. There is the need to blend different learning theories, techniques and activities to make the training more effective. For a METI to provide more effective teamwork and leadership training, the following are recommended:

1. Integrate teamwork and leadership training modules into the curriculum. By doing so, the trainees will be trained to inculcate these skills, just like learning

other subjects in the curriculum. The syllabus for the training modules can be adapted from IMO model course 1.39;

2. The academic staff can develop effective classroom sessions to train the seafarer trainees develop teamwork and leadership skills by using different learning theories like cognitive and social constructivism theory;
3. The staff training the students for these skills should provide recent real world examples of collisions, near misses and other accidents that have occurred because of less than optimal leadership and teamwork skills;
4. METIs should invite their former students to share their experience with the seafarer trainees about the importance of teamwork and leadership on board a vessel;
5. METIs should also organise guest lectures by seafarers with rich SE to share their experience, motivate the students and explain the importance of teamwork and leadership skills;
6. The theory section of the leadership training should include the positives and negatives of each leadership style and which leadership style is more appropriate in which scenario;
7. To achieve the practical aspects of teamwork and leadership training, the METIs should organise regular scenario role plays and increase the time on simulators;
8. METIs and their staff should encourage the trainees to critically think about the importance of teamwork and leadership skills to achieve safe operation of vessels and ensure safety of life at sea.

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Appendix 1: Comparative Analysis of Teamwork and Leadership Characteristics between Trainee Seafarers and Seafarers with Sea Experience (SE)

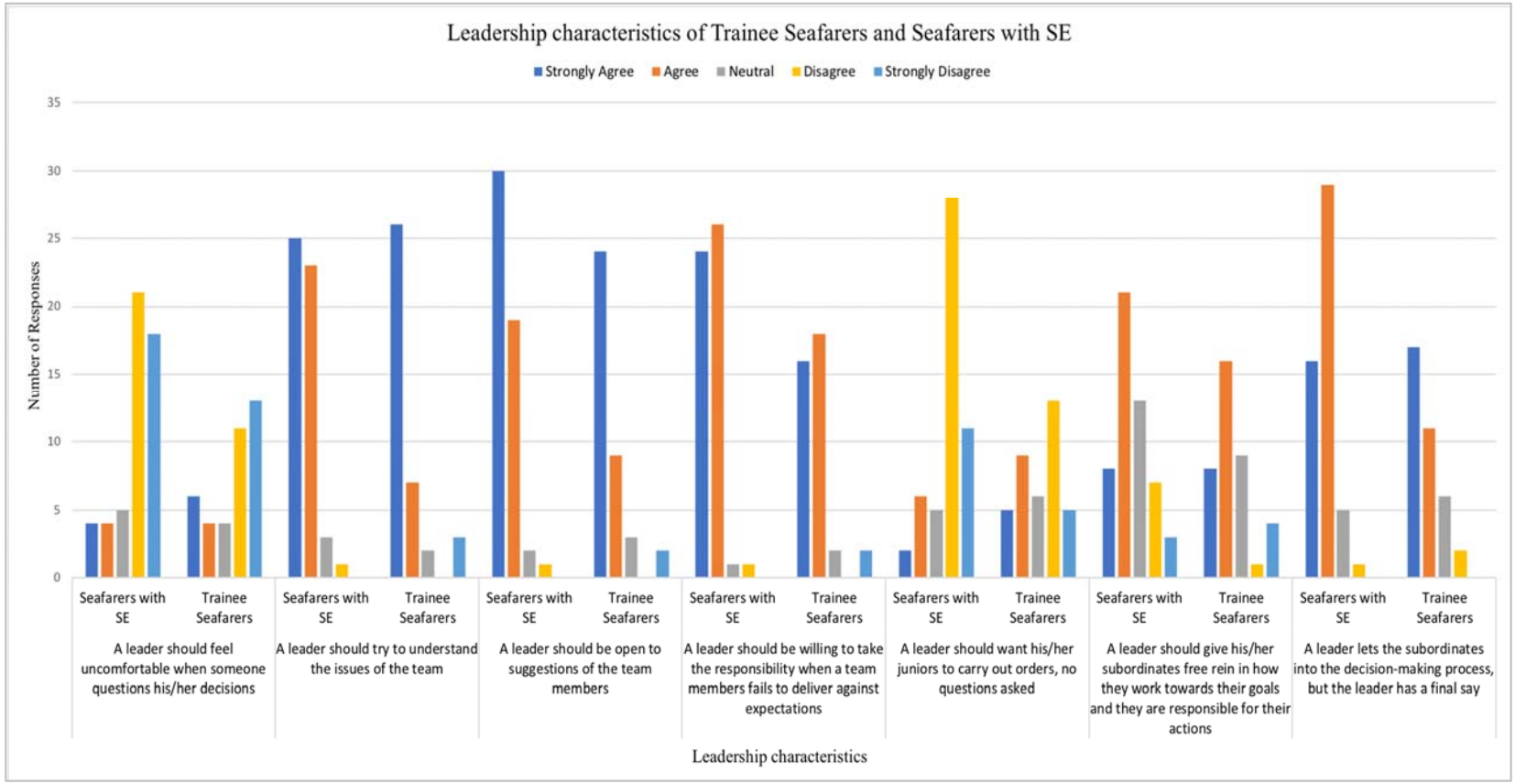

Figure A 1: Comparative analysis of Leadership characteristics between trainee seafarers and seafarers with SE

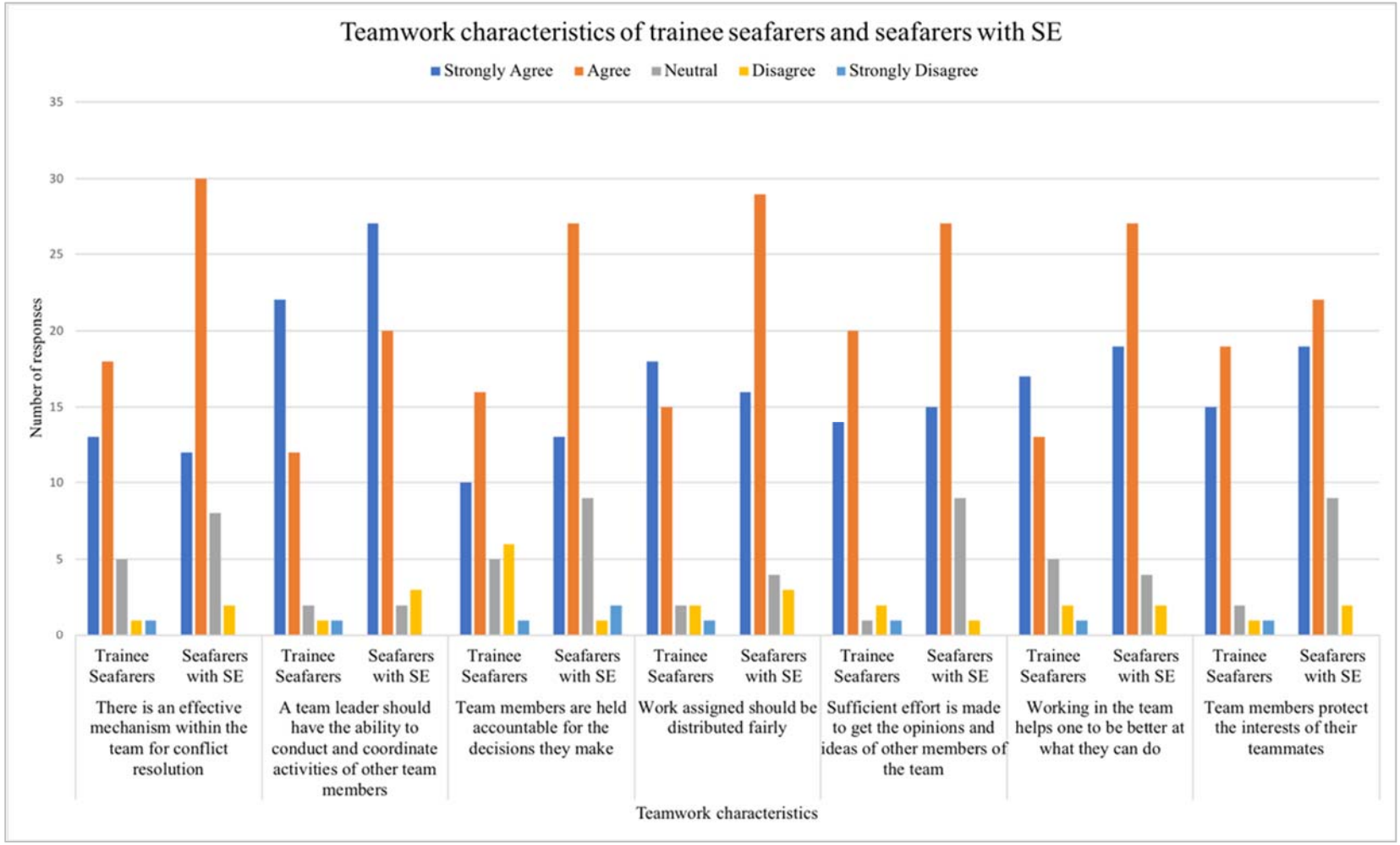

Figure A 2: Comparative analysis of Teamwork characteristics between trainee seafarers and seafarers with SE

With the ever rapid changing world, the perceptions of individuals towards various skills have changed over time. Understanding the shift in the perceptions of trainee and experienced seafarers towards teamwork and leadership skills can play an important role at METIs to train the trainee seafarers to address the needs for the present and preparing for the needs of the future. To understand the generational shift in the trainee and experienced seafarers' perceptions of teamwork and leadership, a comparative analysis was done on the responses by the trainee seafarers and experienced seafarers' responses.

Figure A 1 is an analysis of leadership characteristics of trainee seafarers and experienced seafarers. 40.38% of experienced seafarers disagree and 34.6% of the experienced seafarers strongly disagree to the comment of a leader feeling uncomfortable when their decisions are questioned. In the trainee seafarers, 28.9% of them disagree and 34.21% of the respondents strongly disagree to that comment. This is a sign that over 75% of the experienced seafarers and over 50% of the trainee seafarers opine that AL is not a favourable leadership style. When the respondents were asked about their agreement or disagreement of the comment of a leader being open to suggestions from the team, 57.69% of the experienced seafarers strongly agreed, and 36.5% of the experienced seafarers agreed to that statement. 63.1% of the trainee seafarers strongly agreed and 23.68% of them agreed to leaders being open minded. As discussed in chapter 2, TfL and DL style of leadership showcases open mindedness. It can be observed that all the other comments on leadership characteristics indicate that the experienced seafarers and trainee seafarers across all regions arguably opine the same. These are also signs that the respondents perceive leadership styles like DL and TfL are favourable.

Figure A 2 is an analysis of teamwork characteristics of trainee seafarers and experienced seafarers. For the comment of fair distribution of work within a team, 30.76% of experienced seafarers strongly agree and 55.7% of the experienced seafarers agree to that comment. When the trainee seafarers were asked to comment on their agreement or disagreement with the statement, 43.67% of them strongly

agreed and 39.47% of them agreed to that statement. About 5.7% of the experienced seafarers and 5.2% of the trainee seafarers disagreed with that statement. Since, a majority of the respondents believe in fair distribution of work within a team, it indicates a sign of teamwork. 36.5% of the seafarers with SE strongly agreed, while 51.9% of them agreed that working in a team helps them get better at what they do, whereas 44.7% of seafarer trainees strongly agreed, and 34.2% of them agreed to that comment. This is a sign of teamwork and it indicates that over 85% and 75% of the experienced seafarers and seafarer trainees believe that working in a team would help them learn and get better at their work. To address a key core element of teamwork, the respondents were asked to choose their agreement or disagreement with the statement of a team leader having the ability to conduct and coordinate activities of other team members within a team. For the above comment, 51.9% of experienced seafarers strongly agreed and 38.4% of them agreed to it, whereas 57.8% of trainee seafarers strongly agreed and 31.5% of the trainees agreed to the comment indicating that around 90% of the experienced seafarers and trainee seafarers agree to a core element of leadership of having a team leader who can conduct and coordinate activities of other team members. Like leadership characteristics, it can be observed that most of the trainee seafarers and seafarers with experience across different regions of the world have similar perceptions of teamwork characteristics.

Appendix 2: Questionnaire to respondents

Consent Form

Dear Respondent,

Thank you for your valuable time to respond to this survey.

Your contribution to this research work is highly appreciated. I am currently studying to earn a post-graduate degree in Maritime Affairs at the World Maritime University, Malmo. As part of my dissertation, I am seeking to gather information from trainee seafarers and seafarers with experience, on their perspective of teamwork and leadership skills and training. I would be extremely grateful if you could kindly take some time out and assist me in gathering the necessary data for my research by answering the attached questionnaire. Responding to this questionnaire should not take more than 5-10 minutes. All the information gathered will be treated with utmost confidentiality, and will be used strictly for academic purposes only. All research related data will be stored on the Google Drive during the survey and then deleted after completion of the course (in November 2019).

Your response to this questionnaire indicates your voluntary and informed consent to participate in the survey.

Your participation in this research is entirely voluntary, and you have every right not to participate in the survey or withdraw at any stage. However, I sincerely hope that you will participate by responding to the questionnaire and help me in the completion of the research, which would be a great contribution to the Maritime Institutions across the world of how to inculcate the teamwork and leadership skills more effectively.

Thank you, once again.

Kirtan Sanjeev Vakil

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

QUESTIONNAIRE

1. Please choose the category you fall under

   ☐ No Seafaring Experience

   ☐ Seafarer with experience; Please indicate number of years: _____

2. A) Please enter your nationality: _____

   B) Please enter the country of training/ the country you were predominantly trained at:

   _____

3. Following are a list of leadership styles. In your opinion which is the best leadership style suitable for on-board a vessel?

Autocratic	Leaders dictates the terms to the juniors of what is to be done and how it should be carried out	☐
Bureaucratic	Leaders follow the rules and procedures and work by the book	☐
Charismatic	Leaders inspires enthusiasm, motivates their team members. They improve the way certain things are done	☐
Democratic	Leaders allow members of the team to participate in decision making, but the leaders are responsible for the final decision	☐
Laissez-faire	Leaders leave their team members to make their own decisions and work on their own	☐
Transactional	Leaders make their subordinates comply by giving rewards or punishments	☐

Transformational	Leaders work with their teams towards shared vision of the future, encourage enthusiasm among the team, and inspire the team members	☐
Servant	Leader just wants to serve others. The leader places the needs of his subordinates or juniors over his needs and interests.	☐

4. On a scale of 1(not a good leader) to 10 (a very good leader), how much would you rate yourself as a leader?

   ☐

5. Please indicate your agreement/disagreement with the following statements by choosing the appropriate option

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
A leader should set up achievable goals and targets					
A leader should feel uncomfortable when someone questions his/her decisions					
A leader should try to understand the issues of the team					
A leader should be open to suggestions of the team members					
A leader should be willing to take the responsibility when a team members fails to deliver against expectations					
A leader should want his/her juniors to carry out orders, no questions asked					
A leader should give his/her subordinates free rein in how they work towards their goals and they are responsible for their actions					
A leader let the subordinates into the decision-making process, but the leader has a final say.					

6. On a scale of 1 (not a good team-member) to 10 (a very good team-member) how well do you think you work in a team?

7. Please indicate your agreement/disagreement with the following statements by choosing the appropriate option

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Team members have absolute clarity about their role in the team.					
There is an effective mechanism within the team for conflict resolution					
The team leader should have the ability to conduct and coordinate other team members'					
Team members are held accountable for the decisions they make					
Work assigned is distributed fairly					
Sufficient effort is made to get the opinions and ideas of other members of the team.					
Working in the team inspires one to do their best					
When the role within the team changes it should be communicated effectively through the leader					
Team members protect the interests of their teammates					

8. Are you currently undergoing/ have you undergone any formal or informal teamwork or leadership training at the Maritime Institution you are/ were studying at? [If yes, please elaborate on the training and continue.]

☐ Yes ☐ No [Go to Q.11]

_____

9. When you were undergoing the formal or informal teamwork or leadership training at the Maritime Institution, were you aware that you were being trained?

☐ Yes ☐ No

10. What could the maritime institutions do to make the training more effective?

_____

After answering Q.10, please go to Q. 16

11. Since you have answered No for Q.8 ; In your opinion is it necessary for the maritime institutions to conduct teamwork and leadership training (formally/ informally) for the future seafarers?

☐ Yes, both teamwork and leadership training is important

☐ Only teamwork training is important [Go to Q.13]

☐ Only leadership training is important [Go to Q.14]

☐ Neither teamwork nor leadership training is important [Go to Q.15]

12. Since you have answered “Yes, both teamwork and leadership training is important” for Q.11, please give a brief description of what contents you think should be included in such training. [Go to Q.16 after completing this answer]

_____

13. Since you have chosen “only teamwork training is important” for Q.11, why do you think maritime institutions should conduct only teamwork training and not any leadership training for the future seafarers? [Go to Q.16 after completing this answer]

_____

14. Since you have chosen “only leadership training is important” for Q. 11, why do you think maritime institutions should conduct only leadership training and not teamwork training for the future seafarers? [Go to Q.16 after completing this answer]

_____

15. Since you have chosen “neither teamwork nor leadership training is important” for Q. 11, why do you think maritime institutions should not conduct any teamwork or leadership training for the future seafarers?

_____

16. Please explain what you think are the traits for an ideal leadership or teamwork

_____

17. Additional comments

_____

THANK YOU FOR YOUR VALUABLE INPUT