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EMPLOYEE RETENTION IN THE MARITIME INDUSTRY: A REVIEW AND ANALYSIS

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Abstract. Due to the global shortage of seafarers, maritime firms are in intense competition to hire and retain qualified mariners. These shortages are greatest in the highest ranks. Despite the particular interest that maritime firms have in retaining qualified employees, research suggests that firms in the industry are comparative laggards in the implementation of sound human resource management (HRM) strategy. The goal of this paper is to review and assess literature on employee retention in general, and in maritime industry in particular. We present some anecdotal evidence illustrating how maritime firms are responding to the challenge of employee retention and shortages of more highly skilled mariners and suggest some opportunities for improving the employee retention efforts of maritime firms through a focus on achieving commitment through perceived employee support (POS).

Key words: seafarer retention, commitment, perceived organizational support

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1 INTRODUCTION

Maritime firms around the world face a significant seafarer retention problem that can threaten the safety of crews and the financial strength of the industry. The tightness of the labor market for seafarers is well documented by a number of surveys and studies. The BIMCO/ISF Manpower 2010 Update notes that while the global supply and demand for ratings were in approximate balance in 2010, the supply of officers was approximately 2% short of the demand [1]. Officer shortages persist and are estimated to be approximately 5-11% in 2015 [1]. This gap will continue to grow as world trade recovers from the 2008 recession [1]. The U.S. Bureau of Labor Statistics' Occupational Outlook Handbook states that the job market for captains' mates and other officers is expected to rise by 20 percent between 2010 and 2020 [2]. The continuing officer shortage suggests that the industry needs to focus on improving retention rates and on training recruits for progressively higher management positions.

The shortage of qualified officers can be attributed to high employee turnover and industry conditions that incentivize experienced seafarers to take maritime jobs on shore rather than pursue senior officer positions. When a qualified seafarer quits, it results in significant costs for maritime firms [3, 4]. These expenses come in the form of direct costs (*e.g.*, severance payments, vetting prospective candidates, training new hires) and indirect costs (*e.g.*, loss of productivity, diminished quality, increased safety concerns, loss of employee morale).

On average, research suggests that losing a qualified employee costs about 150% of the employee's salary [5]. Given the shortage of officers and the time that it takes to train and integrate into firm operations, it is reasonable to believe that employee replacement costs in the maritime industry are higher than average; publicly available data indicates that training costs alone can range from \$35,000 to over \$100,000 for ratings and junior officers [6, 7]. Hence, maritime firms have a major financial interest in extending the tenure of qualified mariners and encouraging them to gain the skills necessary to advance in rank.

Despite the critical importance of retaining qualified mariners, numerous studies suggest that the maritime industry is somewhat of a laggard when it comes to the implementation of scientifically rigorous employee retention policies [8, 9]. In this paper, we assess the seafarer retention efforts of maritime firms. We begin with a general review of research describing some employee cognitions that can lead to turnover. Next, we review and assess research relating to employee retention in the maritime industry in the areas of compensation, quality of life, and training. After suggesting

some opportunities to improve the HRM practices and policies of maritime firms, we close with a final summation and a discussion of potential avenues for future research.

2 EMPLOYEE COGNITIONS LEADING TO TURNOVER

Although antecedents of employee turnover are many, numerous studies converge on a few employee cognitions that appear to have a highly significant influence on quit intentions. Understanding these cognitions may facilitate the development of more effective HRM strategy in the maritime industry.

One of the most extensive studies of the antecedents of employee quit intentions was conducted by Griffeth, Hom, and Gaertner (2000) [10]. Using a meta-analytic approach across hundreds of studies, their results suggest that organizational commitment is the employee cognition that has the most powerful relationship with quitting (next to self-reported intention to quit) [10]. Other studies confirm these findings [11-14].

Research suggests that commitment is strongly influenced by perceived organizational support (POS) [15, 16]. POS describes a sense in employees that the organization they work for appreciates their contributions and cares about their general welfare [16]. Employers can cultivate a sense of POS using several approaches. For example, they can give praise and rewards that are above and beyond those required by contract or by standards and informal norms. They can also support employees during a time of loss or during a period of great stress by providing increased time off or a lighter workload. Employers may also cultivate POS by supporting skill development, offering promotion opportunities, and investing in employee training. However, as discussed later, some types of training are more effective at encouraging retention than others.

Scholars have identified three types of commitment. Normative commitment describes commitment based on a sense that one ought to stay (*i.e.*, because an important project would have to be abandoned if one were to quit). Continuance commitment describes commitment based on a sense that one will experience significant costs if they leave the organization, such as when a person stays with a firm because their spouse has a great job nearby and there are limited alternative employment options in the area. Affective commitment describes commitment based on a general sense of identity and well-being that emerges through membership in an organization. It emerges when employees have many close social connections at work, identify with the goals of the organization, or believe in the

firm's excellence. Affective commitment is thought to be the most desirable type of employee commitment from a managerial perspective because it leads to organizational citizenship behaviors (*i.e.*, going beyond the written and unwritten requirements of the job out of a sense of pride or belonging) [17].

3 EMPLOYEE RETENTION RESEARCH IN THE MARITIME INDUSTRY

Employee retention research specific to the maritime industry provides important insights when constructing HRM strategies. Seafarers cite loneliness, exhaustion, poor on-board conditions, safety hazards, and criminal liability concerns as some of the worst aspects of a career at sea. According to the Shiptalk 2012 Life at Sea Survey, an overwhelming majority (62%) of respondents felt social isolation was one of the worst aspects of being at sea¹ [18]. Piracy and excessive paperwork trailed behind in second place with 24% of respondents identifying them as some of the worst aspects of a career at sea [18]. When asked what would keep them at sea, 62% of respondents mentioned higher salaries [18]. Better benefits and shorter trip lengths were other important factors [18].

The 2012 Shiptalk survey suggests that when it comes to occupational commitment, seafarers care mainly about compensation. However, research suggests that while higher pay is positively correlated with occupational commitment, its impact on organizational commitment is short-lived [19]. Occupational commitment has to do with a general attachment to the industry/occupation. Organizational commitment has to do with attachment to the specific job and the specific organization while the latter has to do. Of all questions in the Shiptalk survey that related occupational commitment, compensation was, by far, the most important concern of respondents.² On the other hand, when asked what would make them chose to work on a particular ship (more closely related to organizational than occupational commitment), pay issues were less important than living conditions onboard the ship. When asked what they do not like about a seafaring ca-

reer, respondents overwhelmingly point to loneliness and separation from friends and family. Increasing pay will do little to mitigate this problem and is a less cost-effective or efficient solution than a more coherent employee retention strategy can deliver.

Research suggests that one of the best ways to give employees a sense of organizational commitment is by providing organizational support (*i.e.*, creating a sense of POS) [15, 16]. The 2012 Shiptalk survey gives some indication of where employers may begin to stand out as an organization that supports its employees. Practices such as providing free internet access, family medical insurance and/or pension plans may serve to build a firm's reputation as an employer of choice, thus boosting organizational commitment [18].

Yet even if maritime firms can give seafarers a strong sense of organizational commitment, they will still lose qualified employees with low levels of occupational commitment. Although both high ranking officers and first to second year ratings can earn substantially more at sea than on land, seafarers between these positions can often find more desirable positions on shore [20]. As a result, entry-level seafaring jobs are increasingly seen as gateways into maritime shore jobs, including "pilotage, marine surveying, terminal/cargo operations, port operations, ship management, marine administration, and maritime education and training" [21]. Such jobs are numerous, comprising approximately 70% of all maritime jobs available in the European Union, and often require few skills other than those offered to ratings through on-the-job training programs [22].

In contrast, the career pathway from rating to senior officer is more daunting, typically requiring a bachelor's degree and 4-5 years of sea time. Caesar et al 2014 cite the "strenuous nature of working conditions at sea, learning difficulties, lack of progression opportunities, and plateauing of salary" as the main factors inhibiting advancement through a ship's ranks [8]. Such difficulties undermine seafarers' sense of occupational commitment.

In the remainder of this section we discuss research and anecdotal evidence from maritime firms relating to a few areas of HRM that consistently turn up in maritime research as being relevant to employee retention, noting that firm managers have more control over increasing employees' sense of organizational commitment rather than occupational commitment.

Compensation

Surveys in the maritime industry often point to a relatively high emphasis on pay as a motivation to stay in the industry [4, 18, 23]. This makes intuitive sense because research suggests that there are fundamental characteristics of a seafaring career that make it diffi-

¹ The Life at Sea Surveys comprise of a series of five surveys of registered users of Shiptalk Recruitment. The data cited in this paper are from the first survey in the series - the Seafarer Attraction and Retention Survey Report. Of the 488 seafarers who responded to this survey, over 40% were from English speaking countries like the UK, India and USA. Filipino seafarers were conspicuous by their near absence comprising less than 1% of the respondents.

² The survey asks what motivated mariners to choose a seafaring career, why they stay, and what would make them stay longer (*i.e.*, occupational commitment).

cult to provide as much satisfaction as many shore jobs [24]. For example, separation from family and friends is a major source of discontent among seafarers [18]. Yet this is an inherent part of the job and there is little that maritime firms can do to overcome this problem. Even a mariner who prefers a life at sea to a shore job must generally justify their decision to be apart from loved ones for long periods of time. Compensation, therefore, is the means by which maritime firms attract and retain qualified seafarers despite the inherent advantages of a shore job.

Yet even in this most critical and basic area of HRM, many maritime firms struggle to meet reasonable employee expectations. Maritime firms often view payroll costs as similar to any other costs of production (*e.g.*, fuel, the ship itself) and presume that pay should be minimized [9]. Jatau (2002) suggests that this is doubly true in the wake of the 2008 recession, which forced many employers to cut operating costs to the bare minimum [25]. However, this view of HRM represents the widely discredited "hard model". Rather than viewing employees as factors of production, the "soft model" of HRM emphasizes the relationship between the employer and the employee [9]. If employees feel that their employers are unwilling to invest in them above and beyond the bare minimum required by contract or unwritten norms and standards, the employee's sense of POS and affective commitment will diminish. In the long run, this will lead to fewer organizational citizenship behaviors and a higher likelihood of quitting.

Actual practices of many maritime firms contribute to the shortages of qualified mariners experienced industry-wide. For example, some sources suggest that late or short payment of wages is a widespread challenge in the industry [26, 27]. Ships often arrive in port expecting to receive a wire transfer of wages that never arrives. Repeated such incidents send a strong signal that employers do not care about the welfare of their employees. The maritime industry is also relying increasingly on manning agencies and contract labor. For example, a Deloitte study reports that in 2010-11 over 70% of ratings and 30% of officers came from the Philippines, where firms tend to rely heavily on third-party crewing agencies [7]. Contract laborers experience very low costs when leaving the organization, leading to a correspondingly low sense of continuance commitment. Contract laborers also feel less normative commitment to continue employment, as there is very little sense that one owes one's employer a long-term commitment when the employer specifies that they have no such corresponding commitment to the employee.

Although compensation is useful for boosting occupational commitment, pay satisfaction is thought to be

a less significant contributor to overall employee satisfaction than other factors, coworker satisfaction, supervisor satisfaction, or satisfaction with the work itself [28]. To achieve a more significant effect on employee retention rates, maritime firms must achieve a broader sense of normative, continuance, and affective commitment in employees based on high levels of POS.

Training & development

Training is widely cited in the maritime literature as important for employee retention. Training may be attractive investment for employers because it encourages lower ranking employees to gain the skills necessary to advance in rank, thereby mitigating the officer shortage problem. Employees understand that employers will only benefit from training expenditures if employees continue their tenure with the organization. Hence, training engenders a strong sense of normative commitment (*i.e.*, staying with the firm because one *ought* to). When compared with other types of commitment, research suggests that seafarers place the highest value on factors relating to normative commitment when making employment decisions [4]. Training also leads to a heightened sense of POS and affective commitment because the employer is supporting the employee in the achievement of their goals.

Investment in safety training and recognition of safe employees appears likely to have a particularly strong effect on retention in the maritime industry. Survey data suggests that many mariners see safety as a major concern when choosing an employer. In the 2012 Shiptalk survey, ship condition & age was the number one reason for deciding whether or not to join a ship; 25% said that company safety record was important to their decision to join a ship [18]. Taylor et al. (2010) did a study of worker retention in the trucking industry, an industry with many HRM challenges similar to the maritime industry (*e.g.*, long-term separation from friends and family) [29]. They found that safety was an important reason for remaining with their employer. Eighty percent of contemporary maritime accidents are connected to human error [4], so investing in safety training has a direct effect on company profitability and longevity. Yet managers must always balance safety training against the opportunity costs of other retention activities. For example, while safety training has significant, positive, indirect effects relating to employee retention [29], the focus on safety to the exclusion of skills training (more important for advancement through a ship's ranks) can undermine commitment [21].

Training can be a double-edged sword in other ways. On one hand, training increases the employee's sense of POS and can lead to greater commitment [30]. On the other hand, training generally increases a worker's employment options, potentially leading to a high-

er likelihood of turnover [30]. Jatau (2002) suggests that shipping firms are reluctant to bear the costs of providing ratings and junior officers with necessary training due to the high churn rate in the industry and the relatively high cost of training ratings to be officers [25]. Nigeria's Maritime Administration and Safety Agency reports expenditures of approximately N8 million (\$35,000 USD) per cadet [31]. Indeed, respondents in most nations indicate dissatisfaction with the company's role in paying for training for higher posts or new equipment, with 58% of Filipino ratings indicating that the company had not paid for training, in part or in full [32]. Moreover, almost half of all respondents worldwide indicated that they were rarely or never compensated for lost leave time when undergoing training [32].

Employer provided on-the-job training in the maritime industry has an even greater potential for creating a sense of POS in the employee than it does in other industries. Like all workers, maritime employees feel supported by a company that provides training because they are being helped to achieve their long-term goals. Unlike with many other professions, however, training onboard ship has the potential to bring relief from boredom and loneliness by providing something productive to do with time that might otherwise be idle. As will be discussed later, there are many unexplored mitigating factors potentially influencing the link between training and retention.

Quality of life

The Crewtoo Seafarers Happiness Index was launched in April 2015 to measure seafarer happiness with various aspects of life at sea and was computed using data gathered during the first three months of 2015 [33]. Seafarers were asked to use a scale of 1 to 10 to rate how happy they felt about ten issues (onboard food, ability to stay fit, wages, training, etc.). The average of these responses was computed to provide a rather dismal overall happiness index score of 6.42 [33]. Mean happiness was lowest for the two shore-related questions. The lowest average score (5.9) was for on-shore welfare facilities reflecting the enormous variation in the quality of welfare facilities, with some ports providing no welfare facilities at all while others provide excellent services [33]. Poor internet service and exorbitant phone and transportation costs left mariners feeling cheated at some ports [33]. Seafarers were similarly resentful of the fact that in many ports it was difficult to access shore leave [33]. This is primarily due to changes in the industry that have resulted in short turnaround times and terminals that are far away from population centers.

Food. While there may be little that carriers and manning companies can do about shore-side facilities, the Crewtoo survey provides other information that is

actionable. For example, average seafarer happiness with onboard food was a rather low 6.26, likely due to extremely low spending on food; Maersk ships, for example, budgeted only \$7 per day for each seafarer for all meals [34]. A twenty percent increase in that budget would increase the daily food cost by approximately \$35 per day for a crew of 25, approximately half of one percent of the average bulker's daily operational costs [35]. Higher quality meals would not only improve nutritional standards but would also lead to greater socialization among the crew. Most importantly, it would signal that the employer cared about the happiness of the crew and thus increase seafarers' POS. Such a signal is of critical importance to seafarers, many of whom noted that the "conduct, investment and support" of their employer influences their happiness.

Communications equipment. A number of surveys emphasize the importance of providing internet connectivity. The 2015 Crewtoo survey reports that seafarers not only desire internet access, they insist on it [33]. Many seafarers noted that without internet access, it would be virtually impossible to attract the younger generation, for whom connectivity is an integral part of daily life. According to the 2012 Shiptalk survey, 81% of respondents indicated that the most important onboard crew facility was internet access [18].

In fact, according to the 2014 Crew Communications Survey, 69% of crew report that access to communications influences their decision to join a ship [36]. The popularity of this option was consistent across all age groups and ranks. The report also found that communications access was most important to mariners with greater technological savvy, precisely the kind of employees that will be more in demand as ship technology becomes increasingly complex and crew sizes continue to shrink.

4 IDEAS FOR IMPROVING RETENTION IN MARITIME FIRMS

Research suggests that the probability of success is significantly enhanced when an employee retention strategy includes a range of activities designed to cultivate all types of commitment [9]. Employee retention strategies at maritime firms are less likely to be successful if they are implemented piecemeal, rather than as an integrated group of synergistic policies (*i.e.*, a strategy) [9]. Yet Parsa's (2012) analysis of the U.K. liner industry finds that, although maritime firms often implement HRM best practices, these tend to be implemented in isolation or without consideration of connection with other policies [9]. This can lead to diminished, or even negative returns from investments in employee retention. This can be seen in pitfalls relating to the training

and development of promising seafarers and encouraging them to advance in rank while staying with the firm that invested in their training.

Training & development

Investing in career advancement training is one of the primary means by which employers facilitate employee goal achievement, thereby instilling a sense of POS in employees which leads to commitment and potentially longer retention. However, as discussed above, training can be a double-edged sword. While career advancement training facilitates employee goal achievement, it also tends to create additional employment alternatives [30]. Therefore, managers are wise to combine training efforts with other meaningful efforts to retain employees like those discussed below. An employer with a strategy aimed at cultivating a strong sense of all three types of commitment in employees is far less likely to lose an employee after investing in training than an employer who has little other than a training program in its portfolio of employee retention policies.

For example, although there is a shortage of trained officers in maritime firms around the world, there are proportionally many more European and Japanese officers than Filipino or Indian officers (as a percentage of total seafarers employed from the respective country) [37]. This means that many firms with crews made up mainly of people from countries with a low proportion of officers (usually developing countries) often must hire European or Japanese officers [3]. While this can potentially lead to a range of HR challenges, one of the main problems is that such a crew structure sends a message to rankings that there is not a viable path for them to advance in rank. In such an environment, a training program will have little success without being integrated into a larger strategy to encourage rankings to participate (*e.g.*, allowing training during some paid hours).

Ratings may find safety training to be burdensome to the extent that they believe it is done at the expense of training in areas that could more directly lead to career advancement. Yet, as discussed above, safety training has the potential to provide significant employee retention benefits. Like career advancement training, safety training is likely to have a much weaker effect on retention if it is not combined with a larger employee retention strategy (*e.g.*, offering intensive training in areas more closely related to career advancement as a reward for excelling in safety training).

An example of a successful, growing firm that understands the importance of having an integrated employee retention strategy is a crewing firm based in Manila called Philippine Transmarine Carriers (PTC). As part of its model employee retention strategy, PTC

makes wide use of partnerships with other firms to provide a range of support services. Outsourcing these functions allows PTC to maintain managerial focus over other important parts of the business. For example, PTC partners with a local university to provide access to the training necessary for mariners to advance in rank, contributing to a strong sense of normative and affective commitment [3].

In addition to this, PTC has devised a range of innovative retention policies that fit together neatly to form an integrated strategy. A particularly innovative approach to employee retention at PTC comes through their partnership with a local bank. Through this partnership, PTC is able to offer employees discounted home loans. However, the home loans are generally targeted at residences in designated "seafarer communities" or small housing development blocks reserved for ownership by the employees of PTC [3]. These seafarer communities are able to support one another emotionally while family members are away at sea, leading to an enhanced sense of POS and affective commitment. Being surrounded by other mariners, families in these communities are also likely to develop identities as seafarer families, potentially leading to an increased sense of normative commitment. Moreover, depending on the structuring of the home loan, the seafarer community arrangement could create a significant sense of continuance commitment.

In addition to using discounted bank loans for seafarer communities, PTC encourages the families of seafarers to take out small business loans [3]. Small businesses give families something to keep them occupied while loved ones are away on long sea voyages. They also provide income that is particularly useful between voyages. This can significantly improve employee retention because, like most Filipino firms, PTC makes widespread use of contract labor and employees often feel strong financial pressure to quickly find a new contract after the expiration of an old one [3]. These innovative policies, integrated with more traditional ones like regular, organized social gatherings and employee recognition give PTC the type of integrated strategy that is likely to encourage long-term employee retention. In the remainder of this section, we suggest some specific policies, not inspired by PTC, that could be used to create a wider employee retention. We emphasize the development of developing successful training and development operations because these have the capability to contribute to both the employee retention and the shortage of senior officer problems simultaneously.

Harvard Business School provides an insightful case study focusing Maersk's strategy for talent management and training [38]. Maersk focused on replacing "broad universal training programs" with "more indi-

vidual training and development" [38]. Such a strategy requires firms to invest in creating individualized training programs. This may prove more cost-effective in the long run since employers can conduct more rating and junior officer training on ship and thus pay less for training at maritime institutes. This will also reduce the costs of hiring temporary workers to fill in for employees studying at such institutes.

Maersk had traditionally focused training efforts "almost exclusively on trainees" and found greater success by investing equally in training for experienced employees [38]. Such training can cultivate continuance commitment (*i.e.* increasing the opportunity cost of taking a job on shore) and normative commitment (*i.e.* providing a viable career pathway into the most desirable officer positions).

Employee empowerment

Bhattacharya (2014) employs principal component analysis to identify and rank drivers of seafarer employee engagement [39]. He finds that the most important drivers of engagement are work pressure and work autonomy (.975 and .931, respectively), pay (.900), career advancement (.812), and sense of work importance (.785). This is consistent with Manuel's findings (2011), which emphasize that employee empowerment is an important driver of engagement and retention [40]. Bhattacharya also finds that junior officers are less engaged than senior officers, perhaps due to a combination of limited work autonomy, plateauing salaries, and limited prospects for career advancement [39]. This contributes to high levels of attrition at the junior officer level. Entrusting junior officers and ratings with higher levels of responsibility and assessing relative performance may serve both to foster normative commitment and allow senior officers to identify the most promising prospects. Of course, entrusting greater responsibility to less experienced mariners could lead to other problems, like safety concerns, which would have to be mitigated with a wider HRM strategy. Vance (2006) notes, however, that engaged employees cause as few as one-fifth the safety issues as non-engaged employees [41].

Internet connectivity

As previously noted, internet connectivity is a crucial determinant of seafarer happiness. Improvements in satellite technology have made internet connectivity a prudent investment in firms seeking to improve retention. For example, the cost of a Ku-band VSAT system is approximately \$60,000 including installation, 0.2% of the cost of a new Panamax bulker container ship [42]. The monthly costs of such a system (assuming medium usage of 1 GB/month) is \$2,700 a month,

1.5% of the monthly operating costs of a Panamax bulker [35]. In other words, given the importance of internet access to seafarers, improving internet connectivity is relatively low-hanging fruit for firms seeking to increase retention. Paradoxically, the Shiptalk 2012 survey indicates that almost 40% of ships offer no internet access while a further 40% offer internet service that is unreliable and/or at a bandwidth that is insufficient for video conferencing, a major priority for seafarers [18].

Due to high costs of training new employees, an investment in internet connectivity can be financially justified even if it produces only a modest improvement in turnover rate. APM Maersk's annual employee turnover rate for ratings is 16%, though this is likely lower than average given the large number of manning companies in nations such as the Philippines and India that offer worse working conditions [38]. Publicly available costs of training range from \$35,000 to \$104,000. Assuming a 16% turnover rate and a conservative training cost of \$35,000, training costs for a ship over a ten year period are approximately \$10.5 million. The cost of purchasing, installing, and operating a VSAT system over this same period are \$300,000 (though monthly operating costs are likely to drop substantially over this period). Thus, if a ship can reduce its turnover rate by 3% by installing such a system, the expense is justified in training costs alone. This calculation does not take into account other employee replacement costs or indirect benefits such as increased employee productivity and increased attractiveness to prospective employees.

Use of third party crewing firms

Nautilus International indicates that 40% of seafarers are employed via a third party ship manager or crew or through a crewing agency rather than directly by the ship owner. This is only expected to increase as the proportion of global seafarers shifts more heavily toward countries that rely more heavily on the third party crewing model [7]. Such outsourcing can, over a period of time, lead to the deterioration of the ship and a decreased quality of life for crew members. After all, third party crewing agencies and the mariners they employ, rather than the ship owners, bear the costs of poor ship conditions in the form of higher employee turnover and general misery.

To address this misalignment of incentives, the authors suggest that crewing companies discount their services based on the standard of living available on the ship: factors such as internet connectivity, satellite television, and luxurious staterooms and recreation facilities are particularly important. Such a policy will incentivize owners to periodically maintain their ships and make investments such as VSAT technology. The

precise amounts of such discounts will be empirically calculable once more data regarding the correlation between facility quality and retention rate become available.

While the use of crewing services may offer some significant benefits, these benefits tend to decline as the number of ships held by a particular firm increases. Clipper is a large shipping firm with over 100 vessels specializing in dry bulk cargo transport. In an interview, Hanus Mikkelsen, the General Manager of Crewing Operations at Clipper, stated that after growing to about 100 ships, the firm had seen a substantial rise in retention rates as a result of moving crewing services in-house rather than relying on an outsource crewing firm as had been done previously [43]. Mikkelsen reports that after switching to in-house crewing they were better able to control the quality of operations and develop a brand with a reputation of high quality HRM that lead to a higher quality applicant pool [43]. Some firms concerned about the quality of HRM delivered through crewing services have reported success in hiring an on-site representative, managed directly by the shipowner, to physically oversee crewing service operations [43]. This gives an increased incentive for crewing firms to provide better quality HRM and may lead to an enhanced sense of POS in employees who are likely to view the company representative as a direct line to senior management through whom they can voice unaddressed concerns.

5 LIMITATIONS AND AVENUES FOR FUTURE RESEARCH

Overall, our analysis suggests that although there are some maritime firms that are engaging in innovative and effective employee retention practices, there are many opportunities for improvement across the industry. Among other suggestions, we point to the need for firms to develop an integrated employee retention strategy, rather than experimenting with HRM practices in a piecemeal fashion. We also focus the reader's attention on a few areas relating to seafarer retention where firms may be able to achieve significant improvements.

While many firms may gain benefits from implementing some of these ideas, it is important to remember that each employee is different. What inspires one employee to stay with an employer for a long period of time may not inspire another. Research in the trucking industry suggests that scholars may gain significant insight into retention challenges by conceiving of employees as members of subgroups defined by common characteristics (*i.e.*, a somewhat more individualized analysis) [29]. Future researchers may benefit from considering employee characteristics when determin-

ing which retention strategies are likely to be effective. For example, even a simple assessment of the potentially varying retention requirements of male versus female seafarers, or among different races, or different levels of rank, or seniority seems to be largely absent from literature. A more fine-grained assessment like this is likely to lead to more significant research results that are more useful to practitioners.

It should also be noted that our study was limited due to the fact that all of the seafarer retention literature that we found focused on the quit intentions of those currently employed in the industry, potentially leading to self-selection and confirmation biases. To get a better understanding of how to improve retention rates it is important to survey not just those who choose to stay at sea but also those who choose to move ashore and/or quit the industry. We are not aware of any studies that attempt to do this and this could be a promising avenue for future research.

Another opportunity for future research includes the actual calculation of costs associated with seafarer retention. While the research provides some evidence, discussed above, suggesting that these costs are quite high, little empirical data on the costs of employee turnover in the shipping industry are publicly available. If convincing data of this type were available, it could transform managerial perceptions about the costs investing in POS. The absence of these data make it difficult to perform accurate cost-benefit analyses of investments in employee retention, such as training programs and investments to increase a ship's standard of living. The absence of such data almost certainly deters investment. In addition, there are few quantitative studies on the effects of such investments on retention rate. Identifying key investments to reduce employee turnover with a similar methodology as Bhattacharya (2014) may prove a promising area for future research.

Shiptalk (2012) results suggest correlation between safety and employee turnover, but detailed data are not available [18]. However, scholars studying the trucking industry have strongly established this link [29]. An econometric approach linking factors such as safety training, its effects on employee commitment, and the effects of both on incidence of safety issues has the potential to reveal a virtuous cycle. By investing in safety training, this cycle could allow firms to significantly improve safety (a potential financial gain). At the same time, firms would also be providing organizational support to employees who feel more strongly that their managers understand and respond to their concerns. Future scholars may benefit from exploring linkages among these variables to see if such a virtuous safety-commitment-safety cycle may exist in maritime firms.

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