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WORLD MARITIME UNIVERSITY

Malmö, Sweden

**ATTRACTION AND RETENTION OF
SEAFARERS**

-

**A case study using Choice-Based Conjoint
Analysis**

By

ANKIT ACHARYA
India

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

MASTER OF SCIENCE
in
MARITIME AFFAIRS

(MARITIME SAFETY AND ENVIRONMENTAL ADMINISTRATION)

2022

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):

.....

Supervised by:

.....

Supervisor's affiliation.....

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Abstract

Title of Dissertation: **ATTRACTION AND RETENTION OF SEAFARERS: A case study using Choice-Based Conjoint Analysis**

Degree: **Master of Science**

The shipping industry has been suffering an acute shortage of qualified seafarers, especially officers, since past few decades. The ever-growing demand for trade and profitability, complemented by the expanding world fleet and an insatiable need-for-speed in the business, has marginally increased the workload and stress for the seafarers, leading to rising job dissatisfaction. Global issues like the recessions, the COVID-19 pandemic and Russo-Ukraine unrest have caused discontent among the seafarers and serious concerns over job security. In such state of affairs, the shipping companies face difficulties in retaining their workforce at sea. The thesis is a case study of the officer-ranked seafarers of ship management company – the NSB Group.

Observing through the lens of a conceptual framework of various motivation theories, this study utilises a systematic literature review to identify the factors that affect the seafarers' attraction, job satisfaction and retention in a company, followed by focus group discussions as pilot study. Subsequently, a choice-based conjoint analysis was designed and conducted to statistically analyse the comparative importance of these factors. "Contract period & crew management practices" was found to be significantly more important than other factors such as "working conditions", "remuneration", "living conditions", "company relations", and "welfare & benefits" (in that order). Through personal interviews with crew managers and trainers in the organization, a gap analysis was carried out in order to offer recommendations for informed corporate measures for better attraction and retention. Introducing monetary reforms and contract duration management were most strongly suggested short-term measures; whereas, strategic training, development and career progression planning was the most important long-term approach recommended, among others.

KEYWORDS: Seafarers, attraction, retention, job satisfaction, strategic human resource management, conjoint analysis.

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List of Abbreviations

BIMCO	The Baltic and International Maritime Council
BSM	Bernhard Schulte Ship Management
CA	Conjoint Analysis
CBCA	Choice-Based Conjoint Analysis
COVID-19	Corona Virus Disease (2019)
CPS	Cyber-Physical Systems
CSR	Corporate Social Responsibility
EBSCO	Elton B. Stephens Company
DWT	Dead Weight Tonnes
ELC	Employee Life Cycle
EoC	Employer of Choice
FGD	Focus Group Discussion
HR	Human Resource
HRD	Human Resource Development
HRM	Human Resource Management
ICS	International Chamber of Shipping
ICT	Information-Communication Technology
ILO	International Labour Organization
IMO	International Maritime Organization
IoC	Industry of Choice
IoT	Internet of Things
ITF	International Trade Fund
JE	Job Embeddedness
JNG	Joint Negotiating Group
KG	Kommanditgesellschaft System
KSA	Knowledge, Skills & Abilities
MET	Maritime Education & Training
MNL	Multinomial Logit

NGO	Non-Governmental Organization
NSB	REEDEREI NSB Niederelbe Schifffahrtsgesellschaft mbH & Co.KG
PDCA	Plan-Do-Check-Act
PRISMA	Transparent Reporting Of Systematic Reviews and Meta- Analyses
REC	Research Ethics Committee
SD	Standard Deviation
SET	Social Exchange Theory
SHRM	Strategic Human Resource Management
SLR	Systematic Literature Review
STCW	Standards of Training, Certification and Watchkeeping
UNCTAD	United Nations Conference on Trade and Development
UV	Utility Value
WMU	World Maritime University

1. Introduction

1.1 Background

Employee turnover and retention are the two sides of the same coin. Shahnawaz and Jafri (2009) defines *turnover* as “the rate of change in the working staff of an organization during a defined period.” The problem of employee turnover is something that industries in numerous sectors have been facing for more than half a century. Since the earliest research works in the study of employee turnover (March & Simon, 1959), a lot of thought and debate have sought to address it, and numerous theories and concepts have been developed in this context. The earlier studies mainly focussed on ‘employee-attitude’ as the primary reason for turnover (Shahnawaz and Jafri, 2009), and gave high utility value to economic factors such as salary and remuneration. However, it has now been demonstrated that turnover is a complex issue with many diverse factors at play (Zhang, 2016). The need for deploying retention strategies is crucial and is being realized by organizations. ‘Retention’ is defined as the percentage of employees a company can retain or hold at the end of a specific period (Phillips & Connell, 2003, p. 2). The verb form (retain), is defined as making use of strategic policies and procedures to avert the loss of employees (Hong et al., 2012). In today’s competitive market, retention of quality talent is imperative because the replacement cost of an employee in terms of attraction, acquisition, training and orientation is much higher compared to costs involved in retention, not to mention the loss of valuable knowledge acquired by the exiting employee during her or his tenure (Cloutier et al., 2015).

1.1.1 The Maritime Industry

In 1970, the total number of tonnes of cargo loaded on ships worldwide was 2.605 billion; in 2020, this figure was 10.648 billion. Through ups and downs in the market, the shipping sector has seen year-on-year growth in terms of cargo

transported. The number and size of ships are increasing at a fast pace as technology develops. Over the last decade, the world fleet has been growing at an average of 3.3% per year and currently, the total capacity of the world fleet is about 2.1 trillion dead-weight tonnes (DWT) (United Nations Convention on Trade and Development (UNCTAD), 2021). However, the supply of seafarers has not shared the same fate and the seafaring market has felt an acute shortage of qualified sailors for quite some time now. Early concerns of a shortage of seafarers were felt almost half a century ago (Hope, 1975). Today it has become a real problem. According to the most recent BIMCO and ICS (2021)¹, currently there is a shortage of 26,240 officers (qualified per the requirements of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978, as amended). The report also predicts that there will be a need for about 89,000 additional officers by the year 2026. Leong (2012) observed that trying to understand this shortage empirically would be to simply use mathematics to find the deficit number of unfilled vacancies. However, it is also noteworthy that most seafarers who work with an organization for a long time accumulate knowledge and talent, and when these people leave they create vacancies which are not only numerical but also qualitative given that new employees may be comparatively less proficient.

One of the main reasons for this shortage of workforce is the high attrition rates arising from increasing work-related stress, social isolation, attractiveness of shore-based jobs, etc. (Haka et al., 2011). However, as more ships get added to the world fleet each year, the crewing companies seem to be playing a ‘zero-sum game’ in the context of work-force recruitment; bringing in ill-informed practices in the industry

¹ The Baltic and International Maritime Council (BIMCO) and the International Chamber of Shipping (ICS) jointly conducted the maritime workforce survey. The report estimates current work-force numbers at sea and a demand and supply ratio of manpower; it also makes a projection of this ratio over the next 5 years. First published in the year 1990, the BIMCO-ISF Seafarer Workforce Report is updated every 5 years and is used extensively in research and by industry personnel involved in crewing & training.

such as ‘poaching’, where a company with a financial advantage lures the employees from other competitors by offering higher wages and benefits (Nguyen et al., 2014).

1.1.2 Current Challenges

The last couple of years have seen unprecedented occurrences and changes in the world in the context of the Corona Virus Disease, 2019 (COVID-19) pandemic. The shipping business was hit badly (with world trade recovering only in the latter half of 2020 and the beginning of 2021² (UNCTAD, 2021)) and seafarers suffered unduly. Many countries closed their borders to ships’ crews, and hundreds of thousands of these seafarers were stranded on-board³ during the “COVID-19 Crew Change Crisis”. The seafarers had new problems as fear built up over health, vaccination, rising number of mortalities, lock-downs and repatriation (De Beukelaer, 2021). The already diminishing motivation and job satisfaction of seafarers took a major hit as mental health issues (in the form of anxiety and depression) intensified and chronic fatigue and unhappiness increased (Pauksztat et al., 2022). This was evident from the surveys informing the Seafarers’ Happiness Index⁴ at that time.

The current ongoing armed conflict between Russia and Ukraine is also proving to be extremely detrimental for affected seafarers and their employing organizations. At present, there are about 1,500 merchant sailors of various nationalities trapped on board in harsh conditions (Bush, 2022). On the other hand, Ukraine and Russia are both major seafarer-supplying nations. As per the BIMCO and ICS (2021), at present, there are approximately 198,000 Russian seafarers (which comprises about

² Due to COVID-19-induced severe port congestion, especially in Los Angeles - Long Beach, a sharp and significant surge in Container Freight Rates across the world was observed (UNCTAD, 2021).

³ According to the International Transport Workers’ Federation’s (ITF) and Joint Negotiating Group’s (JNG) Joint Statement *on Seafarers’ Rights and Present Crew Change Crisis* published by the ITF on 5th October, 2020, about 400,000 seafarers were stranded on-board vessels due to border lock-downs and travel restrictions in May 2020.

⁴ According to The Standard Club’s Seafarer Happiness Indices (2021), during the Second Quarter of 2021 the Happiness Index fell steeply to an all-time low of 5.99 (out of 10), which then increased slightly to 6.59 in the Third Quarter.

10% of the total global workforce), and about 76,000 Ukrainian seafarers (which is about 4% of the global workforce). Continued war will very likely have a significant impact on these numbers.

1.2 Problem Statement

For quite some time now, Human Resource (HR) Managers agree that retention is a top business priority to manage turnover and preserve talent, but not many of them are able to address it properly due to its complexities, while others fail to recognize its importance (Bernthal & Wellins, 2001). A considerable amount of research has been carried out on the job satisfaction and motivation of seafarers (Gekara, 2009; Haka, 2011; Caesar et al., 2013; Caesar et al., 2014; Nguyen et al., 2014; Caesar et al., 2015). However, most of these studies observe the problem from a qualitative viewpoint, and very little data has been gathered and analysed in a quantitative process like the research of Bhattacharya (2015) or of Wu et al. (2021).

Retaining trained and qualified seafarers is of utmost importance to companies especially in the current scheme of things caused by the pandemic and the Russo-Ukrainian unrest, where the seafarers have low motivation and many want to move to shore-based jobs or to other companies offering better benefits. In such times, there is a pressing need for employing organizations to study, empirically analyse and understand the factors that influence the retention of seafarers, and thus to employ such tactics as may best lead to optimising corporate strategies of eliminating or limiting high turnover.

1.3 Research Aim and Objectives

A significant amount of literature surrounding *turnover* and *retention* of seafarers exists (Caesar et al, 2015; Leong, 2012; Bhattacharya; 2015). However, the problem continues to persist. Most research works study the problem from a purely qualitative or quantitative perspective, but in order to better understand the problem over a

larger population and to explain the underlying factors at play, a more mixed method approach is required.

Through the use of a case study of the shipping company NSB-Group, this research aims to identify the critical factors that affect the motivation of the seafarers to continue working at sea and to remain attached to their company. It further aims to analyse these factors in details, including the evaluation of the extent to which these factors actually play a decisive role in seafarer-retention.

In line with the aim, the following are the objectives of this research:

1. To identify the organizational factors which influence the retention or turnover intentions of seafarers in the company.
2. To measure and analyse the significance of these factors in comparison with each other.
3. To understand the current approach and measures in place for reducing turnover of seafarers, and to provide recommendations for informed corporate decision-making in order to improve retention.

1.4 Research Questions

In order to achieve the above objectives, this research strives to answer the following questions:

1. What are the factors that influence the commitment of seafarers to their employers?
2. How do these factors compare with each other in terms of weightage in influencing the decision-making of seafarers regarding employment?
3. How is the situation being currently tackled corporately, and how can the above knowledge be used for effective employee-retention via informed corporate decision-making?

1.5 Methodology and Data Collection

According to Ellen (1984, p. 9; as cited by Rehman and Alharthi, 2016), methodology is “an articulated, theoretically informed approach to the production of data.” This research deals with identifying and analysing factors for turnover and retention of seafarers and to analyse the gap between such factors, and the measures deployed by a specific company to retain their employees. The research is a case-study of NSB-Group shipping company. A multi-step mixed-method approach was considered appropriate for the aim of the study.

A systematic literature review (SLR) of existing literature related to seafarer turnover and retention was carried out to extract and list the factors. A conceptual framework, designed using motivation theories, was developed and utilised for this process. Two separate focus groups of officer rank seafarers were conducted to validate these factors and short-list them in relation to relevance and importance.

Additionally, a questionnaire was developed and sent out to officer rank seafarers. The data obtained was statistically analysed. Finally, interviews of actors within the company’s crew management and training departments were conducted to study the gap between the company measures and the expectations of the seafaring officers.

2. Literature Review

2.1 Employee Retention

Price (1977, as cited by Ongori, 2007) defines turn over as the ratio of the number of people who quit an organization to the average number of people in the organization during a period of time. However, managers frequently associate turnover with employees quitting the firm and new employees filling up their space (Ongori, 2007). Turnover also includes *attrition*, which is defined by Latha (2017) as “the gradual reduction in the number of employees through retirement, resignation, or death”. Winterton (2004) classifies turnover into 3 different categories: retirement, involuntary dismissal and voluntary separation (premature decision to quit work). The first two are mainly influenced by the management of the company and are usually inevitable, whereas the last one is the individual’s own decision to quit their job, and can be inhibited by using retention strategies and other Human Resource (HR) practices. Turnover comes at huge costs to organizations. The approximate cost of turnover of an employee could be as much as 2.5 times that person's salary. Some studies report the cost of losing a talented employee to be between 70% and 200% of the employee's annual salary (Haider et al., 2015; Sepahvand & Bagherzadeh Khodashahri, 2021), depending on context. However, it is difficult to estimate the exact cost of turnover as there are many hidden elements of this cost, including acquiring and recruitment costs, training costs, and other intangible costs such as the loss of company-specific Knowledge, Skills and Abilities (KSA). These KSAs developed by the employees during their stay in the company compose the “human capital pool” (as held by the resource-based view of Human Resource Management (HRM), and are crucial for the success of an organization as they build up its competitive advantage in the market (Ortlieb and Sieben, 2012). Characteristically, labour turnover involves not only the rotation of employees in the labour market – that is, between organizations, employers, jobs and occupations – but also oscillating between the states of employment and unemployment (Abbasi and Hollman, 2000). This means that in a competitive market where the availability of alternatives and

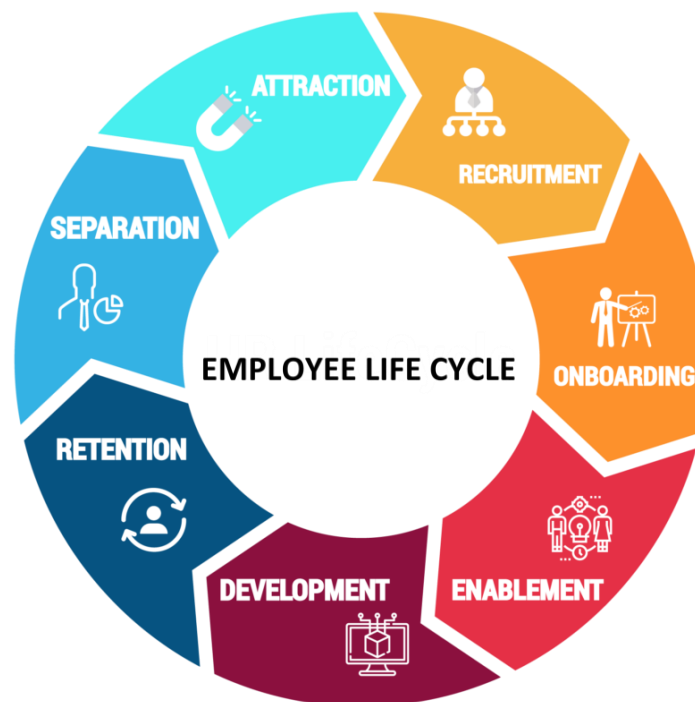
better opportunities (in terms of remuneration, benefits and quality of work-life) are abundant, specific and well-informed retention strategies are essential in order to improve market performance and to maintain a good brand name as an employer, which in turn increases employee attraction (Korsakienė et al., 2015).

2.1 Employee Life Cycle (ELC)

The Employee Life Cycle (ELC) model was developed in HRM to visualize the progress of an employee through the various stages (Figure 1) in an organization. The journey of the employee through these stages determines his or her engagement with the company and the necessary strategies that must be adopted by the organization for management and development of the employee (Smither, 2003).

Figure 1:

Employee Life Cycle (ELC) Model



Note. From *HR Management Software*, by Nedo Pakistan, 2020 (<https://nedopakistan.com/hrms-management-software.html>). Copyright 2020 by Nedo Corporation.

‘Attraction’ is where the employee joins the organization. A good brand image can be game-changing and it is where competitive advantage lies (Cattermole, 2019). ‘Retention’ will depend on how the employer manages all the stages in between. It is important to note that this stage comes before the actual separation (leading to turnover); therefore, specific HR strategies should aim at not letting separation intentions set in (Smither, 2003; Nagendra, 2014). Once the employee has made up their mind to leave “separation” happens. At this stage it is important to seek critical feedback from the departing employee for organization’s Human Resource Development (HRD) (Verive & DeLay, 2006). It should be borne in mind that oftentimes a departed employee might seek to return. This situation should be selectively and strategically made use of, because a “returner” can positively influence the turnover decision of other employees in the organization (Winterton, 2004).

2.2 Strategic Human Resource Management (SHRM)

In the past few decades, the role of HRM has gone through a dramatic change (Lawler, 2005, p. 1), with a trend towards linking organizational and corporate strategies to HRM strategies. Earlier the HR functions were mainly reactive and administrative. However, with the advent of “Strategic Human Resource Management” (SHRM), organizational actions have become proactive and executive (Sahoo et. al, 2011; Fahim, 2019). The following abstract quoted from Colbert (2004) is noteworthy:

SHRM is predicated on two fundamental assertions. First is the idea that an organization’s human resources are of critical strategic importance—that the skills, behaviours, and interactions of employees have the potential to provide both the foundation for strategy formulation and the means for strategy implementation. Second is the belief that a firm’s HRM practices are instrumental in developing the strategic capability of its pool of human resources. A stronger theoretical foundation will help to affirm the first

assertion, connect it to the second, and improve the focus and effectiveness of HRM research and practice, and it will help organizations to thrive more effectively in their particular operating contexts.

Due to fast-paced development in the world in terms of globalization, shift from labour to knowledge work, the advent of Industry 4.0⁵, and increasing competition, it is now evident that organizations must make all efforts to gain competitive advantage by optimum management of human capital. However, the research on how SHRM can be utilized to improve retention is inadequate (Holtom et al., 2008). The challenge that faces researchers is understanding which of the many HRM practices can be leveraged to obtain a sustainable competitive advantage. At the same time, some studies have shown confusing results while trying to link SHRM and retention. Most of these studies have been carried out in developed countries; there is lack of similar research in developing countries and inconspicuous industry sectors (Mbugua et al., 2015, p. 41, 55-56), shipping being one such sector. Armstrong (2006) lays down three basic assumptions regarding SHRM: firstly, that human capital is an essential tool for achieving competitive advantage by a company; secondly, that it is the people themselves who execute plans based on organizational strategies; and thirdly, that every organization should lay down a systematic method of progress based on its organizational goals and means of executing such plans. Therefore, SHRM should be seen as incorporating a set of activities which can be employed by the organization, integrated horizontally with the business strategy and vertically within itself, in order to formulate and implement the business strategy of a company. To that end, HR professionals need to be viewed as strategic business partners employed to recruit and retain the best talent available in the human capital market (Armstrong, 2006).

⁵ Industry 4.0 is the term given to a new stage of industrialization which is on-coming. The new feature of this stage is thought to be the integration of Information - Communication Technologies (ICT), especially the Internet of Things (IoT), with manufacturing and logistical processes, increasing automation and reducing need for human interface, and evolving into the Cyber-Physical Systems (CPS) (Wang et. al. 2015).

2.3 Need for SHRM in Maritime Industry

HRM is a particular challenge in the maritime domain firstly because a ship is a mobile asset that trades worldwide; and secondly, seafaring is a global market where the employers are free to pick and choose from a wide range of available labour-source options around the world to fit their needs⁶. This, in theory, should reduce the problem of shortage. On the contrary, however, it opens up international competition for labour, which is complicated to regulate (Tang and Zhang, 2011, p. 1). The remarkably high mobility of seafarers (especially senior level officers) within the industry can be attributed to several reasons including the fluidity of the terms of employment (as seafarers are mostly contract workers), high volatility of freight market which causes frequent fluctuations in seafarer demand, and national and local factors such as socio-economic conditions. Other factors include the quality of maritime education & training (MET) infrastructure in the jurisdiction which determines the participation of the seafarer in the global market (Progoulaki & Theotokas, 2010; Tang & Zhang, 2011, p. 2). Apart from horizontal mobility, a considerable amount of vertical movement is observed in terms of attrition as seafarers look for options ashore. Studies have shown that a substantial number of shore-based jobs are available to seafarers because their KSAs are considered unique and valuable (Gardner et al., 2001, as cited by Fei, 2018, p. 13). Therefore, companies would find investing in SHRM methods and tools advantageous.

There has been an increased emphasis on Corporate Social Responsibility (CSR) in various sectors. The concept of CSR suggests that a company or a firm is not just responsible to its shareholders but has an obligation to all the stakeholders, which would include its employees, customers, the environment, the wider society and all

⁶ The origins and global as well as geo-political and industry dynamics that led to and sustain this situation of a globalised labour force and the mixing of nationalities on board ships as well as the challenges that arise there from, while being acknowledged by the author, do not form a part of this study.

other entities affected by the actions of the company (Jones, 1980). In the maritime context, these stakeholders include not just the seafarers but also various other organizations such as governing bodies like the International Maritime Organizations (IMO) and International Labour Organization (ILO), different seafarer-supplying nations and maritime administrations, seafarer trade unions (such as International Trade Fund – ITF) and other non-governmental organizations (NGOs), etc. The shipping companies must meet the expectations of these stakeholders and therefore applying good, and strategic HR practices is of particular importance (Matthews 2010; Pawlik et al. 2012). The pressure and expectations can be seen as drivers for SHRM in the maritime sector.

2.4 Employer of Choice (EoC) Branding

Employee of Choice (EoC) branding refers to the identification and creation of the company brand message that serves to increase the attractiveness of an organization with respect to employment. This philosophy, therefore, deals with the application of marketing principles (such as the firm's value systems, behaviour and policies) to the company's attraction and recruitment strategies, and to the retention principles applied to present employees. Corporate branding, especially EoC branding, encompasses the company's core values (and a promise of their deliverance), and is utilised to gain a competitive advantage in the market in managing their talent pool (Sutherland et al., 2002). The primary actions of a company in its strife to become an EoC and to attract and retain talent should include: (1) selectively hiring new employees, (2) investing in comprehensive training and development, (3) relatively competitive compensation and rewards, (4) job security, (5) good relations between various departments and entities of the organization, (6) decentralised decision making (7) transparency and extensively sharing financial information and performance reports with all employees of the organization (Voss, 2001).

As for other companies, seafarer-employing companies should seek to bring about such reforms of strategic management such as would increase the satisfaction of their

seagoing workforce, as well as marketing the company by raising awareness in the industry to attract new seafaring talent. It should be understood that conventional strategies like cost-cutting through downsizing, reducing salaries, condensing training and development costs, or saving crew management expenses (e.g., cost-cuts related to shore-leave, crew-change, food and welfare costs, etc.) are neither sustainable nor competitive, and can negatively affect the brand image of the company (Thai et al., 2013). It may be argued that the strategy of an exemplary EoC could be extrapolated to the whole industry to boost the image of shipping as an Industry of Choice (IoC) in order to attract more talented young individuals to the industry, stabilize attrition, and curb the manpower crisis of the industry (Kokoszko & Cahoon, 2007; Thai & Latta, 2010; Thai et al., 2013).

2.5 Theories of HRM

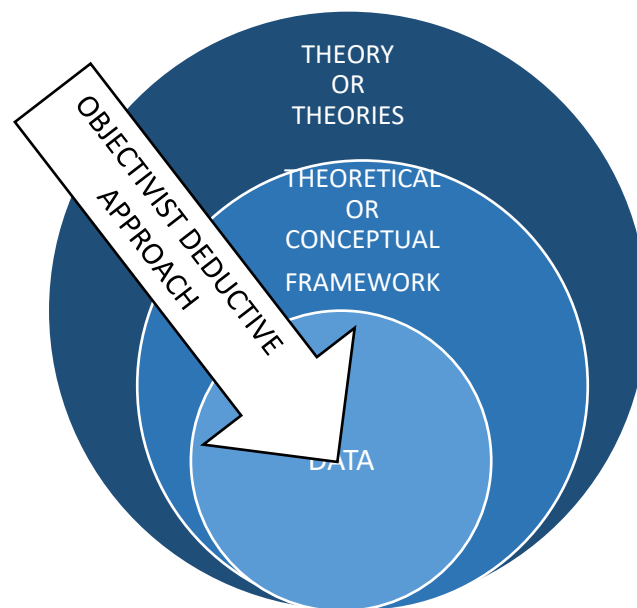
Trochim (2006, as cited by Simon & Goes, 2011) notes that there are two underpinning elements of research: theory/theories and observation. Further, he explains that a theory is an informed idea inside the mind of the researcher whereas an observation is the outside reality. Waltz (1997) attempts to provide a definition of theory:

I define theory as a picture, mentally formed, of a bounded realm or domain of activity. A theory depicts the organization of a realm and the connections among its parts. The infinite material of any realm can be organized in endlessly different ways. Reality is complex, theory is simple. By simplification, theories lay bare the essential elements in play and indicate necessary relations of cause and interdependency - or suggest where to look for them.

The researcher has adopted an “objectivist deductive” approach for this study. The “objectivist” epistemology⁷ is derived from the concept of “objectivity” that derives from the worldview that there is only one truth, which is independent of the researcher’s thinking and which, while not being easily accessed, can be approached through the accumulation of knowledge and the attainment of an inquiring mind-set and ample reasoning (Salmieri, 2016, p. 274). “Deductive” research involves a top-down approach (see Figure 2) of going from general and abstract conceptualizations to observable and quantifiable data within a particular context.

Figure 2

The Objectivist Deductive Approach to research



Note. Adapted from “The distinctions between theory, theoretical framework, and conceptual framework”, by Varpio, L., Paradis, E., Uijtdehaage, S., & Young, M., 2020, *Academic Medicine*, 95(7), p. 989-994. (<http://doi:10.1097/ACM.0000000000003075>). Copyright 2022 by The Association of American Medical Colleges.

⁷ *Epistemology* is the study of assumptions made about the bases of knowledge – the kind and the nature – which allows us to look at the world and make sense of it. It involves knowledge and apprehension of what the [body of] knowledge encompasses (Crotty, 1998; as cited by Al-Saadi, 2014).

Objectivist deductive research is based on: (1) the ontology⁸ that there is one truth or one external reality; and (2) the epistemology that this reality can be sought by accumulating incremental knowledge on the subject, by reasoning, by forming informed assumptions or theories and by collecting unbiased data to test these theories. In other words, the researcher uses the theories to create an informed framework for his or her research (Varpio et al., 2020).

The researcher used a mixed method approach to design quantitative research from qualitative findings and then verify the quantitative research results with qualitative data since both methods individually have their own drawbacks. Qualitative research can lead to in-depth understanding but cannot be applied to a larger population because of its scope. In contrast, quantitative research may be too simple to explain the complex social world. Therefore, this research also involves a certain amount of ‘subjectivism’⁹ (Ansari et al., 2016).

Several theories on motivation, job satisfaction and behavioural sciences can be applied in the context of HRM. The following sub-sections discuss the theories most relevant to this study.

2.1.1 Herzberg’s Two-Factor Motivation-Hygiene Theory

This theory, developed by Fredrick Herzberg in 1959, suggests that the organizational factors that influence employee motivation and job satisfaction can be divided into two distinct factions:

⁸ *Ontology* is the study of the reality and ‘being’. It is concerned about what we know about the world, what we assume about the reality or what is possible to know about reality (Crotty, 1998; as cited by Al-Saadi, 2014).

⁹ Contrary to objectivism, a subjectivist researcher considers the reality from the perspective of the participant, and therefore his individuality has some effect on the research; and so their methodology is qualitative in nature (Ansari et al., 2016).

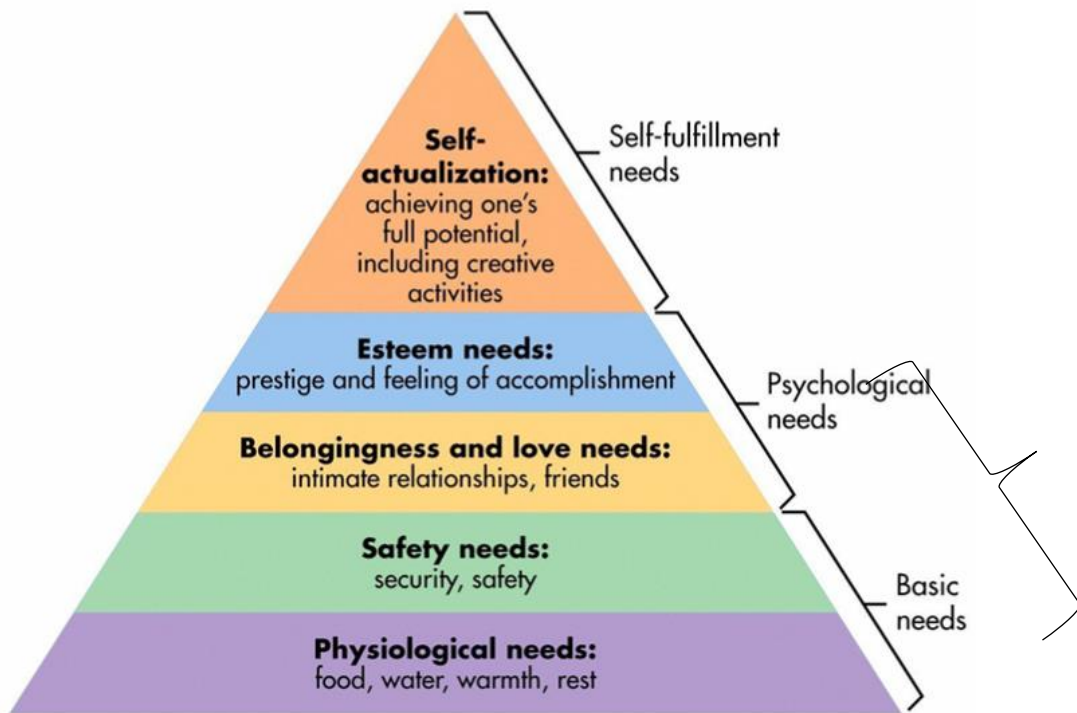
1. **Motivation Factors:** These are factors, the presence of which create motivation in the employee, encourage hard-work and organizational commitment. They include achievement, recognition, promotions, training and development, opportunities for growth and bonuses.
2. **Hygiene Factors:** These are factors, the absence of which can cause dissatisfaction with the job and reduce employee commitment. They can weaken the bond of an employee with the organization and may cause intentions to quit. These include quality of supervision, salary and remuneration, physical working conditions and lack of basic necessities (Miner, 2005; Chu Kuo, 2015; Ngo Henha 2017).

2.1.2 Maslow's Hierarchy of Needs

This motivation theory used in psychology puts forward a five-tier model of human needs, which is often pictured as a pyramid of hierarchy (Figure 3). According to Maslow (1943), a need which is lower down in the hierarchy is more basic than the one above and has to be fulfilled first before the needs above can be catered to. Compared to Herzberg's Theory (1959), this is a more multi-level approach. The first four needs from the bottom maybe visualised as *Deficiency* needs and when not fulfilled leads to demotivation or dissatisfaction. The top of the tier can be seen as *Growth* needs, fulfilment of which motivates a person and causes satisfaction (McLeod, 2007).

Figure 3:

Maslow's Hierarchy of Needs



Note. From “Maslow's hierarchy of needs”, by McLeod, S., 2007, *Simply psychology*, 1(1-18). (<https://www.simplypsychology.org/maslow.html>). Copyright 2022 by Simply Psychology.

2.1.3 Adams' Equity Theory

The Equity Theory is the contribution of Stacy J. Adams (1965). According to it, an employee's input and contribution to their work and job performance largely depend on their perceived equity (or inequity) in their job space. It further holds that people usually compare their outcome-to-input ratio with that of other people and if they perceive unfairness or lack of equity, they correct their input - lower their performance and commitment – to restore the equity of the ratio (Table 1). Input variables include the person's age, gender, effort, time in the organization, level in hierarchy, training, education, social status, present and past performance, etc., whereas outcome variables include remuneration, promotion, recognition and social (Adams, 1965; Rao, 2008, p. 343).

Table 1

Schematic representation of Adams' Equity Theory.

Inequity occurs when:		
Person's Outcomes / Person's Input	<	Other's Outcomes / Other's Inputs
Person's Outcomes / Person's Input	>	Other's Outcomes / Other's Inputs

Equity occurs when:		
Person's Outcomes / Person's Input	=	Other's Outcomes / Other's Inputs

Note. From "Organizational Behaviour (Text, Cases and Games) Third Edition", by Rao P. S., 2017, Himalaya Publishing House, p. 344, Copyright 2017 by The Author.

2.1.4 Job Embeddedness Theory (JE)

The Job Embeddedness (JE) Theory was developed by Mitchell et al. (2001) to explain why people stay in their jobs. The concept is a metaphor for being caught in a web or "stuck" in a net. A person who is highly embedded has fewer chances of leaving.

The measure of embeddedness of a person is informed by three domains:

- (1) *'Links'* – They are the connections (formal or informal) a person makes with the people or the organization and the bonds created during their lifetime in the organization, which could be social (like friends and acquaintances), economic (like remuneration and perks), cultural (pertaining to nationality or religion, etc.) and/or 'off-the-job' links (such people with family - spouse and children - are less likely to leave).
- (2) *'Fits'* – They refer to are the perceived compatibility with or convenience at the job and workspace. Accordingly, a person's goals, plans, and moral values should 'fit' in with the organizational goals and corporate culture; they assess how well their

KSAs are coherent with their job and role in the organization. Fit can also refer to how comfortable a person feels with their physical and social environment inside the job limits or out.

(3) '*Sacrifices*' – These are the compromises, adjustments and settlements a person will have to make to change their job. It is an evaluation of the cost-to-benefit ratio of taking up a new job. It could involve material costs (like settling for a lower salary, forfeiting loyalty perks and pension, etc.) or psychological losses (like moving locations with spouse and children where the spouse might need to look for other employment or children might need a new school).

Studying these factors and investing to make an employee more positively embedded (but not by using aggressive measures like contract-violation penalties and employment bonds) can significantly increase the retention of a valuable workforce in the organization (Mitchell et al., 2001).

2.1.5 Social Exchange Theory (SET)

This theory is mainly developed based on the works of Homans (1961), Blau (1964) and Emerson (1962, 1972a, 1972b), and it has now become one of the popular theoretical foundations for organizational research concerning social interactions and behaviour (Cook et al., 2013). According to Blau (1964, p. 91), a social exchange pertains to “voluntary actions of individuals that are motivated by the returns they are expected to bring, and typically do in fact bring from others.” The theory lies on the premise that “person A's behaviour reinforces person B's behaviour and vice versa, thereby maintaining the relationship” (Gentry et al., 2007, p. 1007). The social exchange is based on the idea of exchange – a ‘give and take’ relationship – and therefore, instates the belief that if managers invest on their employees by recognition, remuneration, perks, social well-being, training, personal development, fair treatment etc., then they can expect these investments to be reciprocated by the employees in the form of trust, loyalty, good performance, productivity and organizational commitment (Tzafrir et al., 2004; Paille 2013, p. 769). When the

terms of this exchange (which are implicit) are breached, it creates job dissatisfaction and an intention to leave. Researchers have termed these expectations ‘the psychological contract’, which the employee and the employer agree upon (implicitly), forming the blueprint of the social exchange. The fulfilment of the psychological contract is the conclusion of the transaction that becomes part of social exchange theory (Arnold, 1996; Anderson & Schalk, 1998; Cullinane & Dundon, 2006). Therefore, studying and managing these terms or variables can reduce turnover and improve retention (Mignonac and Richebe, 2013; Allen and Shanock, 2013).

2.6 Conceptual Framework

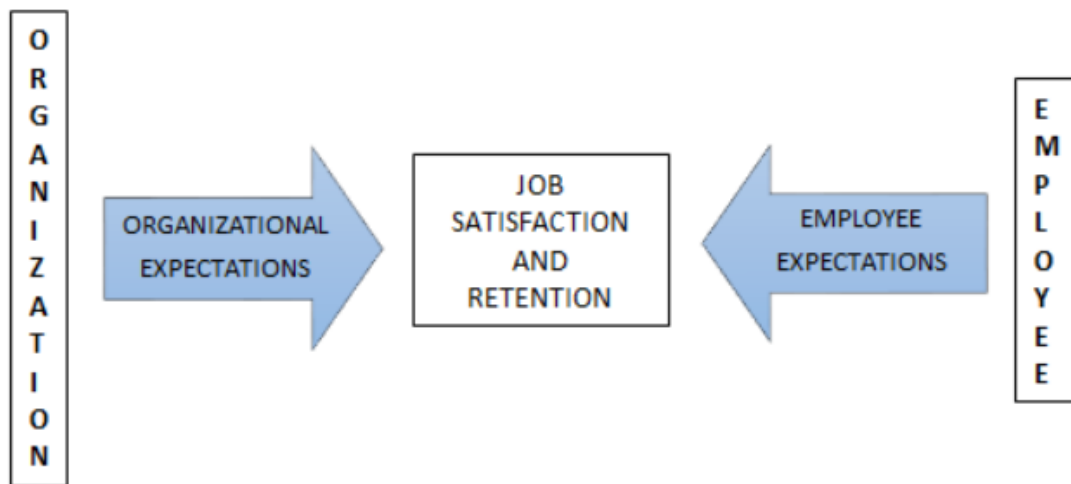
For this study, the researcher has drawn upon the Social Exchange Theory and Job Embeddedness Theory explained above to create a conceptual framework based on the factors of job satisfaction explicitly listed by Herzberg (1969) in his Two-Factor Theory of Motivation-Hygiene. Through the lens of this framework, the researcher aims to identify variables that improve the retention of seafarers and conduct a comparative analysis.

Researchers of the SET agree that any social exchange involves a sequence of interactions that give rise to obligations. To understand these interactions, it is essential to realize that social exchanges have three domains that need to be studied: (1) rules and norms of exchange, which could be explicit (contractual/verbal) or implicit (expected), (2) resources exchanged - physical or psychological, and (3) the relationships formed upon exchange, which are stronger when rules of exchange are met (Cropanzano & Mitchell, 2005). Two entities driven by self-interest come together for an exchange to accomplish individual objectives that they cannot realize alone. Hence, the central properties of SET are *self-interest* and *interdependence* (Lawler & Thye, 1999). SET is important because it explains the relationship

between psychological empowerment, perception of job satisfaction and turnover intentions (Blau, 1964). Figure 4 illustrates SET schematically. This study is based on the presumption that social exchange is the basic interchange of money, goods, services and necessities. Seafaring is a highly competitive global labour market, and seafarers are usually contractual workers (Leong, 2012, p. 31-36). Therefore, the expectations of reciprocity of goods and services in the social exchange between seafarer and employer are much the same, given and primary all across the industry, and it gives rise to feelings of job satisfaction and organizational justice (Yorulmaz & Özbağ, 2020).

Figure 4

Social Exchange Theory



Note. The above figure is a schematic diagram created by the author depicting Social Exchange in an organizational setup. The fulfilment of expectations leads to job satisfaction and retention

Combining the above two theories, the researcher puts forward the idea that these factors of job satisfaction and motivation, and their likely outcomes in employee behaviour, can be considered goods and services transacted in the social exchange.

The aforementioned theory of Job Embeddedness, put forward by Mitchel et al. (2001), has a unique structure that aims at employee retention rather than turnover like the previous studies. The stronger is the embeddedness the better is the retention (Holtom & O’neill, 2004). Hence, for this analysis, JE has been seen to have a moderating¹⁰ effect on employee retention.

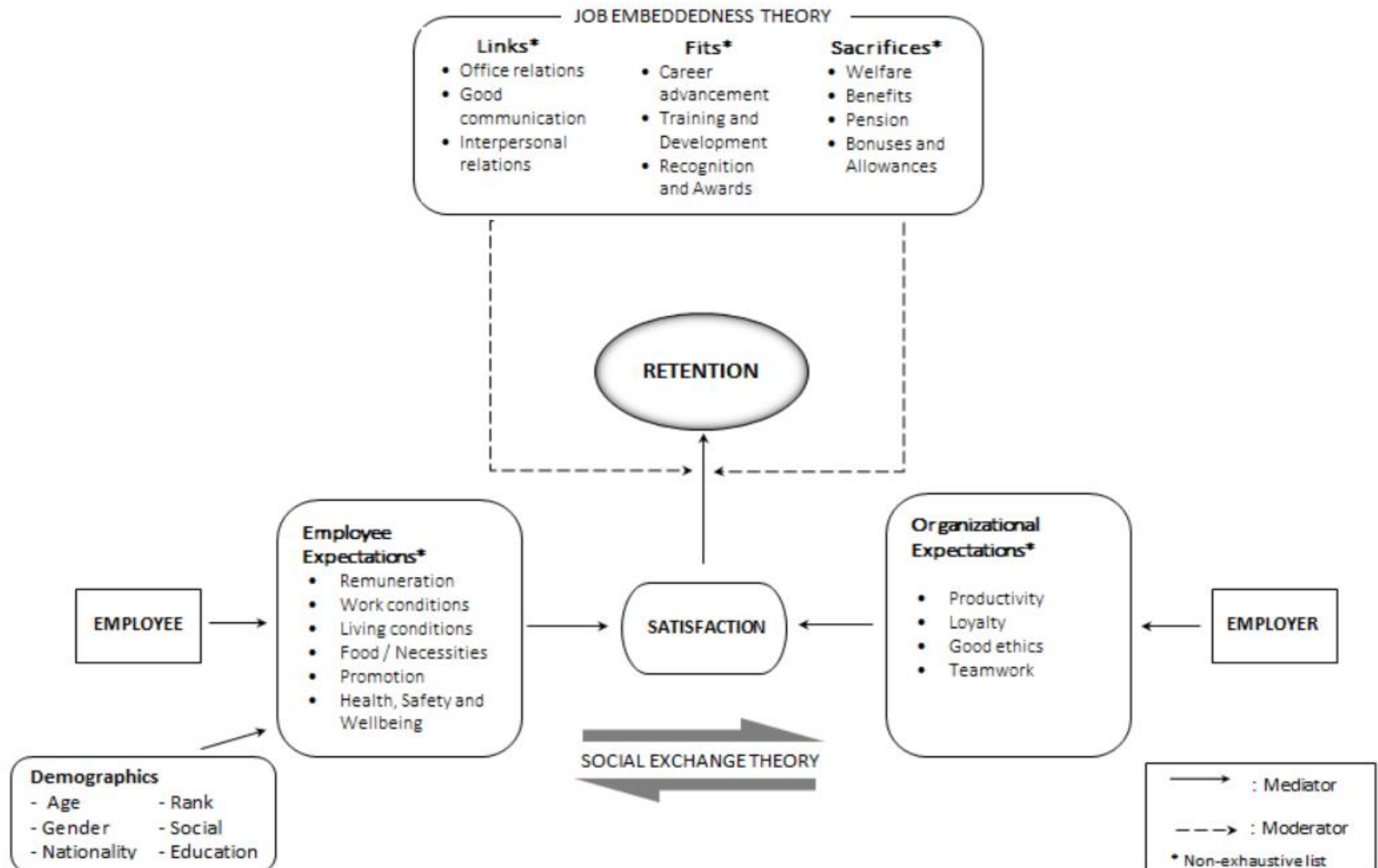
Links are bonds that employees make with the organization that prevent them from leaving the job. Good interpersonal and office relations and effective communication with the office can be considered links from a maritime organizational perspective. *Fits* relate to how well an employee perceives himself fitted to the job role. HR practices like training and development, career advancement, and recognition (awards) can help make employees perceive that they belong to their job and organization. *Sacrifices* pertain to the perception of an employee's compromises to leave the job. SHRM here would include strategies such as pension plans, loyalty perks and bonuses, company equity, family health care and education schemes, etc. can go a long way in improving retention. SHRM measures to increase ‘job embeddedness’ can significantly improve organizational commitment by changing the employee's perception about the availability of alternative employment. The more embedded the employees are in the organization, the less their perception of available alternatives (Mitchel et al., 2001; Holtom & O’neill, 2004; Crossley et al., 2007; Jiang et al., 2012; Kiazad et al., 2015).

Based on the above understanding, the researcher has developed the following conceptual model for identifying and studying retention factors in this case study as shown in Figure 5.

¹⁰A “mediator” variable is an independent variable that has a mediating effect on the dependent variable. It links them or “stands between” the flow of their relationship. A “moderator” variable “influences the strength and/or direction of the relationship” between and dependent and an independent variable (Burkholder et al., 2019).

Figure 5

Conceptual Framework of Seafarer Retention



3. Research Methodology & Data Collection

3.1 Introduction

According to Rinjit (2020):

The path to finding answers to your research questions constitutes research methodology. Just as there are posts along the way as you travel to your destination, so there are practical steps through which you must pass in your research journey in order to find the answers to your research questions. The sequence of these steps is not fixed and with experience you can change it. At each operational step in the research process you are required to choose from a multiplicity of methods, procedures and models of research methodology which will help you best achieve your research objectives.

The primary research approach was a case study of a specific shipping company. Within this wider case study approach, a multi-step mixed-method approach was used for the study. The primary case was the NSB Group. The researcher was commissioned and funded by the NSB Group to carry out this research. The NSB Group is primarily a ship management company based in Buxtehude, Germany, that manages and supplies crew to 71 vessels foreign-going vessels of various ship-owners. It has approximately 1500 seafarers of various nationalities. Apart from technical and commercial ship management, NSB Group also has daughter companies that provide maritime services, which includes crewing, new-building supervision and engineering services, corporate travel services, technical spare-parts supply, project finance, crew training, and several other services. The NSB Group has the NSB Academy in Buxtehude and cooperation with academies in Sri Lanka and Philippines where they train their own seafarers. It has its own crewing company (NSB Crewing) but also hires seafarers from other crewing agencies as and when required (NSB Group, 2022).

The first step in the multi-step mixed-method approach was the conduct of an extensive scoping of literature to understand the background of the problem of seafarer shortage. Following on from this, the researcher carried out a Systematic Literature Review (SLR) to identify the various factors and issues that govern the turnover and retention of seafarers. This was the method to answer the first question of the research relating to exploring the factors that influence the commitment of the seafarers to their employers.

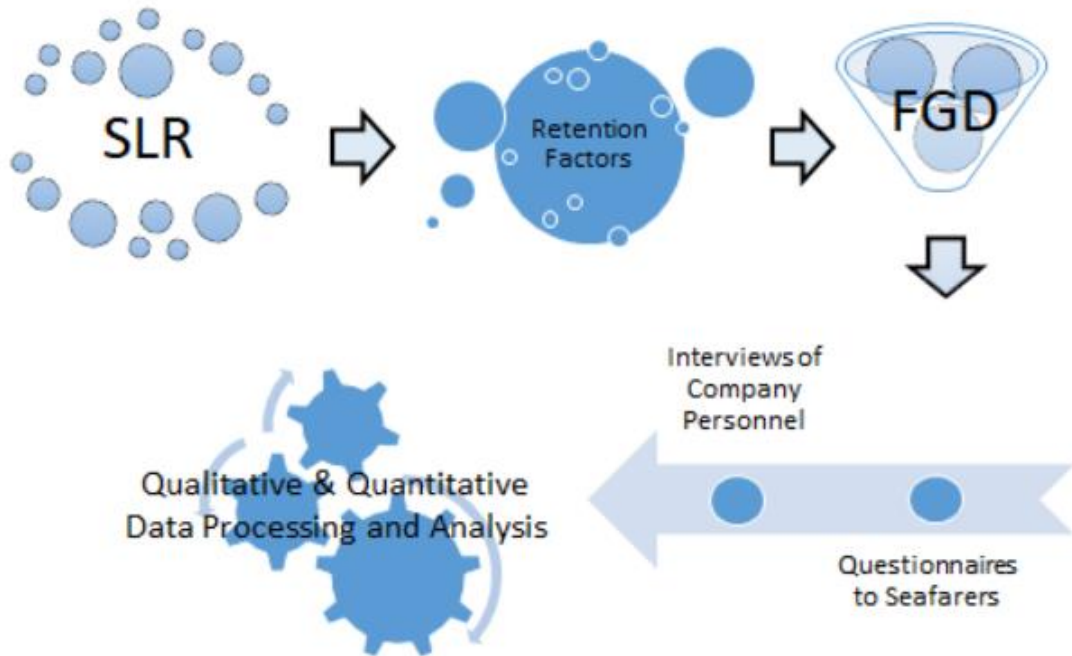
Subsequently, two separate Focus Group Discussions (FGD) were carried out with officer-ranked seafarers to shortlist the most important of these factors and group them under appropriate labels and headings. This assisted the researcher in designing and developing questionnaires (intended for seafaring officers of NSB Group) for quantitative research to analyse, compare and measure the weightage of these factors by employing Choice-Based Conjoint Analysis (CBCA)¹¹. The quantitative analysis enabled the researcher to answer the second research question, which required a comparison of the factors as to their weightage in terms of how they influence the decision-making of seafarers regarding employment.

Finally, in an attempt to address the gap and answer the third and final research question regarding the corporate measures being taken by NSB Group to improve the retention of their seafarers, the researcher carried out interviews of various actors in the company. A pictorial depiction of the methodological steps employed by the researcher is given in Figure 6.

¹¹ CBCA is explained in greater detail in part 3.4 of this chapter.

Figure 6

Methodological Sequence of Steps



3.2 Systematic Literature Review (SLR)

The researcher conducted a systematic literature review (SLR¹²) of the existing literature and studies which focused on seafarers' motivation, job satisfaction and retention factors. An SLR is a properly planned review carried out in order to answer very specific research questions. It uses explicit and systematic methods to “identify, select and critically evaluate” the results borne out of the various studies included in the review. The SLR uses rigorous methods to prevent biases and shortcuts to make its results reproducible (Rother, 2007).

¹² An SLR should ideally be conducted before a quantitative research and a part of the literature used for the SLR can then be included in the ‘background’. Although this type of literature review first emerged in medical science studies, it has been found useful in social science research (Xiao & Watson, 2019).

In order to identify the factors and group them together the researcher used the lens of the developed conceptual framework¹³.

The SCOPUS abstract and citation database was used for the purpose of searching, followed by searching identified literature on original websites, journals and on Google Scholar and the EBSCO WMU Library database. The researcher adopted the methodology proposed by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)¹⁴ to search the necessary articles, include and exclude items as per required criteria of the research and shortlist the literature for the final review. Following was the inclusion and exclusion criteria for which the literature was screened:

Inclusion Criteria:

Any literature that addressed the following in respect of seafarers: -

- Job-satisfaction
- Turnover
- Attrition
- Retention
- Shortage

Exclusion criteria:

- Any studies published before 2010 (for relevance and contemporariness)
- Any articles which did not have access as sought via EBSCO WMU Library database and other available options provided by the WMU
- Articles which had certain specificity and could not be applied to seafaring officers of cargo ships around the world in general, for example studies related to seafarers of a particular type of vessels or research on

¹³ The theories and the conceptual framework derived from them were discussed in Chapter 2.

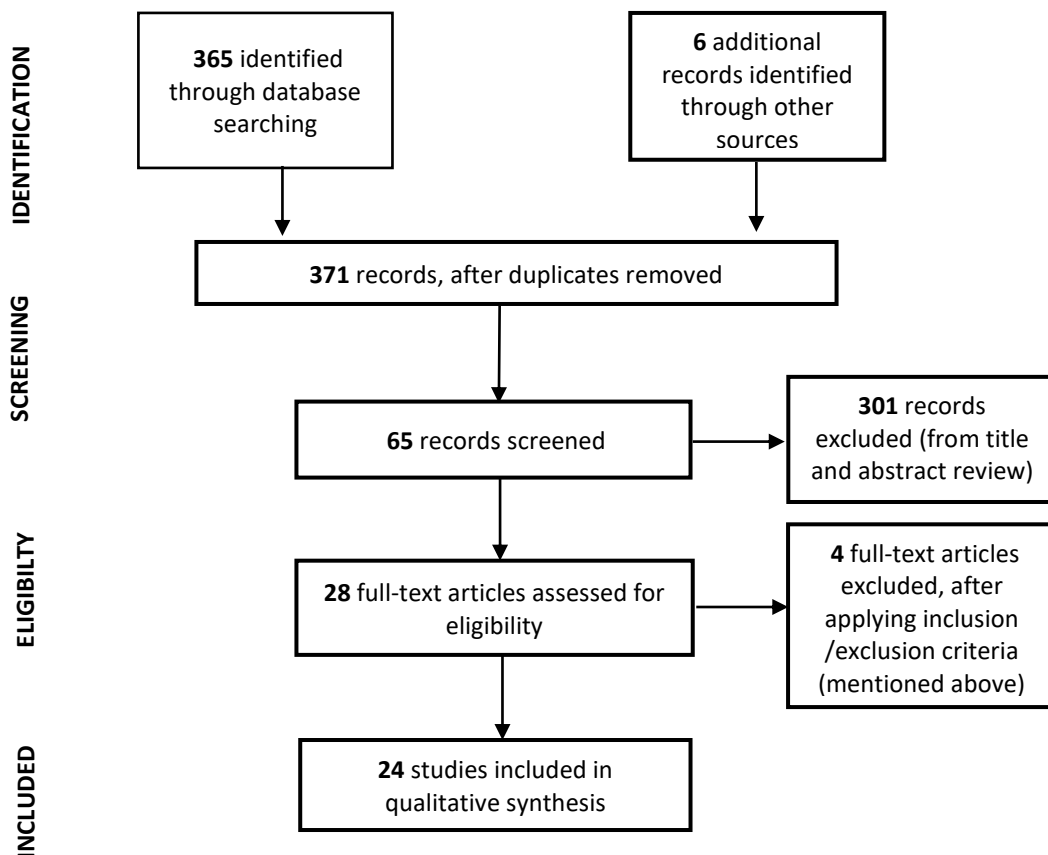
¹⁴ The PRISMA statement was developed in order to address the biases and short-coming of SLRs which were in studies preceding its advent. It comprises of a 27-item checklist and a 4-phase flow diagram with the objective of assisting researchers in improving the reporting of SLRs and Meta-analysis by making the study reproducible through standardization (Moher et al., 2009).

issues applicable only to seafarers of a specific country (e.g. trade union issues).

Grey literature was excluded from this study due to time limitations, the difficulty in searching and because several other peer-reviewed studies included in the SLR had extensively reviewed a lot of available grey literature (Leong, 2012; Tang & Zhang 2021). Figure 7 provides the flow of the records used and screened at various stages as required by PRISMA (2020).

Figure 7:

Systematic Literature Review - PRISMA – Records flow in this study



Note. Adapted from “Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement.”, by Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & PRISMA Group, 2009, *Annals of Internal Medicine*, 151(4), p. 264-269, (<https://doi.org/10.7326/0003-4819-151-4-200908180-00135>). Copyright © 2022 American College of Physicians.

Appendix A provides the details of the literature which was included for the SLR.

The researcher used Atlas.ti software (version 22) for qualitative coding and analysis of the various articles and documents identified and shortlisted during the SLR. Full text review was carried out to understand the problems of retention and code essential themes. The main objective was to identify as many retention problems as possible and then group them together under suitable headings after conducting the FGD.

3.3 Focus Group Discussion (FGD)

“A focus group is a group of individuals selected and assembled by researchers to discuss and comment on, from personal experience, the topic that is the subject of the research” (Powell & Single, 1996). Focus groups are very helpful instruments for triangulation of methods and validity checking. FGD can either be employed in the initial stages of a study and before quantitative research for exploration or zeroing in on themes that are more important than others, during a study to evaluate a programme or after a study to verify the outcomes (Powell & Single, 1996; Gibbs, 1997). Once the factors and themes were identified through the SLR and were categorised, two separate FGDs were conducted. One was organized at the World Maritime University (WMU), which comprised eight (8) seafaring officers and engineers from the current Master’s degree and PhD students available¹⁵; and another one was carried out at NSB Academy in Buxtehude, Germany, which consisted of nine (9) seafaring officers and engineers who are current employees of NSB Group and were invited to the office for a training program¹⁶. Hence

¹⁵ This group comprised of 6 male and 2 female students of WMU from Cote d’Ivoire, Georgia, India, Panama and South Korea,. This FGD was important for the researcher as most of these seafarers had migrated out of shipping or had attrition-intentions, which unravelled a different perspective from those who wished to remain seafarers, like in the 2nd FGD in Buxtehude.

¹⁶ The 9 men in the FGD were of various senior and junior officer ranks, and Bulgaria, Georgia, Poland, Russia and Ukraine.

participants for both the focus group can be said to have been selected via the “convenience sampling” method¹⁷.

The discussion during the focus group was audio-recorded and transcribed using the automatic transcription feature of Otter.ai software, followed by cleaning of transcription, and then transferred to Atlas.ti 22 for qualitative coding and thematic analysis. Appendix B shows the FGD instrument used.

A number of retention factors identified from the SLR and emerging from the FGD were grouped under broader categories, allowing for exploring more factors beyond the SLR's purview. These factors were then used to inform the conduct of the quantitative part of the research.

3.4 Quantitative Survey & Analysis

The quantitative survey was designed on QuestionPro software (see Appendix C for the survey instrument/questionnaire). The first part of the questionnaire instrument consisted of an information section followed by a consent section where participants had the option to consent and continue with the survey or abort and exit. In the next section, demographic questions regarding the seafarer's age, gender, and rank were asked. The following section consisted of a validation question where participants were asked to rate the importance to them of various factors used in the survey on a five-point Likert response format (i.e. from 1 to 5, 1 being “not at all important”, and 5 being “very important”). This outcome was analysed using descriptive statistics to validate the results of the next section, which was the Choice-Based Conjoint Analysis (CBCA).

¹⁷ Selection of the participants in a sample from those who are conveniently accessible to the researcher is called convenience sampling. It is often used in pilot studies (Bhardwaj, 2019).

3.4.1 Choice-Based Conjoint Analysis (CBCA)

For the main quantitative survey, the researcher used the Choice-Based Conjoint Analysis (CBCA) method to develop the survey and run statistical analysis of responses. The mathematical foundation of Conjoint Analysis (CA) began to emerge in the 1920s. However, researchers agree that the actual advent of conjoint measurement began in 1964 with the remarkable paper of Luce and Tukey (1964). The first detailed consumer-oriented study using CA appeared in 1971 by Green and Rao (Green & Srinivasan, 1978). It is the favourite methodology of marketers to find out how buyers and consumers make trade-offs when deciding among various competing suppliers and products. Conjoint analysis presents alternative service or product descriptions developed using fractional factorial experimental designs.

In CBCA, the participants are given two or more choices of products with a description of their various characteristics (or attributes¹⁸), for example, price, brand, features, etc. The consumers are asked to choose one of the options. They use one or more of the various models available to deduce ‘partworth’ or ‘utility’¹⁹ of consumers from different attribute levels. These partworths are then applied in consumer-choice simulators to predict how the consumers would choose amongst various services or products. Several user-friendly statistical software are available to prepare conjoint surveys, analyse obtained data and perform market simulations (Green et al., 2004). Since its development, conjoint analysis has found its application not only in product design and market research but also in social science studies such as health and medicine (Van Houtven et al., 2011; Lee et al., 2012; Bridges et al., 2012), human resource development (Nikolov & Urban, 2013),

¹⁸ “Attributes” are the various characteristics or features of a product (or company in the case of this research). “Attribute levels” further describe and define the attributes, and can be categorical (like brand names, description, etc.) or numerical (like price, percent, etc.).

¹⁹ The overall importance of a particular choice of a customer is broken-down into distinct and measurable scores or values corresponding to each individual attribute, which is known as the “partworth function” or “utility score” (Rao, 2014, p. 5).

agriculture (Zardari & Cordery, 2012; Schnettler et al., 2012), education (Nazari & Elahi, 2012; Kusumawati, 2011) and tourism (Tripathi & Siddiqui, 2010).

3.4.2 Survey Design & Attribute-Levels Allocation

During the initial literature review for this study, the researcher realised that choosing a company for employment is much like selecting a product to buy from the market. Various features and qualities of the companies are assessed in comparison with one another, and trade-offs are made before finally selecting an employer. The researcher adopted the use of conjoint analysis because compared to other methods of quantitative analysis for assessment of importance (such as simple decision models or rating scales), which analyse the attributes in isolation, the conjoint analysis offers a comparative study based on the range of levels of coexisting attributes. (Alves et al., 2008).

In CBCA, the participants are asked to choose between two or more different alternatives of hypothetical product profiles or concepts (in the case of this study – companies), which are designed by combining the attributes and their levels. It differs from traditional Rating-based conjoint analysis in that they offer a choice between concepts instead of asking participants to rate individual concepts. Also known as “stated” choice methods or “discreet” choice analysis, CBCA has the advantage that it simulates a real marketplace scenario in which consumers (or employees) make a selection from the choices based on their attribute preference. This allows researchers (or software) to calculate the comparative importance of attributes and analyse ‘trade-offs’ (Rao, 2014, p. 127-128; Alves et al., 2008). The number of times the participants are made to choose between various alternatives is called “task-count”. QuestionPro offers CBCA questionnaire construction using Random and D-Optimal designs. Random designs are full-profile designs that generate a large number of concepts. Using Bayesian statistical methods and algorithms, D-Optimal designs optimally reduce the number of concepts at the same

time increasing the accuracy in measurements. These are also called fractional-factorial designs²⁰ (Rao, 2014, p. 46-47; Jafari, 2010, p. 37).

According to Suh and Gartner (2004), the allocation of attributes and their levels is the most important function to be performed by the researcher as it should reflect the concepts that the participants would be interested in. Further, they note that the number of attributes used should be kept at a minimum. Too many can create confusion. Smith (1995) confirms this and further suggests that the minimum number of attributes should be three. So that the data does not become too challenging to manage, the maximum number of attributes should not go beyond six. As discussed previously, the researcher could short-list and group the attributes chosen for this study through a comprehensive process of SLR and FGD. Selection of levels was the next step. Rao (2014, p. 44) recommends that the levels of attributes should not be a large number and should be realistic from the point of view of research and development. Also, the difference in the number of levels across the various attributes can cause level bias. It has been observed that attributes with more levels systematically receive higher importance ratios than attributes with fewer levels (Rao, 2014, p.44). For this purpose, the researcher assigned a standard of three levels to all attributes in this study. The various attributes and their levels used for this study are shown in Table 3 in the next chapter.

The participants were made to choose either one of two sets of hypothetical companies (judging based on the description of their various characteristics or attributes) or ‘none of them’ a total of 12 times. 12 is a good number as too many task-counts could cause fatigue and disinterest, while too few will require a large number of responses, as explained in the next section (3.4.3).

²⁰ Full profile designs randomly use profiles out of the total number of profiles generated by the conjoint experiment. Fractional factorial designs use models and algorithms to reduce the number of profiles to a fraction of the total but in a way that maximum accuracy is achieved during analysis (Rao, 2014, p. 46).

3.4.3 Sample Size & Data Collection

There is much debate about the ideal size of the sample to produce reliable results. For the conjoint study, the sample size was determined by the following formula:

$$\frac{n*t*a}{c} \geq 500$$

Where ‘n’ is the total number of valid responses; ‘t’ is the task count or the number of times the respondents are made to choose; ‘a’ is the number of concepts per task; and ‘c’ is the largest number of analysis cells or the largest number of levels in an attribute (Orme, 1998, as cited by Bahja, 2017, p. 32). For a good analysis, therefore, the minimum sample size (total number of valid responses, n, should be greater than or equal to $(500*c)/(t*a)$). In this research, $t=12$, $a=2$ and $c=3$. Therefore, the minimum sample size needed is at least 62.3 (rounded up to 63).

The online link to the survey was sent to the crewing department and crew managers of NSB Group for distribution to its seafaring officers on board and at home. A total of 204 responses were received. 35 of these were filtered out during the data cleaning process. The responses of 169 participants were then analysed, satisfying the minimum sample size required by the formula cited in the preceding paragraph.

“Non-probabilistic purposive” sampling²¹ was used for this survey since the seafarers targeted were from NSB Group and were officer-ranked.

²¹ Non-probabilistic sampling is where the probability of selection of each member of the sample is not known or cannot be estimated. Purposive sampling falls under non-probabilistic sampling, where the participants are selected as per the purpose or requirement of the study (Bhardwaj, 2019).

3.4.4 Data Analysis

Descriptive as well as conjoint analysis was carried out on QuestionPro.com. The data analysis part of CBCA is based on the behavioural concept of Random Utility Maximization (Rao, 2014, p. 7).²² QuestionPro uses a multi-nominal logit (MNL) model, which is a nonlinear model, to calculate partworth functions of various attributes (QuestionPro, n.d.).

3.4.5 Validity and Reliability

The validity and reliability of CBCA is challenging to calculate (Zhu, 2007) as the analysis and simulation is readily made available by software programs and algorithms. Computer-generated data is a good alternative to manual models with respect to simplicity of use and economic value. QuestionPro does not offer internal validity and reliability checks in the way of holdout cases.²³

In the CBCA section of the survey, apart from the two choice sets, the researcher also included a “none of the two companies” option to eliminate false reports borne out of fatigue or disinterest of the participants or if a suitable choice was not made. Having a ‘none’ option lets the participant choose that option when they do not want to select any of the companies, thereby causing no significant change to the statistics and analysis. The intention was to lead to better reliability of the results. The results

²² Random Utility theory states that the satisfaction of a consumer from a product is derived from the characteristics or attributes of the product, rather than the product as a whole. Consumers mentally break down the product into its attributes and assess the product for satisfaction. When offered a choice between products, consumers weigh out the satisfaction borne out of each attribute and make trade-offs between attributes to determine which product offers maximum satisfaction. This is what is meant by Random Utility Maximization concept, and can be expressed mathematically, where overall utility ‘ U_i ’ has a systematic component ‘ V_i ’ based on utility of attributes and a random error ‘ E_i ’ component. So, $U_i = V_i + E_i$ (Zhu, 2007, p. 17).

²³ Holdout cases are concepts generated by the algorithms same as all the other concepts. They are presented to the participants as regular concepts in the survey. However, they do not form the part of modelling but are “heldout”. Once the model is generated, the predicted performance of the holdout cases by the model are compared with their actual performance during the survey and the validity of the model is tested (Kuhfeld, 2010).

of ranking-based statistics were then compared with those of the CBCA for external validity checking (Toubia et al, 2003).

3.5 Interviews

In-depth or unstructured interviews can be instrumental in extracting people's facts and points of view in qualitative research. Researchers have stressed the importance of talking to people to understand concepts and methods, and personal accounts can sometimes be very valuable in understanding different perspectives (Legard et al., 2003).

The last and final research question was to identify and understand the measures employed by the NSB Group to improve job satisfaction and, therefore the retention of their seafaring officers. For this purpose, the researcher conducted online in-depth interviews of crew managers, personnel from the crewing department, and other actors within the organization who play a role in seafarers' employment, welfare and management.

A purposive snowballing sampling” approach²⁴ was used to identify the interviewees. The researcher identified and recruited some participants during a company office visit during the research period. The remaining interviewees were identified during the interviews of those recruited earlier. All interviews were conducted, recorded and transcribed automatically on the Microsoft Teams platform. The transcripts were cleaned and uploaded to Atlas.ti 22 software for qualitative analysis. Appendix G shows the Interview Instrument used for the interviews.

²⁴ Snowball sampling technique, also called chain sampling, is when once respondent identifies one or more of the other respondents (Bharwaj, 2019).

3.6 Research Ethics

It was of great concern to the researcher, firstly, on humanitarian grounds and secondly, to ensure high data quality, that the participants do not feel threatened or vulnerable or not think that their responses could be used against them in any way. For this purpose, all participants of this thesis were assured, in writing, that all their data would be strictly confidential, for the eyes of the researcher only, processed in strict anonymity, and would not be used for anything outside the purpose of this research.

Permission was sought from the Research Ethics Committee (REC) of the WMU, following a comprehensive procedure, for each instrument (separately for FGD, survey and interviews).

Participants were provided with a Consent Form (see Appendices H and I) describing the ethical process of the data handling and informing them that they could withdraw from the research at any time, even after their participation.

All data was safely stored in a password-protected hard drive and will be deleted after the submission of this dissertation.

4. Results and Findings

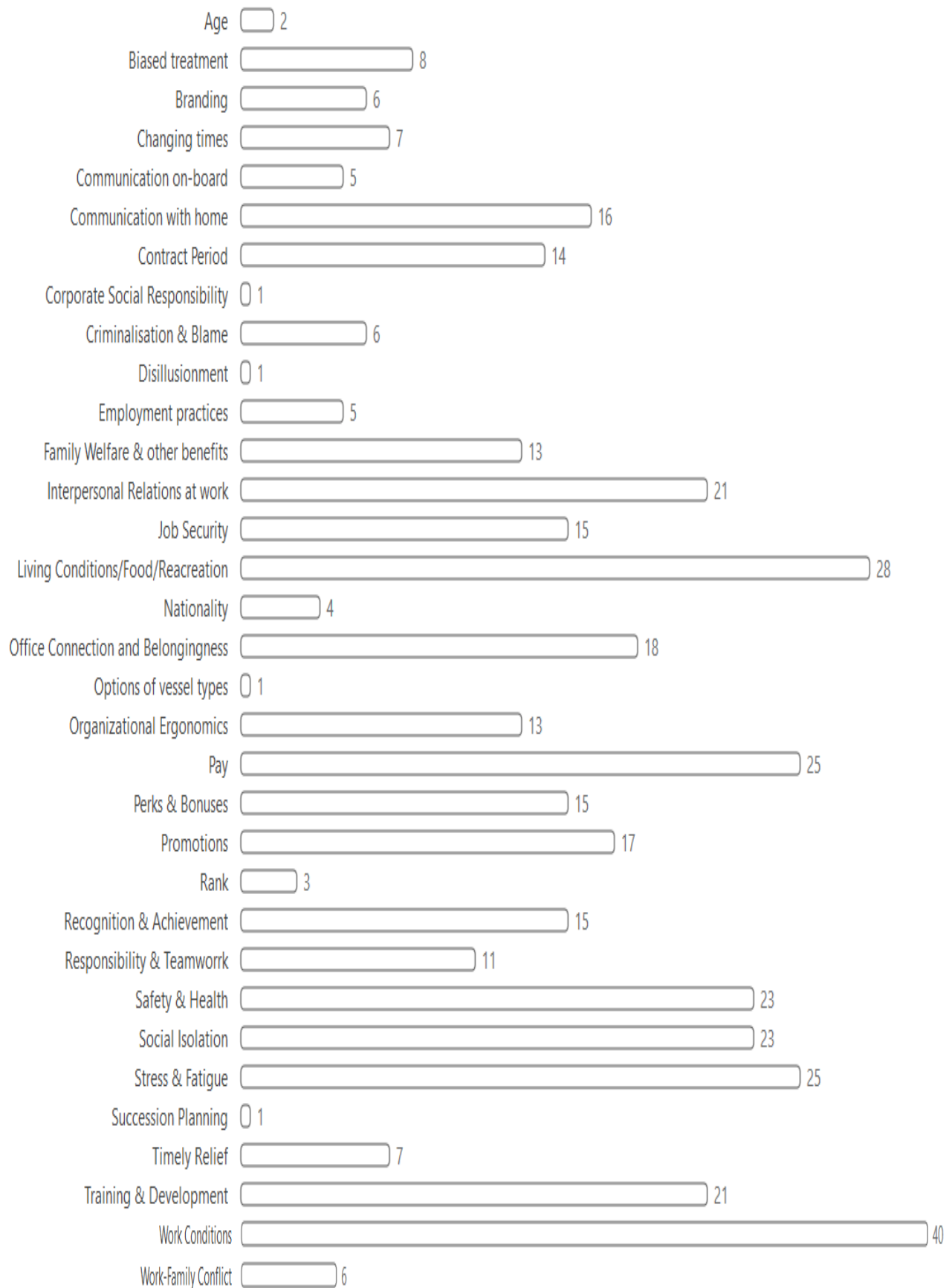
This chapter is divided into four parts. The first part reports the outcome of the SLR and the factors identified from the review. The second part demonstrates the results of the FGDs (with the seafaring officers) and how it influenced the selection of factors and their grouping using the lens of the developed conceptual framework (explained in Chapter 2). The third part reports the results of the quantitative analysis obtained from the CBCA of the questionnaire responses. Finally, the fourth part gives an account of the interviews conducted by the researcher (of the crew managers & other company personnel) and the results of the subsequent qualitative analysis. In that part, the letter “S” before a quote stands for ‘seafarer’, whereas the letter “C” stands for company personnel (such as crew managers, etc.). The quotations are reproduced verbatim (language/grammatical errors are not corrected) to reflect the authentic responses regarding the subject.

4.1 Report of the Systematic Literature Review (SLR)

After concluding the comprehensive SLR, the researcher identified several factors and causes of seafarer turnover and mobility. Figure 8 lists these factors and themes identified in a bar chart analysis. This answers the first research question: What are the factors that influence the commitment of seafarers to their employers?

Figure 8

Bar chart displaying Codes, Themes and Factors discovered in SLR and their densities



Note. The above bar chart was generated on Atlas.ti 22 software. The number next to a code/theme is the density of its occurrence in all literature.

The SLR served a secondary function of deciphering, explaining and validating the findings of the CBCA, thus increasing the validity of the final conclusions by way of triangulation of methods in the discussion chapter of this work. Appendix D displays the “word cloud” analysis and themes explored during the SLR (as generated by Atlas.ti 22 software).

4.2 Outcome of the Focus Group Discussions (FGD)

A total of six categories were defined comprising of different factors. This categorization was done based on the understanding gained about these factors from the SLR and FGD. Table 2 shows the various attributes, their levels and the explanation of the logic used for the categorizing of factors and selection of levels. The assignment of levels was done for the purpose of designing a CBCA questionnaire.

Table 2

Attribute levels allocation

ATTRIBUTE	LEVELS	EXPLANATION
<u>Remuneration</u> Salary, Bonuses, Allowances	High	Not assigned fixed values and left open for the perception of individuals.
	Average	
	Low	
<u>Working Conditions</u> Stress and Fatigue, Paperwork, Manpower, Safety & Vessel condition, Professional relations on-board.	Good conditions (Low stress)	Stress directly correlates to the condition of vessel, safety, working-hours, paperwork and relations on-board as found during FGD.
	Moderate condition (Medium stress)	
	Bad condition (High stress)	
<u>Living Conditions</u> Internet access, Food, Recreation facilities, Gym, Shore-leave	Good conditions (Free internet)	It was learned during the SLR that in general vessels that have good living conditions also have better internet facilities (Papachristou, 2015), and the seafarers in both FGDs associated good living conditions with good food and quality of internet.
	Average condition (Expensive internet)	
	Poor conditions (No internet)	
<u>Relations with Company</u> Office, Teamwork,	Good	The levels describe the theme as well as each sub-theme, and act as qualifiers.

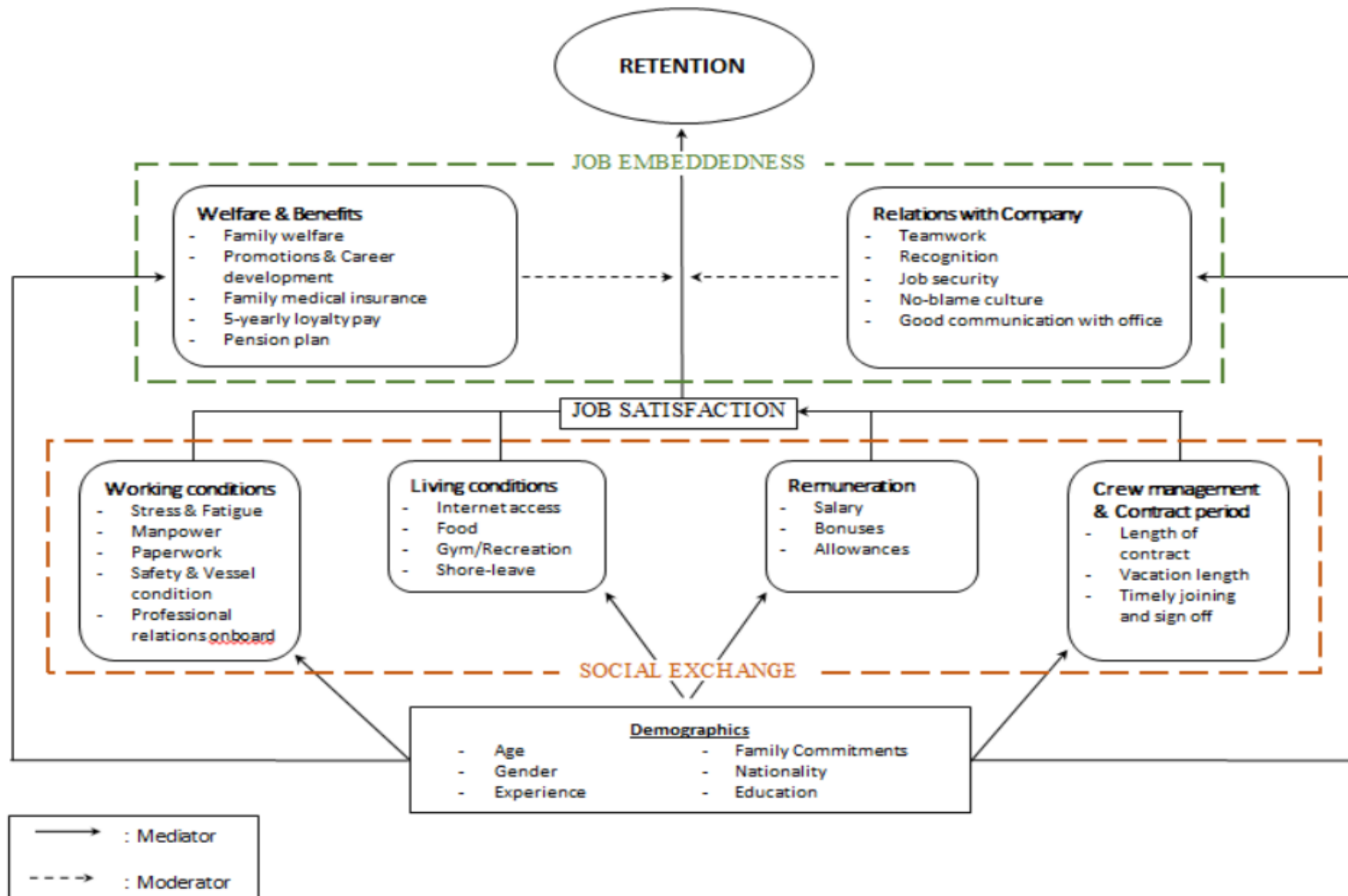
Recognition, Job security, No-Blame culture, Office communication	Average	
	Poor	
<u>Crew Management & Contract Period</u> Length of contract, Vacation time, Timely joining & sign- off	Short contracts (On- time sign-off)	During FGD it was understood that when offered the option of ‘short-contracts’ the seafarers always associated it with the condition whether it also meant ‘timely relief’. Fixed values were not assigned and duration was left to the perception of the individuals.
	Average contracts - sometimes extended	
	Long Contracts & Extensions	
<u>Welfare & Benefits</u> Family medical insurance, Family welfare, 5-yearly Loyalty pay, Pension, Promotions & career	Good planning	Levels are self-explanatory and qualify the theme and sub-themes
	Average planning	
	Poor or no plan	

The analysis of FGDs and how it informed the researcher to group and sub-group the themes, and form the above attributes is discussed in comprehensive details in Appendix E using verbatim quotes of the participants and explanations. Based on the outcomes of the SLR and FGDs, the introductory conceptual framework (described in Chapter 2) was redesigned as shown in Figure 9.

‘Working conditions’, ‘Living conditions’, ‘Remuneration’ and ‘Crew management & contract period’ are visualised as basic requirements expected by all employees throughout the industry as a part of their psychological contract. They form the components of the ‘social exchange’ between the employer and employee whereas ‘Relations with company’ and ‘Welfare & Benefits’ can be visualized as the ‘Links’ formed with the employer. Their regard of their ‘Fit’ in the organization and perceived ‘Sacrifices’ (if the employee considers leaving) increase ‘job embeddedness’ and make it difficult for the employee to depart. These have a moderating role in retention. They do not necessarily form a part of the psychological contract at first but can be envisaged as the additional endeavour of the company to secure their employees in a ‘web’ of organizational belongingness. This situation can be used as a competitive advantage to keep current seafarers and attract others.

Figure 9

Revised Conceptual Framework for Retention.



4.3 Quantitative Analysis

This part of the chapter reports the quantitative analysis drawn out of the survey.

4.3.1 Demographic Characteristics

The demographics chosen included age, gender, rank, nationality and type of vessel. Table 3 displays the demographic characteristics of the participants. A total of 169 completed and valid responses were received and utilised for further data analysis. The sample consisted of mostly male participants (167) and only two (2) female participants. These numbers reflect the gender imbalance reality in the NSB Group and in ship operation globally.

Table 3

Demographic characteristics of the participants

Demographics	Numbers	Demographics	Numbers
Age		Rank	
- 18 to 29	16	- Master	37
- 30 to 39	45	- Chief Officer	29
- 40 to 49	62	- 2 nd Officer	35
- 50 to 59	35	- 3 rd Officer	22
- 60 and above	11	- Junior Officer	2
Gender		- Deck Cadet	0
- Male	167	- Chief Engineer	16
- Female	2	- 1 st Engineer	3
- Prefer not to say	0	- 2 nd Engineer	11
Nationality		- 3 rd Engineer	7
- Russian	18	- 4 th Engineer	1
- Ukrainian	11	- Junior Engineer	1
- Polish	7	- Engine Cadet	0
- Romanian	17	- Electrical Engineer / Electrician	5
- Hungarian	1	Type of vessel	
- Venezuelan	1	- Oil tanker	26
- Filipino	97	- Chemical tanker	7
- Srilankan	10	- Container	121
- Croatian	1	- Bulk carrier	1
- Italian	1	- Ro-Ro vessel	0
- Turkish	1	- Not specified	14
- Latvian	1		
- Not specified	3		

4.3.2 Analysis of Self-Ranking Survey

The self-ranking section was included in the questionnaire to carry out a descriptive analysis of the various factors that were included in the survey. The purpose was to carry out a separate, secondary survey for validating the conjoint experiment.

The participants were asked to rank all the sub-codes from each of the six categories independently from 1 to 5 depending on their relative importance in employment matters (1 being ‘Not At All Important’ and 5 being ‘Very Important’). Mean and Standard Deviation (SD) of ranks were computed for each factor and average mean was computed for the attribute/category. Table 4 shows these computations in descending order of the average mean score of the attributes. Spider charts of mean analysis of all attributes are provided from figure 10 to 15.

Table 4:

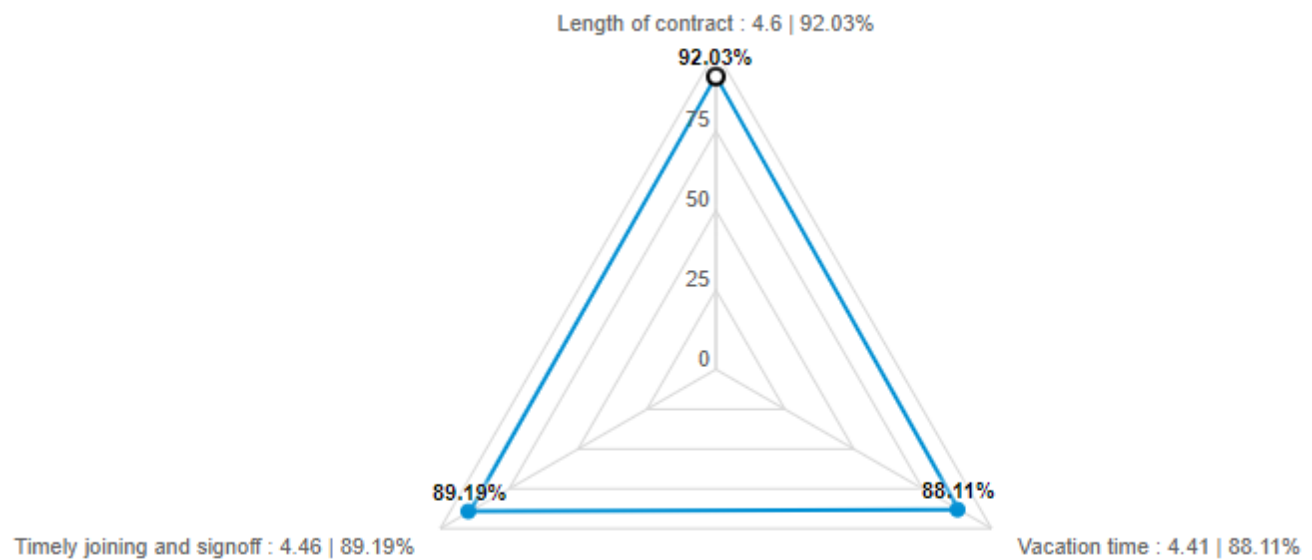
Mean and Standard Deviation of Factors, and Average Mean of Attributes

ATTRIBUTE & SUB-CODES	MEAN (M)	STANDARD DEVIATION (SD)
Crew Management & Contract Period	Avg. Mean = 4.49	-
Length of contract	4.61	0.68
Vacation time	4.41	0.78
Timely joining & sign-off	4.46	0.86
Working Conditions	Avg. Mean = 4.47	-
Stress and Fatigue	4.55	0.72
Paperwork	4.21	0.89
Manpower	4.43	0.65
Safety & Vessel condition	4.67	0.57
Professional relations on-board	4.50	0.67
Remuneration	Avg. Mean = 4.47	-
Salary	4.56	0.66
Bonuses & Allowances	4.38	0.91
Relations with Company Office	Avg. Mean = 4.46	-
Teamwork	4.56	0.69
Recognition	4.32	0.74
Job security	4.65	0.64

No-Blame culture	4.33	0.91
Office communication	4.43	0.81
Welfare & Benefits	Avg. Mean = 4.22	-
Family medical insurance	4.24	1.21
Family welfare	4.27	1.18
5-yearly Loyalty pay	4.14	1.33
Pension	4.05	1.33
Promotions	4.41	1.01
Living Conditions	Avg. Mean = 4.16	-
Internet access	4.50	0.81
Food	4.40	0.80
Recreation facilities & Gym	4.06	0.92
Shore-leave	3.67	1.29

Figure 10

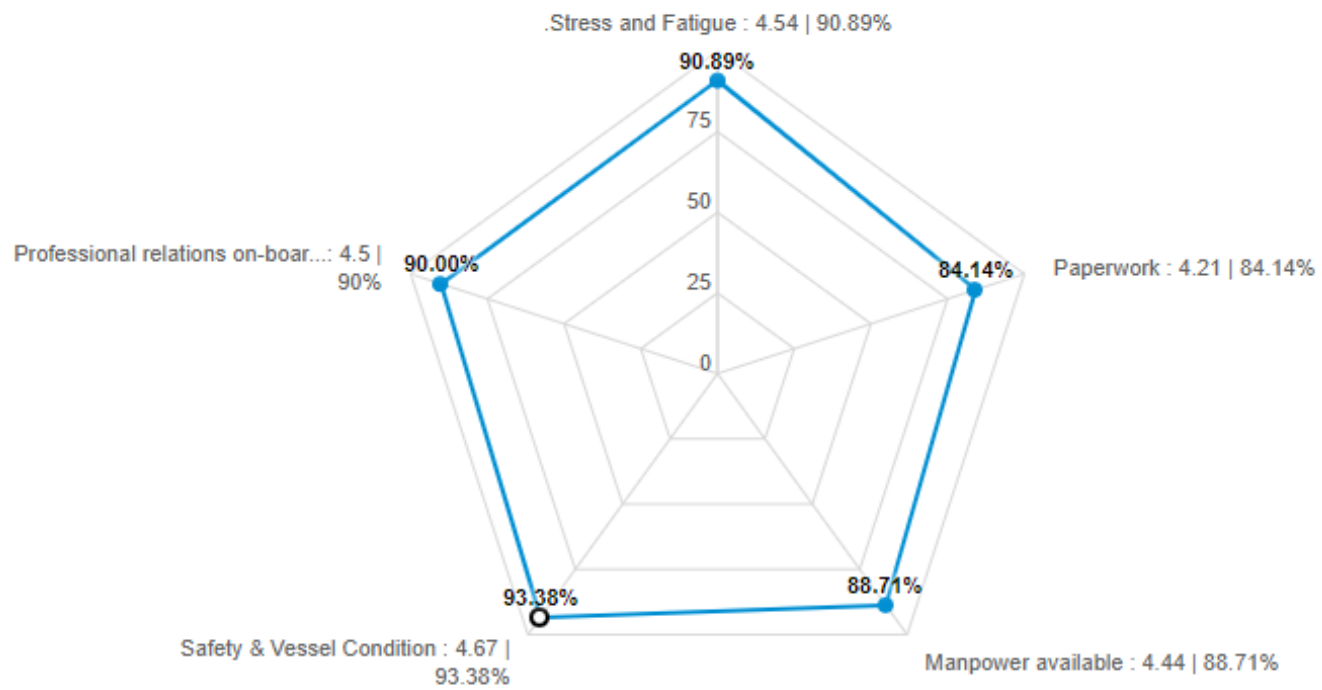
Crew Management & Contract Period – Spider chart



Note. Generated on QuestionPro.

Figure 11

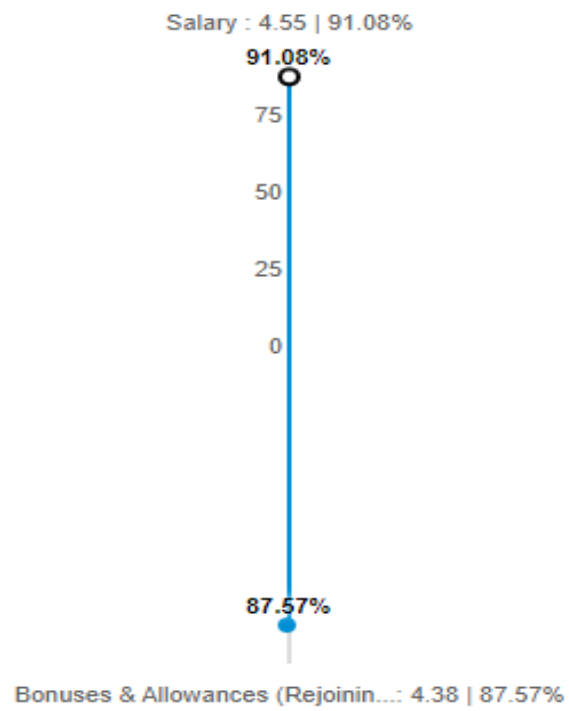
Working Conditions – Spider chart



Note. Generated on QuestionPro

Figure 12

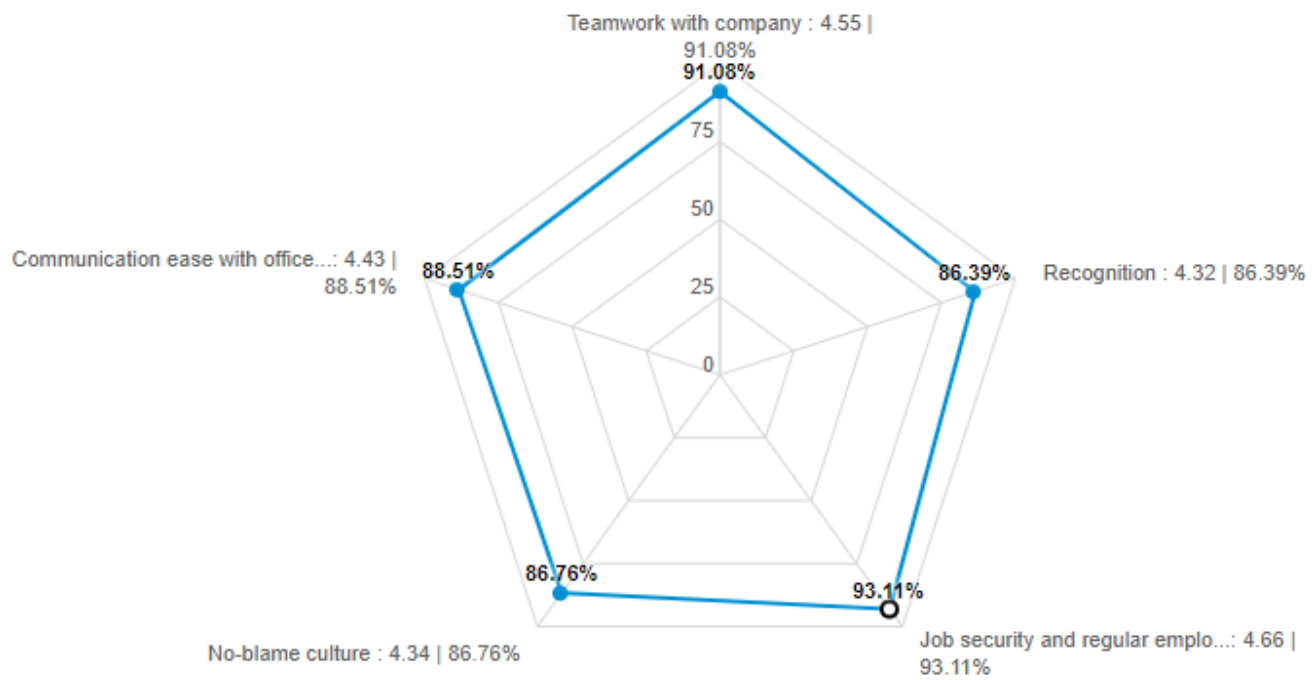
Remuneration – Spider chart



Note. Generated on QuestionPro

Figure 13

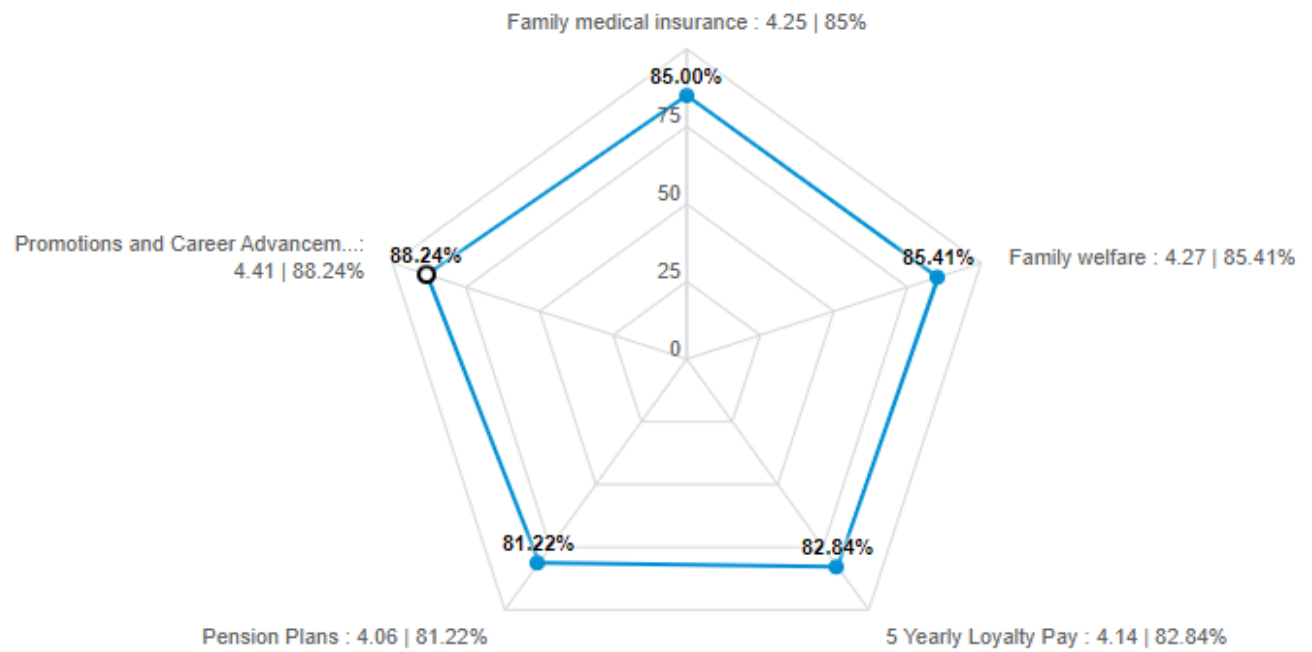
Relation with Company – Spider chart



Note. Generated on QuestionPro

Figure 14

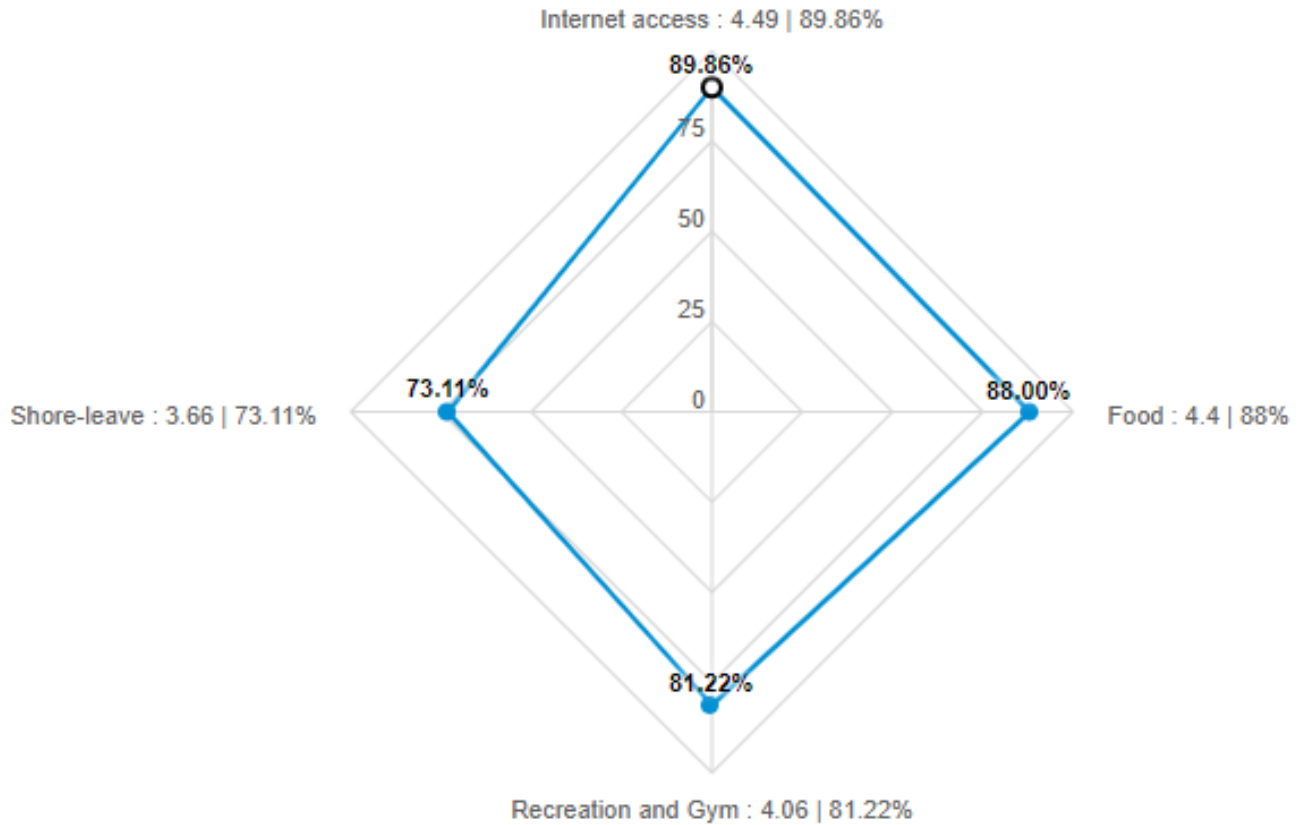
Welfare & Benefits – Spider chart



Note. Generated on QuestionPro

Figure 15

Living Conditions – Spider chart



Note. Generated on QuestionPro

These findings validate the results obtained from the conjoint experiment to some extent. 'Crew management and contract period' received the highest mean score (4.49) in the ranking system and the highest importance in the conjoint experiment (38%) (reported in the next section). The next in order was 'Working conditions' and 'Remuneration', receiving mean score of 4.47 each in the self-ranking survey, whereas their observed importance in the conjoint experiment was 25% and 14% respectively. The mean scores of 'Relations with company office', 'Welfare and benefits' and 'Living conditions', and their observed importance in conjoint analysis were not in the same order.

However, two key points emerge from the results:

- (1) As almost all the factors were ranked between 4 and 5 by the participants, it verified and further validated the outcomes of the SLR and FGD – the factors included for the study were of high importance.
- (2) The conjecture of the researcher that a positive Likert response format bias would creep in (meaning that all the factors would seem to be important or very important to the participants) was confirmed. Thus the argument that the CBCA was a correct premise/approach for a comparative study was justified.

4.3.3 Analysis Report of the Conjoint Experiment - CBCA

The questionnaire of the CBCA part was also designed on QuestionPro software. The link to the entire survey was distributed to the officers and engineers of NSB Group via the crew managers and other personnel. The results were then calculated by the software to indicate the importance of various attributes and the utility partworth function values of their levels. Table 5 shows importance and partworth functions as calculated by the software. Appendix F displays the results of the CBCA as calculated and generated by QuestionPro software (relative importance and partworth analysis, best and worst profiles).

Table 5:*Attribute Importance and Partworth Values of different levels*

ATTRIBUTE	IMPORTANCE	LEVELS	PARTWORTH UTILITY VALUES
<u>Crew Management & Contract Period</u> Length of contract, Vacation time, Timely joining & sign-off	38%	Short contracts (On-time sign-off)	0.56
		Average contracts - sometimes extended	-1.06
		Long Contracts & Extensions	0.50
<u>Working Conditions</u> Stress and Fatigue, Paperwork, Manpower, Safety & Vessel condition, Professional relations on-board.	26%	Good conditions (Low stress)	0.64
		Moderate condition (Medium stress)	-0.18
		Bad condition (High stress)	-0.46
<u>Remuneration</u> Salary, Bonuses, Allowances	14%	High	0.30
		Average	-0.01
		Low	-0.29
<u>Living Conditions</u> Internet access, Food, Recreation facilities, Gym, Shore-leave	10%	Good conditions (Free internet)	0.16
		Average condition (Expensive internet)	0.10
		Poor conditions (No internet)	-0.26
<u>Relations with Company</u> Office, Teamwork, Recognition, Job security, No-Blame culture, Office communication	7%	Good	0.0
		Average	0.15
		Poor	-0.15
<u>Welfare & Benefits</u> Family medical insurance, Family welfare, 5-yearly Loyalty pay, Pension, Promotions & career	5%	Good planning	0.04
		Average planning	0.08
		Poor or no plan	-0.13

Crew management and contract period received the highest importance (38%) from the seafarers, meaning it is the most important attribute that the seafarers consider when they look for employment. However, the relationship is not linear as seen by the partworth values of the levels. *Short contracts* has a positive value of 0.55, *Average contracts* has a strong negative value of -1.07, whereas *Long contracts & extensions* also has a positive utility value (UV) of +0.52. The reasons for the various observations are discussed in details in the Discussion Chapter (Ch. 5). The CBCA helped answer the second research question: How do these factors (found in response to research question 1) compare with each other in terms of weightage in influencing the decision-making of seafarers regarding employment?

4.4 Interviews

To answer the third and final research question (How is the situation being currently tackled corporately, and how can the above knowledge be used for effective employee-retention via informed corporate decision-making?), various actors in the NSB Group having a role or knowledge in the welfare and management of crew, were interviewed as described in Chapter 3.

The interview questions were mostly open-ended and unstructured. A total of 7 interviews were conducted of durations between one to two hours. The roles of participants and number interviewed are provided in Table 6.

Table 6*Details of the Interviewees.*

Location of interviewee	Role	Number
<i>Germany – NSB Group Head Office</i>	Head of Crewing	2
	Head of HR & NSB Academy	1
	Crew Planner	1
	Lead Trainer & Instructor at NSB Academy	1
<i>Philippines – NSB Group Crewing & Training</i>	Trainer, Career Manager & Owner’s Representative	1
	Technical Trainer	1

4.4.1 The Retention Problem

The main business of the NSB Group is Ship Management. However, NSB Crewing is a daughter company and crew costs accounts for more than 50% of the company’s vessel expenses. The overall shortage of seafarers in the industry is well reflected in the NSB Group seafarer pool and the management is well aware of the issue.

C: “A shortage of manpower? No. A shortage of qualified crew? Yes. They got a lot of additional vessels into management last year. Due to the fact that they suddenly received additional vessels - tanker and container, the previously high retention rates have been influenced negatively.”

After the collapse of the Kommanditgesellschaft (KG) System²⁵, the previously German flagged vessels started to get re-registered under “Open Registries”, with the consequence that these ships were no longer required to employ European crew. This opening to the world seafaring market is deemed to have caused a problem of quality control.

²⁵ The Kommanditgesellschaft (KG) System was a popular funding model in German shipping industry which had become popular during the early 2000s as it allowed attractive tax compensation for German ship-owners and investors. It also required German ship-owners to register their vessels under German flag and employ European seafarers (Zhang & Drumm, 2020).

The shortage is mostly felt in the ranks of Electrical Engineers and 2nd Engineers. However, other ranks also experience this problem from time to time. The COVID-19 crisis and the on-going Russia-Ukraine war have substantially changed seafarers' labour market dynamics. Due to the unavailability of seafarers from certain areas or nations, the demand for seafarers from other nations increases. The increase in demand then tends to cause an increase in supply but once the situation stabilizes, the demand steps back again. This leads to over-supply and possible unrest in the job market.

Another issue highlighted during the interviews was recruiting and retaining women seafarers.

C: "We have a strategy-workshop at the end of uh, August and honestly speaking, this is one of my questions or one of my suggestions. We need a strategy how to deal with the female seafarers because you cannot say 'oh, nice to have you!' and once you are pregnant – 'Goodbye'. What if she is a single mom and wants to bring her kid on-board? There is possibility. I have an example. But it needs to be strategized. Automation has increased. You do not need muscle power for everything anymore. Women can perform as good as men."

On the topic of salary, it was revealed that in a strategic move to attract more seafarers, NSB Group had increased the salary of new-joiners but this appears to have caused some dissatisfaction among the old employees.

C: "The difference, this is small money only if we can see, but it's a big impact with the crew, especially the old crews. You know, they will think why they're giving this to the new crew even why not to us who are already on board and already so many years sailing with NSB. They're going to the other company because they think the NSB did not care for them."

When it came to promotions, there was difference in opinion. Some believed that NSB had specific strategy in place for promotion and career development of their

employees, whereas others were of the opinion that often times the officers were promised promotions and then the promotion was cancelled or the company recruited into the rank from outside.

C: "So sometimes they [the management] will say that on the next vessel you will be promoted and then of course on the next vessel, they will say sorry, not available. So then they [seafarers] think that maybe there's a better chance in another company. I know some who have left NSB because of this."

4.4.2 Control Measures

After comprehensive interviews with the crew management team and training team members at NSB, the researcher learned that the NSB Group was taking several measures to improve retention and increase attraction of seafarers.

4.4.2.1 Salary

The on-going competition in the seafaring market to acquire more and more high-quality workforce is realised by the management at NSB.

C: "And the bigger shipping companies are offering horribly high amounts right now to the crew, than, let's say, small ship management companies."

C: "We are already right now working on a revision of the wage scale. So means, we are planning now to implement a second wage upgrade within the same year. The first had been issued in beginning of January."

Benchmarking wages in the industry and trying to stay ahead in the competitive market is one of the main strategies implemented by the NSB Group to attract and retain employees.

4.4.2.2 Training and Development

It was realised by the management of NSB Group through experience that in order to improve the quality of their seafaring workforce and to impose quality control, they

must firstly lay down strict quality checks of the incoming employees, and secondly, they must train their existing crew. This was one of the main reasons for establishing of the NSB Academy in Buxtehude, Germany and Manila, Philippines.

Through training and development, they not only improve the KSA of their employees but also aim to strengthen the communication and bond between the seafarers and the company personnel through interaction. The objective is to increase organizational belongingness while advancing the KSA of the workforce.

C: "Because there's a lot of studies already about the retention, money and other stuff, but they forgot training is very important. Like I said, if you have well trained crew. More competent crew, they will stay with us. If the quality decreases, we have to let them go and it will affect retention rates."

Training and development of younger officers to encourage them to achieve faster promotions is a part of the company's long-term solution to solving retention problems for all ranks. This also includes their cadet training programmes.

4.4.2.3 Health Care & Pension Schemes

The management plans to implement a Health Care scheme for the seafarers' families. It would provide insurance coverage to the family member of the seafarers as long as they are employed with NSB Group. The idea is to attract and retain seafarers via the additional benefits.

It was discovered that unlike some other companies, the NSB Group does not have a Pension Fund scheme for their seafarers yet. However, implementation of such a scheme is under discussion at the board and senior management level.

C: "Uh, we are working now roughly fixed or already fixed health insurance to offer that. And we are working now on a something like a Pension Fund."

4.4.2.4 Communication & Feedback

Through various planned events such as officer's seminars, training sessions, on-board visits and "learning nuggets", the management at NSB Group tries to

communicate with their seafarers to understand their problems, issues and concerns. In the past, this is said to have proved very instrumental in improving seafarers' welfare.

C: “We are hoping that via your survey we will receive some feedback. We are looking forward to learn something about how we can better understand the situation.”

5. Discussion

This chapter discusses the results borne out of SLR, FGD, questionnaire and the associated CBCA, as well as the perceptions of management and seafarers arising from the interviews and the perception of the management about the issue.

The first two research questions dealt extensively with identification and understanding of factors affecting attraction and retention. The 6 categories or attributes, which contained several factors/sub-factors within them, were recognized to be the most important ones in respect of attraction and retention. However, the results obtained from the CBCA experiment were quite surprising. These results are discussed attribute-wise below.

Once again, all quotations included in this section are reproduced verbatim. The letter ‘S’ denotes that the quotation is from a seafaring officer recorded during the FGDs, whereas letter ‘C’ precedes the account of a company personnel or a member within the management, collected during the interviews.

5.1 Crew Management & Contract Period

This attribute consisted of factors such as Length of contract and Vacation period, Timely joining & repatriation, and Job security (steady employment). It turned out to be the one that was given the most importance (38%); however, there were participants who preferred ‘shorter contracts’ [Utility Value (UV) +0.55] as well as those that preferred ‘long contracts and extensions’ (UV +0.50) very strongly. This finding suggests that the population is divided into two different categories of people: 1) those that preferred to stay on-board for a shorter duration of time and were most likely affected by social isolation and job-burnout, and 2) those that preferred to stay on-board longer and asked for an extension of contracts. The second category mainly included either young officers that wanted to complete the required sailing time and work towards a quick promotion or those who had financial commitments/life goals (for example, buying a house, getting married or repaying a

loan), as revealed during the FGD. This preference could be linked with seeking ‘job security’, steady income flow and a desire to earn more money.

Several studies have examined the connection between social isolation and contract period, and all of them agree that a shorter contract period is ideal for the mental health and wellbeing of the seafarers (Thomas et al., 2010; Tang & Zhang, 2021; Caesar et al., 2015; McVeigh et al., 2019; Slišković & Penezić, 2016). However, not enough research was found linking the demographic factors (such as nationality or rank) to the interest of the seafarers regarding contract and vacation period length. This research came up with findings that suggest that the two (demographic factors & length of contract/vacation) are indeed linked, as discussed below.

The NSB Group crew members were well aware of this reality and had some demographic understanding regarding it.

C: “Umm, I believe it's driven by the nationality, so you always have to see where are the crew members from. A Filipino crew member is normal for them to serve a long time on board. Then they go home two/three months and then they go back on board. So this has something to do with their history. On the other side, the European crew members, most of them want to go for shorter time, so they want to have three months on board.”

The above reasons, coupled with the experience of seafarers during COVID-19 when many were left at home unable to join, causing a rise in job insecurity and concern for steady employment, seem to have led to officers increasingly asking for longer contracts and extensions.

The company offers 4 to 6-month contracts to officers depending upon the rank but they also have a procedure to extend the contract if requested by the crew although

this never exceeds 11 months in total.²⁶ Shorter contracts are sometimes offered in some cases but not often.

5.2 Working Conditions

The sub-factors included in this attribute were stress & fatigue, paperwork, manpower available, safety and condition of vessel. Scoring attribute importance of 26% with very strong sentiments in favour of ‘good working conditions – low stress’ (UV +0.64) and against ‘bad working conditions – high stress’ (UV -0.46), whilst the middle level of ‘moderate conditions & stress’ also received negative votes (UV -0.18). This suggests that the participants strongly favoured good working conditions on board and had an extremely low tolerance for substandard conditions and high-stress environments. It has been demonstrated that due to high stress, job demands, improper sleep and unavailability of a sufficient workforce on board, the seafarers complain of chronic fatigue, early burnout and rising job dissatisfaction, whether with a particular employer or with the industry as a whole (Yuen et al., 2013; Nguyen et al., 2014; Tang & Zhang, 2021). Stress also arises out of concerns for one’s safety. Occupational safety and health-related issues have been in discussion for many years, and shipping is regarded as one of the most hazardous occupations in the world (Oldenberg & Jensen, 2012, as cited by Ceasar, 2015). Vessel conditions, especially older vessels, cause increased job demands and concerns for safety (Slišković & Penezić, 2016), and the crew managers at NSB Group agree that sometimes the officers, and especially engineers, are reluctant (or even refuse) to join old ships.

Regular and periodic rotation of the same crew members on the same vessel should be considered. According to a study conducted by Pike et al., (2019), a stable crew means increased familiarity with the vessel, which in turn increases technical

²⁶ The MLC 2006 *Standard A2.5 - Repatriations* lays down mandatory requirement that a seafarer is entitled for repatriation after a maximum period not exceeding 12 months.

competence and improves the quality of the maintenance. Increased familiarity also decreases hand-over time during crew change and reaction time during breakdowns and improves audit performance. It also fosters a feeling of ownership and responsibility towards the vessel. The senior officers are encouraged to invest their time and knowledge in mentoring their subordinates, and an overall safe and just culture is crafted onboard. Much better teamwork is observed in a stable crew than in a fluid one. The crew managers at NSB are aware of these advantages. However, they seem to face challenges in such rotational arrangements with respect to an unequal vacation desired by the crew, the unwillingness of employees to join older vessels, and local challenges at ports for crew change for one particular nationality or another.

The amount of paperwork on board NSB vessels is another demotivating factor unearthed by the FGD and verified during the interviews with the crew managers. The recommendation of personnel at NSB - to provide extra officer(s) as required in order to share the load - is in line with past research recommendations (Yuen et. al.,2018).

5.3 Remuneration

Salary, bonuses and allowances constituted this attribute and were given the third highest importance of 14%. As expected, 'high' remuneration received almost equal positive preference (UV +0.30) as 'low' remuneration received negative preference (UV -0.29), and 'moderate' level received almost no preference (UV -0.1). This indicates that even though less in overall importance, remuneration was not a trade-off and that seafarers generally prefer to get paid more than less and would select that option if possible, provided the contract duration and working conditions are favourable.

Employment and service are centred around trade/profit for the employers and remuneration for the employees, and therefore, remuneration plays an important role

in the job satisfaction of seafarers (Yuen et al., 2018; Thai et al., 2013). Employers often use competitive salaries and bonuses as part of the strategy to attract employees (Caesar et al., 2015). However, in line with the outcomes of this research, previous studies have also demonstrated and argued that remuneration may not be the most important or ultimate deciding factor in attraction and retention (Bhattacharya, 2015, McVeigh et al., 2019). Nevertheless, it should be understood that along with high remuneration, timely payment of salary – which is a significant component of job security – is also of high importance (Slišković & Penezić, 2016). This link of job security with timely remuneration was established by this study (see section 5.1.1).

Also to be borne in mind is the fact that reduction of salary or layoffs during an economic crisis can demotivate the employees as they see this as being deprived of the basic necessity or ‘hygiene factors’ as defined by Herzberg in 1959 (Miner, 2005). This can adversely affect the employer’s reputation and taint their image or EoC branding in the market (Thai et al., 2013).

NSB’s strategic move to raise the salaries of new joiners to increase attraction seems to have negatively affected the job satisfaction and perceived equity of their old employees, causing a decrease in retention, as explained by Adam’s Equity Theory (Adams, 1965). However, the management seems to be aware of this issue and seeking to remedy this.

C: “In order to recruit more people we were forced to increase the wage to go higher and this of course was recognized by the current crew. It goes in a cycle, if you employ someone with a higher wage, uh, the old one will ask you why. So the current idea is to close the wage gap by updating the wage scale from 1st of January next year officially.”

5.4 Living Conditions

Factors like food, internet availability, recreation & gym and shore leave were components of living conditions on board. During the FGD, food and internet availability emerged as the most important and sought-after factors. Living conditions received relative importance of 10%. Its highest level – ‘Good conditions (Free internet)’ – was the most preferred (UV +0.16), followed by its middle level of ‘Average conditions (expensive internet)’ (UV +0.10), and the lowest level which was ‘Bad conditions (No internet)’ received negative preference (UV – 0.26).

This was not surprising. However, what is noteworthy is that ‘Living conditions’ was in somewhat of a trade-off zone. The middle level received relatively high utility value because the participants seem to be of the notion that even though ‘Good conditions’ of living with free internet is highly preferred, however, as long as the attributes above – which are Contract length, Working conditions and Remuneration – were favourable and attractive, they could make a trade-off with living conditions. This was also observed during the FGD.

S: “As long as there is internet is ok. I no have a problem to pay for internet if company is paying me well. For me,”

The provision of internet facility is directly linked with themes such as social isolation, work-family conflict and living conditions (Tang & Zhang, 2021, p. 108). Having an internet facility on board has been shown to have a direct positive effect on seafarers' physical and mental well-being (Slišković & Penezić, 2016; Kanev et al., 2017).

The internet facility on board NSB vessels is unlimited and free, especially after the COVID-19 when the management realised that communication with home is crucial for the seafarers. As per the crew managers at NSB Group, it was likely to stay this way.

With regards to improving quality of food, the NSB Group recently started the programme of inviting their catering staff for in-house training on safety, hygiene and quality. Also, NSB Group recently increased the monthly allowance of the vessels for food and for crew recreation. It was seen as imperative to keep the crew on board happy during COVID-19.

With regards to shore leave, there were multiple challenges, especially in light of the pandemic when many ports shut their gates for the crew going ashore (Hebbar & Mukesh, 2020). The management at the NSB also displayed concern regarding the implications of providing shore leave and the risk of getting all the ship's crew infected. As the work on ships continues to get stressful and obstructions to shore leave increase, many officers have stopped considering it as an important factor for their welfare on-board, even though it remains a fact that appropriate shore leave is beneficial to the wellbeing of seafarers.

5.5 Relations with Company & Office

The factors present in this attribute were Teamwork, No-blame culture and Communication with the office. Unlike in other sectors, shipping has a unique situation in which the employee joins the ship on a contract, completes their service period and then goes home awaiting the next contract. They do not have any direct connection with the office or staff working ashore; therefore, it can get challenging for them to feel a part of the organization (Bhattacharya, 2015). In fact, the research findings from the NSB staff interviews were the same as those of Leong (2012, p. 237):

Since seafarers are considered to be the employees of the company only during the contract period, the company does not have a permanent pool of employees to 'retain'. Instead, when industry participants referred to

‘retention’, they meant the seafarers who return to serve subsequent contracts with the company.

This attribute has received a relative importance of 7%, with its highest level – ‘Good’ – receiving no preference at all (UV=0), whereas the middle level receiving a relatively high positive preference (UV +0.15), and the lowest level – ‘Bad’ - received a negative preference (UV -0.15) by the participants. This indicates a clear trade-off. The participants are willing to accept ‘Average’ relations with the company for desirable levels of other attributes given higher importance.

‘Relations with the company’ does not fall under the Social Exchange Theory (SET) of the conceptual model designed for this research but under the Job Embeddedness (JE) theory domain. Hence it is not a part of the psychological contract as perceived by the seafarers. That is why it is difficult for the participants to visualize the importance of good office relations, especially when put in comparison with other attributes that are deemed as necessities by them. The same explanation is true also for the least important attribute coming up next, which is Welfare & Benefits. This not only explains their low relative importance but also tests and validates the two theories used for designing the conceptual framework. Improving communications and relations between office staff and seafarers can increase their ‘links’ with the company and improve retention by keeping them attached with the organization and its people (Holtom & O’neill, 2004).

S: “We sometimes go for training sessions at the office but I don’t go to the office very frequently. What will I do at the company office? I am not an employee there.”

Due to this lack of communication with the office, teamwork between the vessel and the shore-based units becomes challenging, especially with the crew department, where recurrent friction is commonly observed, particularly during crew changes or promotions. In a study on organizational retention of seafarers carried out by Nguyen et al. (2014), conflict was observed between the seafarers and the shore-based

departments at the company, specially crewing department. The seafarers of the company held the view that the crew department personnel (and sometimes people from other departments) did not respect them or did not deal with their issues and complaints properly. This led to dissatisfaction, quit decisions and retention problems. At the same time, the crew managers and other company actors explained their position that often - due to company policies (laid by senior management), port regulations, coordination issues or local barriers - some of the requests are impossible to be carried out swiftly, and that their job becomes frustrating not only because of such challenges but also because they are misunderstood by the crew. Very similar findings were observed in this research during the FGDs with the seafaring officers and interviews of the company actors.

C: "So I would really appreciate if the understanding will come back a little bit [from the crew]. I know it's difficult. I can totally understand the situation of the crew members, but sometimes they are going against the wrong person, let's say so, because also our options are until a certain point limited and we always try our best and try to organize everything, but we have also some crew who don't want to see this. I would really appreciate if they could see how much effort we put in."

Frequent blame-games and accusations further demotivates the seafarers as found during the FGD and should be minimised to the greatest extent possible and to enhance organizational justice perception of seafarers which has a positive effect on job satisfaction (Ozdemir et. al., 2022).

5.6 Welfare & Benefits

Family Medicals and Welfare, 5-Year Loyalty Pay, Pension, Promotions and Career development were included in this attribute. The attribute was given a relative importance of 5% only, with UV for level 'Good planning' +0.04, 'Average planning' +0.08, and 'Poor or No planning' -0.13. Again, this is a clear trade-off as

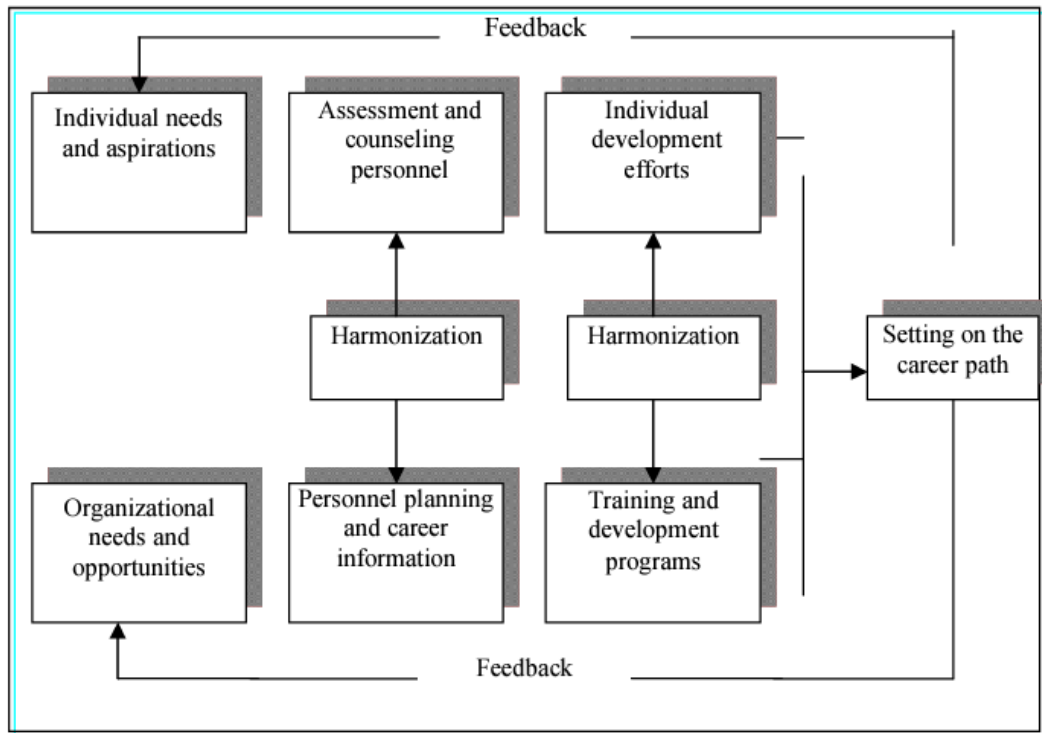
participants are willing to accept 'Average planning' of welfare and benefits for a higher quality of other attributes that they see as more important.

Once again, as explained in section 5.1.5, 'Welfare and Benefits' do not fall under the psychological contract and the expectations of the social exchange between the employee and employer as per the conceptual model. Therefore, only those participants who have experienced such benefits previously seek them from new employers. For others, they could be irrelevant. However, offering these extra packages can increase the job embeddedness of the employee as they will perceive this as a 'sacrifice' when thinking of quitting. On the other hand, offering speedy promotions can increase a person's 'fit' to the job and organization as they feel satisfied and in the right place (Mitchel et al., 2001; Crossley et al., 2007).

Nevertheless, with promotions, it can get quite tricky because, in addition to the necessities of employment (given by the social exchange), young officers also expect promotions as a part of their psychological contract, and it can demotivate them when promotions are delayed beyond expectation (Papachristou, 2015). What companies can do is to design a career development and promotion programme, and effective progression planning for the junior level officers. Figure 16 illustrates the process and steps of effective progression planning.

Figure 16

Career Development and Progression Model.



Note. From “Career planning process and its role in human resource development.”, by Antoniu, E., 2010, *Annals of the University of Petroșani, Economics*, 10(2),p. 13-22,(https://www.researchgate.net/profile/Codruta-Dura/publication/227362057_Statistical_Landmarks_And_Practical_Issues_Regarding_The_Use_Of_Simple_Random_Sampling_In_Market_Researches/links/555239d408ae6943a86d6fd6/Statistical-Landmarks-And-Practical-Issues-Regarding-The-Use-Of-Simple-Random-Sampling-In-Market-Researches.pdf).

NSB Group has the unique advantage of having the NSB Academy at its disposal for in-house seafarer education and training for KSA development of its crew, with a modern and sophisticated simulator facility. Even though it is being utilised effectively to improve the standards and quality of their seafarers and to assess new-joiners as well current officers pursuing promotions, it can be adapted to become a highly valuable tool for on-boarding, career development and progression planning of potential long-term employees. In this regard, Giles Heimann, Director of Fleet

Personnel for Bernhard Schulte Ship Management (BSM) is quoted by Kinthaert (2017) as saying:

To overcome the shortage of professional qualified officers and fill vacancies aboard ship there is no quick fix. The only ongoing solution for this challenge is to 'home grow' and develop an internal talent pool for the future. Recruiting enthusiastic school leavers as cadets, nurturing their development and giving them the opportunity to grow within the company provides this talent pool. Clearly defined promotion opportunities need to be provided, together with an understanding of the value of being part of a company that cares for seafarer development, welfare and loyalty. Through investing in training, and respecting our seafarers' ambitions, ensures BSM will be placed advantageously in the future to continue to man our ships with high quality officers.

Though NSB Group has a comprehensive process of on-board training and promotion assessment (training record books for officers and interviews and simulator assessment for senior officers), there have still been instances when the officers have felt they were not granted promotion when they should have been, as discussed in chapter 4.

6. Conclusion and Recommendations

This chapter presents the conclusions that may be drawn from this research, and makes recommendations on implementation of strategic measures to improve retention of quality seafaring officers in the NSB Group and in other shipping companies/organizations to which the results of this research may be generalised. This chapter also discusses the theoretical implications of the study, the scope for future research and the limitations of the research.

6.1 Research Conclusion

Through a self-designed conceptual framework and a successive methodological process, the researcher could answer all the research questions.

Q1: What are the factors that influence the commitment of seafarers to their employers?

The first research question was answered through the SLR, which identified the raw codes and factors, followed by the FGDs to build an understanding, select the most important of these and categorize them in broad headings (refer to Figure 8 & Table 2). The FGD with NSB Group seafaring officers provided valuable insight in how these factors play out within the organization.

Q2: How do these factors compare with each other in terms of weightage in influencing the decision-making of seafarers regarding employment?

Q3: How is the situation currently being tackled corporately, and how can the above knowledge be used for effective employee retention via informed corporate decision-making?

The quantitative CBCA analysis, verified by a self-ranking 5-point Likert response format survey, allowed the researcher to compare these attributes (with the various factors found in response to research Q1 with one another. This answered Q2, followed by in-depth interviews with crew managers and training personnel at NSB Group in an attempt to answer Q3. A part of this question is answered in this section through the recommendations.

From the research results, it can be inferred that contrary to common belief, remuneration was not the most important factor for seafarers. Contract duration (having the highest comparative importance) had two different stories to tell. The seafarers are torn between a need for rest and social connection/inclusion and a need to have financial stability and a career path. Improving working and living conditions can keep seafarers happier and satisfied on board. Reducing workload and stress and providing a safe and conducive environment with proper social connectivity (such as via the internet) may reduce early burnout and quit intentions. Offering perks, welfare, benefits, recognition and rewards have proved to increase the motivation of employees in the past and increase attraction. An employee might not be explicitly looking for these, but their presence can definitely increase attraction and retention or improve embeddedness by making quit decision appear too great a sacrifice. The concern of the NSB Group over the quality of the workforce may have only one definite solution: training and development. Not only can this improve overall quality and standards, it can also increase organizational belongingness by orienting and acclimatizing the employee with the organizational culture, policy and goals. It helps align and integrate the seafarer's professional goals with the organisation's business goals.

Inclusion of women seafarers has a high potential to improve retention rates. The main challenge identified in this sphere was overcoming the conservative belief that seafaring was a "man's job" requiring muscle power, and women would be less efficient in this respect. Other challenges women seafarers of the industry generally

face include decreasing motivation after childbirth, sexual harassment, biased treatment, inadequate infrastructure, etc. (Thomas, 2004).

It was found that the management was aware of most of the issues the organisation faced in retaining their officers and attracting new joiners to increase its seafaring pool. NSB has a good and healthy overall retention rate of about 80% (according to the crewing department). The primary reason the organization is facing this problem of shortage of manpower is that several new vessels were acquired under its management recently; however, the company finds it challenging to attract and acquire new crew members to keep up with its growing fleets. Therefore, it could be concluded that attraction was found to be a bigger challenge than retention of the NSB seafarers.

6.2 Managerial Implications and Recommendations to NSB

Based upon the findings of this project, the researcher proposes several recommendations to the NSB Group in specific and to other companies in the industry as well. These can be broadly divided into short-term measures and long-term measures.

6.2.1 Short-term Measures

The following short-term actions are proposed for attraction and retention of the seafaring officers.

- The organization should plan to equalize the salaries in order to remove the dissatisfaction caused out of a feeling of inequity among the current seafarers. It is noted that the company is working on a wage scale upgrade. However, a good strategic move would be to introduce a 'Seniority Allowance' based on the number of years of the employee in the organization. This would put the older employees at a monetary advantage, and at the same time entice the

newer employees to remain with the company to gain this benefit. Although the crewing budget of any company is limited, this intervention can be strategically planned and allocated to gain a competitive advantage in the attraction and retention of employees.

- Revision of crew management practices, especially designing flexible contracts to meet the needs of individuals, should be considered. From the results, it was observed that some officers prefer shorter contracts while some prefer longer ones. Also, it can be inferred that some officers give great importance to timely sign-off, whereas some highly prefer timely joining. If these preferences of individuals can be identified, and fulfilled through clever and informed planning ahead of time, then it has the potential to reducing the dissatisfaction of seafarers with the organization.
- Improvement in working conditions and workload, especially with regards to the amount of paperwork, should be aimed for. A company has limited control over port-related administrative work. However, paperwork borne out of its own management system should be reduced by integration and innovative design. Another way to combat this issue would be to consider placing an additional rank on board, thus making the workload more manageable, especially on busy vessels. Although an obvious suggestion, it has a very high potential in decreasing stress, fatigue and burnout, and at the same time, improving safety and productivity.
- It should be an organizational aim to improve effective ship-office communication by establishing clear responsibilities and communication channels, studying challenges and frictions that frequently arise, and trying to solve these issues proactively. The crew onboard and the crewing staff ashore should be properly educated about the problems faced by the other party and their plight regarding crew changes, promotions and related issues. This can

be incorporated through well-planned training sessions or seminars and perhaps short tenures of shipboard staff in the shore office and vice-versa.

- Welfare & benefits is a measure/attribute that can offer the company immense competitive advantage. Well-designed welfare packages can improve retention. One suggestion by a FGD participant was to introduce a 5-yearly loyalty pay that rewards the employee substantially every 5 years of service with the company, instead of retirement pension. The anticipation of a substantial monetary reward in the near future will arguably increase the engagement of employees. Setting up a Welfare Unit in the HR department is another interesting idea incorporated by several companies (Tang and Zhang, 2021, p. 118). These welfare personnel contact the employees or their families enquiring about their well-being, and any issues faced in personal/professional life or career advancement and provide any assistance possible. This is an elegant way of keeping the employees emotionally attached the organization.

6.2.2 Long-term Measures

The following long-term measures are proposed:

- For any long-term plan, education and training is the key. The suggestion is to design a unique work infrastructure and suitable organizational culture which is comfortable for the seafarer and difficult to let go. The employee becomes resistant to change due to its uniqueness. This would require considerable in-house research, process re-engineering, management system redesign, and investment in seafaring education and training infrastructure and resources. The most productive employee cycle is where attraction, onboarding and retention happen at entry-level positions and turnover (optimally due to natural attrition) occurs at the most senior levels. A high-quality workforce can be achieved through intricate progression planning and extensive training and development. All young employees plan their

progression and career path (either implicitly or explicitly), but when an organization is involved with such planning, and actively takes part in the development of their career, the employee's reliance and dependency on and trust in the organization increases, and they become committed to and engaged with the organization. Bottle-necks in promotions and progressions should be identified and addressed, which is relatively easy to do with appropriate planning in place. In line with principles of SHRM, such progression planning should be carefully integrated into the company's business strategies, future expansion plans, advancement in technology, dynamics of international regulations as well as national maritime education and training infrastructure of different countries (Cahoon et, al., 2014; Tang & Zhang, 2021). This is an instrumental approach to ensure a steady supply of high-quality work staff over a long period.

- Planning and encouraging periodical rotations of the same set of personnel on board same vessels to gradually obtain improved vessel conditions and performance taking into account the reticence of crew to work on particular ships (which may call for increased attention of optimising the state of the ships in question).
- Another key solution could be to attract and retain women seafarers in the company by addressing the specific issues faced by women and by the organization. This would require a revision of the policies to make them inclusive and conducive for this purpose. It would also require a certain amount of training and awareness creation.
- Finally, continued research, survey and feedback mechanism is the key. Self-awareness regarding organizational issues can lead to the identification of

problems, and subsequently to developing solutions. A continuous Plan-Do-Check-Act (PDCA)²⁷ cycle should be in place.

6.3 Theoretical Implications & Future Research

This research has the following theoretical implications.

1. Conjoint Analysis was employed for this study to understand the relative importance of various attributes. Such a technique had never before been utilised for the study of seafarers' welfare. This particular methodology of triangulation of CBCA and qualitative analysis proved to be very efficient, as observed by this study's results. Hence future research should aim at exploring and experimenting with conjoint analysis in various ways to understand the comparative importance of factors in the domain of seafarer welfare and employee retention in general.
2. The conceptual framework designed by the researcher for this study is tested and validated through this study. It verifies the original idea that the terms of the psychological contract are the employees' first and foremost priority, fulfilment of which leads to a successful social exchange and, ultimately, job satisfaction and retention. Those attributes under the SET component received the highest relative importance in the CBCA. The extra measures to be taken by employers to improve embeddedness, falling under the JE theory component (comprising of company relations and welfare & benefits) received least importance. A comparison is drawn to Maslow's Hierarchy of Needs, which explains that people give highest importance to the most basic needs

²⁷ The PDCA Cycle concept of Strategic Learning requires processes to be continuously assessed for output through assessment and feedback mechanisms in place. With the feedback, the planning can be carried out to modify the execution stage in order to achieve high quality results (Pietrzak & Paliszkiewicz, 2015).

first. The conceptual model can be tested and utilised in future studies with expanded sample sizes and a multiplicity of corporate settings.

3. The most important attribute in the matters of attraction and retention of NSB seafarers was the contract period, which included timely joining, repatriation, and vacation time. The study explained that the population was split between those that preferred longer contracts (and extensions) and those that preferred short contracts (with no extensions and timely sign-off). Although there is plenty of research linking length of contract with social isolation, there is hardly any literature explaining how and why such factors can affect seafarers' preferential duration of stay on ships. This is a potential gap in research and can be analysed using exploratory studies.
4. Shipping companies should promote and invest in such industrial research on a larger scale using extensive qualitative and quantitative methods to understand more about their seafarers' happiness and satisfaction and strategically use the findings of such research to update its crew management. The result of this study is an opportunity for the NSB Group and similar entities to dive further into each attribute and understand how various factors and sub-factors come into play with regard to their seafarers. The researcher suggests extensive mixed methods and the use of different HRM theories for such future studies.

6.4 Limitations

The above study has several limitations. Firstly, the research did not cover a broader spectrum of all crew members (including ratings), but was limited to officers and engineers. Secondly, due to insufficient responses from participants from all demographics, the responses were disproportionate, and therefore demographics could not be analysed in isolation. For example, there were very few responses from female seafarers or junior-level engineers to examine these demographics. Lastly, QuestionPro.com did not have a provision for internally validating the model (for example, by means of holdout cases (see footnote 23) in ranking-based conjoint

analysis) which is offered by several advanced conjoint analysis software. However, these software platforms are expensive and could not be utilised by the researcher.

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Appendices

Appendix A : Systematic Literature Review

Doc. No.	Author (s)	Year	Name of Article / Book	Citation (APA 7 th Edition)
1	Thomas*, M.	2004	‘Get yourself a proper job girlie!’: Recruitment, retention and women seafarers.	Thomas*, M. (2004). ‘Get yourself a proper job girlie!’: Recruitment, retention and women seafarers. <i>Maritime Policy & Management</i> , 31(4), 309-318.
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Appendix B: Focus Group Discussion Instrument

Focus-Group Instrument – Guidance Questions

Title of the research: Turnover and Retention of Seafarers

Purpose of the research: This research aims to understand the factors that affect the turnover and retention of seafaring officers in NSB Group. The main purpose of this focus group is to understand the importance of such factors that may influence the decision-making of seafarers to stay with their company or leave.

Your participation: You are invited to participate in this focus-group which will discuss the various factors affecting the turnover and retention of seafaring officers in the company and their importance. Your responses will be treated in the strictest confidence and all responses anonymized in any reports. Your participation is completely voluntary and without any payment. You are welcome to withdraw from the research at any time, even after answering the questions. Thank you for your participation.

Researcher:

Name: Ankit Acharya

Contact: w1011173@wmu.se (Whatsapp: +91 9980495304)

Interviewee:

Name (Optional):

Nationality:

Age:

Rank:

Organization:

Contact Details (Optional):

Number of years with the company:

- 1) **How important is salary, bonuses and allowances when a seafarer is making a decision to leave one company for another?**
 - a. Do you think that if a seafarer leaves his organization, he/she will feel they are forfeiting a particular bonus or allowance?
 - b. Do you think the seafarers in this organization feel financially secure with more or less steady flow of income?
 - c. How do you think a seafarer feels about contractual employment versus permanent employment?
 - d. What other issues around remuneration do you think impacts seafarers' decisions to leave or stay with a shipping company?
- 2) **Is the type of work, rest-hours, stress and fatigue important to a seafarer?**

- a. Do seafarers feel the need of more people on-board?
- b. If another company has better rest-hours and more people on-board, would a seafarer consider leaving his/her company for this company?
- c. Are seafarers affected by the changing regulations and technology in regards to continuing life at sea?
- d. How does “the blame game “affect seafarers’ decision about company and job?
- e. Are seafarers afraid of being criminally charged for making a mistake, and does that make them think of leaving shipping?
- f. What other factors relating to stress do you think can cause a seafarer to consider leaving shipping?

3) How important are life-style factors on board such as:

- a. Food
- b. Recreation
- c. Living conditions
- d. Other influences?

4) How much do seafarers value relationships on-board?

- a. Do seafarers feel that good relationship with seniors and other crew on-board is so important that they might think of leaving the company because of that?
- b. Does the quality of relationships on board affect seafarers’ decision (in general) about whether or not to leave?
- c. Do seafarers feel any kind of biased or differential treatment due to nationality, religion or native language and would they leave their organization because of that?

5) Will staying away from family and friends make seafarers re-consider staying in shipping industry?

- a. How do seafarers feel about internet connectivity on-board and how much do they value it?
- b. If the company took care of seafarer’s family while he or she was away: provide medical/health insurance, career development counselling and assistance for their children, keep a check on how their family and parents are doing, etc., how much would they value that?

6) Do seafarers value their company and its practices?

- a. Do they think company policies and SMS and ease of flow of communication with office is important? Would they leave a company where optimum expressions of these absent?
- b. Would they consider the brand of the company an important factor in deciding to apply for a job?
- c. How important do seafarers feel their relation with the company is? Is it important to feel part of the organization?

- d. Do they like or would they like frequent communication with your company?

7) Career advancement discussion:

- a. Would seafarers join another company for faster promotion?
- b. Do seafarers like attending frequent training sessions with the company which help increase their knowledge and develop their skills?
- c. How important to them is recognition and achievement in the career and in the company? Is that a factor for them to decide to stay with the company?
- d. Do you feel that doing their job in the shipping industry, being a part of a team on-board and taking responsibility gives seafarers satisfaction and happiness?

8) Employment contract time discussion:

- a. Are seafarers attracted by shorter contract durations?
- b. How long should the contract be for junior and senior officers, in your opinion?
- c. Do seafarers value getting relieved on-time?
- d. Is being relieved on-time so important that they might join another company which has better on-time relief?

9) Do you feel there are any other factors apart from the ones we just discussed that could make a seafarer think of leaving/staying with his or her company or that could attract them to another company?

10) What are your views about how NSB performs on these issues?

Appendix C: Survey Questionnaire



Turnover and Retention of Seafarers - A Choice-Based Conjoint Survey

Welcome to this survey on satisfaction of
seafarers !!

Researcher

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Purpose of the research

This research aims to understand the features and qualities of shipping companies that influence the decision of its seafarers to stay with the employer or leave; and also to learn how seafarers get attracted to other companies.

The purpose is to recognize what measures can be employed by companies to improve the retention of their seafarers, especially officers.

Further, the study attempts to address the gap by trying to find out what measures are being taken by *NSB-Group* to retain their seafarers and to reduce turnover.

This study is part of a dissertation of the researcher towards attaining M.Sc. degree in Maritime Affairs at the World Maritime University, Malmö.

Your participation and consent

You are invited to participate in this study by answering the below survey. Your responses shall be treated in the strictest confidence and will remain anonymous. Your participation is completely voluntary and without any payment. You are welcome to withdraw from the research at any time, even after answering the questions.

Your data will be stored on the personal computer of the researcher and will be deleted once the M.Sc. degree has been awarded.

Please click on the tick-box to provide your consent.

Thank you once again for your participation.

- ☐ **I give my consent**
- ☐ I do not consent and want to exit the survey

Methodology

This survey uses the methodology of *Choice-Based Conjoint Analysis*, which is often used in product design to understand customer preference of various attributes of products and their trade-off points.

In the first part, you will be asked to rate the importance you give to various qualities and features of a company.

In the second part, will be asked to make a choice between two companies, for 12 times. Each time the companies will have various levels of some features. Based on the six different features of the two companies and the levels of the features you are required choose one of the two companies every time. Please give due attention and consideration to the various features and qualities before making a choice.

You will NOT be asked to state the reason for your choice.

What is your gender?

- ☐ Male
- ☐ Female
- ☐ Prefer not to say

What is your age?

- ☐ Not specified
- ☐ 18
- ☐ 19
- ☐ 20
- ☐ 21
- ☐ 22
- ☐ 23
- ☐ 24
- ☐ 25
- ☐ 26
- ☐ 27
- ☐ 28
- ☐ 29
- ☐ 30
- ☐ 31
- ☐ 32
- ☐ 33
- ☐ 34
- ☐ 35
- ☐ 36
- ☐ 37

Survey

 QuestionPro



Survey

 QuestionPro

☐ 60+

What is your rank?

- ☒ Master
- ☐ Chief Officer
- ☐ 2nd Officer
- ☐ 3rd Officer
- ☐ Junior Officer
- ☐ Deck Cadet
- ☐ Chief Engineer
- ☐ 1st Engineer
- ☐ 2nd Engineer
- ☐ 3rd Engineer
- ☐ 4th Engineer
- ☐ Junior Engineer
- ☐ Engine Cadet
- ☐ Electrical Engineer
- ☐ Other (please specify)

• What is your nationality?

• What is the type of your vessel?

- ☐ Oil Tanker
- ☐ Chemical Tanker
- ☐ Container
- ☐ Bulk Carrier
- ☐ Ro-Ro
- ☐ Gas Carrier
- ☐ Other (Please specify)

On a scale of 1 to 5 how important are these qualities to you in the company you are now in (1 being Not At All Important, and 5 being Very Important).

Working Conditions

	1	2	3	4	5
Stress and Fatigue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Paperwork	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manpower available	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Safety & Vessel Condition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional relations on-board	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 how important are these qualities to you in the company you are now in (1 being Not At All Important, and 5 being Very Important).

Remuneration

	1	2	3	4	5
Salary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bonuses & Allowances (Rejoining / Loyalty / Seniority)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 how important are these qualities to you in the company you are now in (1 being Not At All Important, and 5 being Very Important).

Living Conditions

	1	2	3	4	5
Internet access	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recreation and Gym	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shore-leave	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 how important are these qualities to you in the company you are now in (1 being Not At All Important, and 5 being Very Important).

Relations with Company.

	1	2	3	4	5
Teamwork with company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recognition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No-blame culture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communication ease with office	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 how important are these qualities to you in the company you are now in (1 being

Not At All Important, and 5 being Very Important).

Crew Management & Contract Period

	1	2	3	4	5
Length of contract	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vacation time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Timely joining and signoff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job security & regular employment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On a scale of 1 to 5 how important are these qualities to you in the company you are now in (1 being Not At All Important, and 5 being Very Important).

Welfare and Benefits

	1	2	3	4	5
Family medical insurance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family welfare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5 Yearly Loyalty Pay	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pension Plans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promotions and Career Advancement opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please choose ONE of the TWO companies displayed below, which is the best according to you for employment, based on their qualities and features listed. Please make your selection carefully after proper assessment.



Step 1 of 12

Remuneration Salary Bonuses Allowances	Low	High	
Working Conditions Stress and Fatigue Paperwork Manpower Safety & Vessel condition Professional relations on-board	Good conditions (Low stress)	Moderate conditions (Medium stress)	
Living Conditions Internet access Food Recreation facilities Gym Shore-leave	Poor conditions (No internet)	Average conditions (Expensive internet)	
Relations with Company Office Teamwork Recognition No-Blame culture Office communication	Good	Average	None of the two
Crew Management & Contract Period Length of contract Vacation time Timely joining & sign-offs Job security	Short contracts (On-time Sign-off)	Short contracts (On-time Sign-off)	
Welfare & Benefits Family medical insurance Family welfare 5-yearly Loyalty pay Pension Promotions & career	Good planning	Poor or no planning	
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Step 2 of 12

Remuneration Salary Bonuses Allowances	Average	High	
Working Conditions Stress and Fatigue Paperwork Manpower Safety & Vessel condition Professional relations on-board	Bad conditions (High stress)	Bad conditions (High stress)	
Living Conditions Internet access Food Recreation facilities Gym Shore-leave	Average conditions (Expensive internet)	Good conditions (Free internet)	
Relations with Company Office Teamwork Recognition No-Blame culture Office communication	Poor	Good	None of the two
Crew Management & Contract Period Length of contract Vacation time Timely joining & sign-offs Job security	Short contracts (On-time Sign-off)	Long contracts & Extensions	
Welfare & Benefits Family medical insurance Family welfare 5-yearly Loyalty pay Pension Promotions & career	Good planning	Good planning	
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Step 3 of 12

Remuneration Salary Bonuses Allowances	Low	High	
Working Conditions Stress and Fatigue Paperwork Manpower Safety & Vessel condition Professional relations on-board	Moderate conditions (Medium stress)	Moderate conditions (Medium stress)	
Living Conditions Internet access Food Recreation facilities Gym Shore-leave	Good conditions (Free internet)	Poor conditions (No internet)	
Relations with Company Office Teamwork Recognition No-Blame culture Office communication	Good	Poor	None of the two
Crew Management & Contract Period Length of contract Vacation time Timely joining & sign-offs Job security	Average contracts - sometimes extended	Average contracts - sometimes extended	
Welfare & Benefits Family medical insurance Family welfare 5-yearly Loyalty pay Pension Promotions & career	Poor or no planning	Average planning	
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Step 4 of 12

Remuneration	Average	Low	
Salary			
Bonuses			
Allowances			
Working Conditions			
Stress and Fatigue			
Paperwork			
Manpower			
Safety & Vessel condition	Good conditions (Low stress)	Bad conditions (High stress)	
Professional relations on-board			
Living Conditions			
Internet access			
Food	Poor conditions (No internet)	Good conditions (Free internet)	
Recreation facilities			
Gym			
Shore-leave			None of the two
Relations with Company			
Office			
Teamwork			
Recognition	Average	Average	
No-Blame culture			
Office communication			
Crew Management & Contract			
Period			
Length of contract	Long contracts & Extensions	Long contracts & Extensions	
Vacation time			
Timely joining & sign-offs			
Job security			
Welfare & Benefits			
Family medical insurance			
Family welfare			
5-yearly Loyalty pay	Average planning	Poor or no planning	
Pension			
Promotions & career			

☐
☐
☐

Step 5 of 12

<u>Remuneration</u>			
Salary	Low	Average	
Bonuses			
Allowances			
<u>Working Conditions</u>			
Stress and Fatigue			
Paperwork			
Manpower	Bad conditions (High stress)	Good conditions (Low stress)	
Safety & Vessel condition			
Professional relations on-board			
<u>Living Conditions</u>			
Internet access			
Food	Poor conditions (No internet)	Average conditions (Expensive internet)	
Recreation facilities			
Gym			
Shore-leave			None of the two
<u>Relations with Company</u>			
<u>Office</u>			
Teamwork	Average	Average	
Recognition			
No-Blame culture			
Office communication			
<u>Crew Management & Contract Period</u>			
Length of contract Vacation time	Average contracts - sometimes extended	Average contracts - sometimes extended	
Timely joining & sign-offs			
Job security			
<u>Welfare & Benefits</u>			
Family medical insurance			
Family welfare			
5-yearly Loyalty pay	Good planning	Average planning	
Pension			
Promotions & career			

☐
☐
☐

Remuneration

Salary
Bonuses
Allowances

Low

Average

Working Conditions

Stress and Fatigue
Paperwork
Manpower
Safety & Vessel condition
Professional relations on-board

Good conditions
(Low stress)

Moderate conditions
(Medium stress)

Living Conditions

Internet access
Food
Recreation facilities
Gym
Shore-leave

Average conditions
(Expensive internet)

Poor conditions (No
internet)

None of the
two

Relations with Company**Office**

Teamwork
Recognition
No-Blame culture
Office communication

Poor

Good

Crew Management & Contract**Period**

Length of contract Vacation
time
Timely joining & sign-offs
Job security

Average contracts -
sometimes extended

Short contracts
(On-time sign-off)

Welfare & Benefits

Family medical insurance
Family welfare
5-yearly Loyalty pay
Pension
Promotions & career

Poor or no planning

Average planning



Remuneration

Salary
Bonuses
Allowances

Low

Low

Working Conditions

Stress and Fatigue
Paperwork
Manpower
Safety & Vessel condition
Professional relations on-board

Moderate conditions
(Medium stress)

Bad conditions
(High stress)

Living Conditions

Internet access
Food
Recreation facilities
Gym
Shore-leave

Average conditions
(Expensive internet)

Average conditions
(Expensive internet)

None of the
two

Relations with Company**Office**

Teamwork
Recognition
No-Blame culture
Office communication

Poor

Average

Crew Management & Contract**Period**

Length of contract Vacation
time
Timely joining & sign-offs
Job security

Long contracts &
Extensions

Short contracts
(On-time sign-off)

Welfare & Benefits

Family medical insurance
Family welfare
5-yearly Loyalty pay
Pension
Promotions & career

Good planning

Average planning



Step 8 of 12

<u>Remuneration</u>			
Salary	Average	Average	
Bonuses			
Allowances			
<u>Working Conditions</u>			
Stress and Fatigue			
Paperwork			
Manpower			
Safety & Vessel condition	Moderate conditions (Medium stress)	Moderate conditions (Medium stress)	
Professional relations on-board			
<u>Living Conditions</u>			
Internet access			
Food			
Recreation facilities	Good conditions (Free internet)	Good conditions (Free internet)	
Gym			
Shore-leave			
<u>Relations with Company</u>			
<u>Office</u>			
Teamwork			
Recognition	Average	Poor	
No-Blame culture			
Office communication			None of the two
<u>Crew Management & Contract</u>			
<u>Period</u>			
Length of contract Vacation time	Short contracts (On-time sign-off)	Average contracts - sometimes extended	
Timely joining & sign-offs			
Job security			
<u>Welfare & Benefits</u>			
Family medical insurance			
Family welfare			
5-yearly Loyalty pay	Good planning	Average planning	
Pension			
Promotions & career			

Step 9 of 12

Remuneration Salary Bonuses Allowances	Average	High	
Working Conditions Stress and Fatigue Paperwork Manpower Safety & Vessel condition Professional relations on-board	Bad conditions (High stress)	Good conditions (Low stress)	
Living Conditions Internet access Food Recreation facilities Gym Shore-leave	Average conditions (Expensive internet)	Good conditions (Free internet)	
Relations with Company Office Teamwork Recognition No-Blame culture Office communication	Good	Average	None of the two
Crew Management & Contract Period Length of contract Vacation time Timely joining & sign-offs Job security	Average contracts - sometimes extended	Average contracts - sometimes extended	
Welfare & Benefits Family medical insurance Family welfare 5-yearly Loyalty pay Pension Promotions & career	Poor or no planning	Good planning	
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Remuneration

Salary
Bonuses
Allowances

Low

High

Working Conditions

Stress and Fatigue
Paperwork
Manpower
Safety & Vessel condition
Professional relations on-board

Moderate conditions
(Medium stress)

Bad conditions
(High stress)

Living Conditions

Internet access
Food
Recreation facilities
Gym
Shore-leave

Poor conditions
(No internet)

Poor conditions
(No internet)

None of the
two

Relations with Company**Office**

Teamwork
Recognition
No-Blame culture
Office communication

Average

Poor

Crew Management & Contract Period

Length of contract Vacation time
Timely joining & sign-offs
Job security

Long contracts &
Extensions

Short contracts
(On-time Sign-off)

Welfare & Benefits

Family medical insurance
Family welfare
5-yearly Loyalty pay
Pension
Promotions & career

Poor or no planning

Poor or no planning



Step 11 of 12

Remuneration Salary Bonuses Allowances	High	Average	
Working Conditions Stress and Fatigue Paperwork Manpower Safety & Vessel condition Professional relations on-board	Good conditions (Low stress)	Bad conditions (High stress)	
Living Conditions Internet access Food Recreation facilities Gym Shore-leave	Average conditions (Expensive internet)	Good conditions (Free internet)	
Relations with Company Office Teamwork Recognition No-Blame culture Office communication	Good	Poor	None of the two
Crew Management & Contract Period Length of contract Vacation time Timely joining & sign-offs Job security	Long contracts & Extensions	Long contracts & Extensions	
Welfare & Benefits Family medical insurance Family welfare 5-yearly Loyalty pay Pension Promotions & career	Average planning	Poor or no planning	
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Step 12 of 12

<u>Remuneration</u> Salary Bonuses Allowances	Low	Average	
<u>Working Conditions</u> Stress and Fatigue Paperwork Manpower Safety & Vessel condition Professional relations on-board	Good conditions (Low stress)	Good conditions (Low stress)	
<u>Living Conditions</u> Internet access Food Recreation facilities Gym Shore-leave	Good conditions (Free internet)	Poor conditions (No internet)	
<u>Relations with Company</u> <u>Office</u> Teamwork Recognition No-Blame culture Office communication	Poor	Poor	None of the two
<u>Crew Management & Contract</u> <u>Period</u> Length of contract Vacation time Timely joining & sign-offs Job security	Short contracts (On-time Sign-off)	Long contracts & Extensions	
<u>Welfare & Benefits</u> Family medical insurance Family welfare 5-yearly Loyalty pay Pension Promotions & career	Average planning	Good planning	
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Did you find the survey interesting?



Yes



No

Did you think that the questions were easy to understand?



Yes



No

Did you find the questions and choice-options relevant?



Yes



No

Any Comments/Suggestions:

Appendix D: Word Cloud Analysis

(Prepared on Atlas.ti software)



Appendix E: Analysis and Report of the Focus Group Discussions

The various attributes and the factors within the attributes were designed by the researcher based on the analysis of the 2 FGDs. The researcher used the factors identified during the SLR and discussed them in the FGDs to understand relationships. This allowed him to form 6 categories or attributes for CBCA. These are discussed below. All accounts are in verbatim. ‘S’ stands for ‘Seafarer’ participant.

1. Remuneration

This group comprised of (1) “Salary, (2) Bonuses, and (3) Allowances.

When talking about remuneration it was observed that unless specifically asked about the various components of income, the seafarers’ considered them in unison.

2. Working Conditions

The factors identified for this group were (1) Stress & Fatigue, (2) Paperwork, (3) Manpower, (4) Safety and Vessel Condition

‘Stress & Fatigue’ was brought up several times when discussing working conditions.

S: “There is stress. Just too much stress. Sometimes I’m go crazy and no sleep. I working like a machine like 24 hours.”

When asked what constitutes stress the participants agreed that the ‘condition of vessels’ and ‘paperwork’ are the two most important elements that constituted stress in the work environment.

S: “My last vessel was very bad condition. I am always thinking about maintenance. And the bosun [head of deck crew] always complaining and the crew hate me because they say I push them too much but what I to do.”

When asked if relationship on-board had any implications on the working conditions, most participants agreed it was an important factor that influenced stress.

S: "When I was Chief Officer once I had a problem with my bosun. I had big problem managing the crew. What I am saying is that it is not only Captain. If you have problem with anyone on board life can be really difficult."

3. Living Conditions

The factors included in this category are (1) Internet access, (2) Food, (3) Recreational facilities, (4) Gym, and (5) Shore leave.

There were strong positive votes in favour of internet facilities on board. It was affirmed that social isolation is a major cause of seafarer burnout and quit decisions. Ties with family and friends are important, and cheap/free internet was stated as providing quick and easy communication with home.

S: "I have been sailing for almost 30 years. I have seen times when there was not even email facility on board. I wrote letters on paper to my wife. Today we have internet on board. Believe me, compared to the past now I feel much less anxious when I am joining a ship because I know that when I reach on board I can immediately connect with my family and let them know I have reached."

However, there were also some negative remarks on free and unlimited availability of internet which were related to unethical and unsafe usage of internet during work hours, and inadequate rest due to excessive usage.

Shore leave was another important topic, and the discussions on this were extensive, in general, and also as regards post-pandemic shore leave availability. Shore leave was found to have an alleviating effect on social isolation (i.e., it reduces the negative impact of social isolation. However, despite the notion that it should reduce stress and fatigue, it was revealed that shore leave can have a negative effect by increasing stress and fatigue when that shore leave does not leave enough time for

adequate rest/sleep. The pandemic affected the shore-leaves as countries shut down their gates to seafarers, and it continues to be a challenge in the participants' view.

It was also observed that some seafarers preferred not to go ashore as the alternative benefits of staying in and resting between watches was higher.

S: "I don't care about shore leave. If I am looking for job I don't ask if the company provides frequent shore leaves. In the port I am working 6-by-6²⁸ and when I am off-duty I prefer to stay in my cabin and sleep.

'Food' was discussed quite comprehensively. When it came to food there were differences in opinions. Despite these differences, this thematic area was included in the study because a majority of participants in both FGD had the view that food was an important part of their satisfaction with living conditions. Seafarers appear to burnout earlier if food is consistently of bad quality.

On the topic of 'recreation facilities' on board, positive responses were received. Some members were more regular users of exercise equipment and spaces than others but all agreed that it was a good option for relieving stress and staying healthy. Games (such as basketball) and get-togethers on-board helped to cope with social isolation and improved morale.

4. Relations with the Company

'Good relations with the company' was given high importance value, especially by senior officers such as Captains and Chief Engineers who frequently communicate

²⁸ At ports and in critical operations, often the Chief Mate has to leave his watch-keeping schedule and take over cargo operations. In such cases, usually the 3rd Officer and 2nd Officer double up on watches and keep alternate watches of 6 hours each, i.e. working for 6 hours and resting for 6 hours.

with various personnel in the organization. The factors in this category consisted of (1) Teamwork, (2) No-blame culture, and (4) Office communication.

When they received due recognition from the office, the officers felt like being part of a team. This had a positive influence on organizational commitment. Smooth and effective communication with the shore office had a significant impact on improving ship-shore relations. No-blame culture was unanimously given a high importance value by all in the FGDs.

S: "In my last company I was having a lot of stress because of paperwork and old degrading vessel conditions. But I still stayed because I was working for long time already. But once it happened that we ordered something we got wrong delivery. The company blamed me for making incorrect order. That is when I decided I will leave this company."

5. Crew Management and Contract Period

Good crew management practices included (1) Length of Contract, (2) Vacation time, and (3) Timely joining and sign off, and (4) Job Security

As to the length of contract, mixed views were observed. Some desired shorter contracts whereas others actually preferred longer contracts.

S: "One of the main things that I would look for in a company would be contract period. I have changed my company in the past because I was offered shorter contract period. The salary was almost the same."

S: "I normally ask for extension of contract. I have a home loan and I want to finish my sea time soon so that I can get promotion."

When enquired about the vacation period and timely joining/sign-off, almost everyone had similar views. More or less fixed vacation periods and timely rotation provided better time-management and financial and career planning. The duration of

the vacation period was debated, and everyone preferred that they had a say in their contract. During the COVID restrictions, the seafarers suffered. Some were stranded on-board with no relief for months, while others were stuck at home with no monthly income. The overall motivation of seafarers to stay in shipping decreased as the uncertainty regarding employment grew. Job security factors such as getting regular employment and contracts increased trust in and reliance of the seafarers on the company.

6. Welfare & Benefits

The relevant literature on welfare and benefits was consulted before including this category. From the FGDs it was realised that different organizations have different plans and schemes for their seafarers. This category could be visualised as measures taken by companies to increase Job Embeddedness. It is not necessarily a part of the social exchange between the seafarer and his or her employer, but can be seen as the extra bit the companies may do to incentivize and keep their employees. It is here that the companies can be creative, leverage the information obtained from research, and design plans of how to best spend their money assigned for crew expenditure to increase JE and improve retention.

The inclusive factors were (1) Family welfare, (2) Family medical insurance and (3) 5-Yearly loyalty pay, (4) Pension, and (5) Promotion & Career development.

Family welfare and family medical insurance was discussed in detail during the FGD. The participants observed that good company welfare and benefit schemes have a positive influence on job satisfaction and organizational commitment of the seafarers. The seafarers seemed to view their departure to sea and hard work on board as a sacrifice and service rendered to their families and any support in this direction appears to be welcome.

S: "It is really good idea. I am going to sea to earn money for who, for my family. If suppose they need some help, not just money but any help I am not there, and I know my company will offer help and support then I will not leave this company."

The concept of *pension plan* was introduced and it was found that it did not exist in NSB Group crew benefits plan. Some participants had such a scheme in their previous employments and agreed it could be a good extra to have.


The *5-yearly loyalty scheme* was an idea contributed by one of the participants. The concept was to give the seafarers a loyalty reward every 5 years instead of giving them a retirement pension. It was mutually agreed by all to be a good idea. Hence it was included in the questionnaire.

Promotion and career development were discussed in comparison with other factors like *salary* and *contract length*. It was agreed that planned and timely promotion could definitely increase job satisfaction, especially of the young officers.

S: "I am Master now so I do not care about promotions now, but if a company was genuinely interested and involved in my career goals, then I could see myself much more attached to that company. When I was junior level I changed my company several times to get fast promotion. No problem less salary."

Appendix F: Choice-based Conjoint Analysis

Part 1: Relative Importance and Part-worth Analysis (Generated on QuestionPro.com)

Attribute 	Importance	Level	Utility Value
Crew Management & Contract Period	38%	Short contracts (On-time sign-off)	0.56
Length of contract Vacation time		Average contracts - sometimes extended	-1.06
Timely joining & sign-offs		Long Contracts & Extensions	0.50
Job security			
Working Conditions	26%	Good conditions (Low stress)	0.64
Stress and Fatigue		Moderate condition (Medium stress)	-0.18
Paperwork		Bad condition (High stress)	-0.46
Manpower			
Safety & Vessel condition	14%	High	0.30
Professional relations on-board		Average	-0.01
		Low	-0.29
Remuneration	10%	Good conditions (Free internet)	0.16
Salary		Average condition (Expensive internet)	0.10
Bonuses		Poor conditions (No internet)	-0.26
Allowances			
Living Conditions	7%	Good	0.00
Internet access		Average	0.15
Food		Poor	-0.15
Recreation facilities			
Gym	5%	Good planning	0.04
Shore-leave		Average planning	0.08
		Poor or no plan	-0.13
Relations with Company Office	5%	Good planning	0.04
Teamwork		Average planning	0.08
Recognition		Poor or no plan	-0.13
No-Blame culture			
Office communication	5%	Good planning	0.04
		Average planning	0.08
		Poor or no plan	-0.13
Welfare & Benefits	5%	Good planning	0.04
Family medical insurance		Average planning	0.08
Family welfare		Poor or no plan	-0.13
5-yearly Loyalty pay			
Pension	5%	Good planning	0.04
Promotions & career		Average planning	0.08
		Poor or no plan	-0.13

Part 2: Best and Worst Product Profiles
(Generated on QuestionPro.com)

Attributes	Best Profile	Worst Profile
Remuneration Salary Bonuses Allowances	High	Low
Working Conditions Stress and Fatigue Paperwork Manpower Safety & Vessel condition Professional relations on-board	Good conditions (Low stress)	Bad condition (High stress)
Living Conditions Internet access Food Recreation facilities Gym Shore-leave	Good conditions (Free internet)	Poor conditions (No internet)
Relations with Company Office Teamwork Recognition No-Blame culture Office communication	Average	Poor
Crew Management & Contract Period Length of contract Vacation time Timely joining & sign-offs Job security	Short contracts (On-time sign-off)	Average contracts - sometimes extended
Welfare & Benefits Family medical insurance Family welfare 5-yearly Loyalty pay Pension Promotions & career	Average planning	Poor or no plan

Note. Shows the best and worst concept based on relative importance and part-worth function analysis

Appendix G: Interview Instrument

Interview Instrument – Guidance Questions

Title of the research: Turnover and Retention of Seafarers

Purpose of the research: This research aims to understand the factors that affect the turnover and retention of seafaring officers in NSB Group. The main purpose of this focus group is to understand the importance of such factors that may influence the decision-making of seafarers to stay with their company or leave.

Your participation: You are invited to participate in this focus-group which will discuss the various factors affecting the turnover and retention of seafaring officers in the company and their importance. Your responses will be treated in the strictest confidence and all responses anonymized in any reports. Your participation is completely voluntary and without any payment. You are welcome to withdraw from the research at any time, even after answering the questions. Thank you for your participation.

- 1) What is your role in NSB with respect to Crew Management?**
- 2) How long have you been working with NSB?**
- 3) How much experience do you have as a crew manager?**
- 4) Do you have any seafaring experience?**
- 5) Do you feel that there is a shortage of manpower in the shipping industry as a whole?**
- 6) What according to you is the current retention rate of NSB Group?**
- 7) What is the rate NSB is trying to achieve as a part of its business strategy?**
- 8) How has the retention rate changed in past since you have been working in NSB, especially after COVID?**
- 9) How has the Russo-Ukraine war affected the retention rate?**
- 10) What do you think are the primary reasons for high turnover rates in NSB group?**
- 11) Which fleet-type faces the maximum issues?**
- 12) At which rank or ranks is the shortage most evident?**

- 13) What are the methods and measures employed by the NSB to improve retention rates? Are there any unique measures ever used?**
- 14) Is there any feedback mechanism employed by NSB to understand the satisfaction of their seafarers?**
- 15) How do you perceive the office relationship and organizational commitment of seafarers with this company?**
- 16) Are there any measures that are not being taken but you recommend that should be taken in order to improve the retention rate?**
- 17) Is there any person/s in particular that you recommend I should talk to in order to gain better insights on this topic?**
- 18) Is there anything that you want to share that you find relevant that I haven't asked you about?**

Appendix H : Focus Group Participant Consent Form



Dear Participant,

Thank you for agreeing to participate in this research survey, which is carried out in connection with a Dissertation which will be written by the facilitator of this focus group, in partial fulfilment of the requirements for the degree of Master of Science in Maritime at the World Maritime University in Malmo, Sweden.

The topic of the Dissertation is "Turnover and Retention of Seafarers"

This focus group session will be recorded and the information provided by you will be used for research purposes and the results will form part of a dissertation, which will be published online and made available to the public. Your personal information will not be published. You may withdraw from the research at any time, and your personal data will be immediately deleted.

Anonymised research data will be archived on a secure virtual drive linked to a World Maritime University email address. All the data will be deleted as soon as the degree is awarded.

Your participation in the focus group is highly appreciated.

Facilitator's name	Ankit Acharya
Specialization	Maritime Safety and Environmental Administration
Email address	w1011173@wmu.se

* * *

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.

Name:

Signature:

Date:

Appendix I: Interview Participant Consent Form



Dear Participant,

Thank you for agreeing to participate in this research interview, which is carried out in connection with a Dissertation which will be written by the facilitator of this focus group, in partial fulfilment of the requirements for the degree of Master of Science in Maritime Affairs at the World Maritime University in Malmo, Sweden.

The topic of the Dissertation is "Turnover and Retention of Seafarers"

The response and information provided by you will be used for research purposes and the results will form part of a dissertation, which will be published online and made available publically. Your personal information will not be published. You may withdraw from the interview at any time, and your personal data will be immediately deleted.

Anonymised research data will be archived on researcher's private computer, external hard disk, and virtual data analysis platforms linked to a WMU email address. All the data will be deleted as soon as the degree is awarded (on 31st October, 2022).

Your participation in the interview is highly appreciated.

Facilitator's name	Ankit Acharya
Specialization	Maritime Safety and Environmental Administration
Email address	w1011173@wmu.se

* * *

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.

Name:

Signature:

Date: