

Regulatory compliance and human resource supply chains: Chinese seafarers' rights to workers' compensation

Abstract

This research examines employers' choices for regulatory compliance in the context of global human resource supply chains, driven by the demand for low labour costs. It further explores the impact of these choices on the implementation and enforcement of international and national labour standards. Drawing upon a qualitative socio-legal study on Chinese seafarers' rights to compensation following workplace accidents, this research investigates whether multinational shipping companies comply with their obligations as stipulated by the law of the labour supply state (China). Through 75 semi-structured interviews and analysis of crew management policies from seven shipping companies, it was found that most of the employers' internal voluntary compliance programmes fail to respect seafarers' legal entitlements. On this basis, the paper proposes a new supply chain liability system and a commitment-oriented compliance approach to improving labour standards in the industry, utilising human resource supply chain management.

Keywords:

human resource supply chain, regulatory compliance, seafarers, shipping companies, compensation

Introduction

Compliance with labour standards is challenging, in light of global supply chains (International Labour Office, 2016). The geographical dispersion of production enables multinational companies to relocate worksites to developing countries, where the governments are either unable or unwilling to enforce their own labour regulations (Locke et al., 2013; Locke et al., 2009). Meanwhile, a human resource supply chain is created by a transnational network of labour intermediaries, to serve the global supply chains, sending low-wage workers from less wealthy countries to worksites in developed countries (Gordon, 2016). Infringements of workers' rights are widely reported in both of the supply chains – those for products and those for human resources (James et al., 2015; Walters and Bailey, 2013; Anderson, 2010; Ho, 2017).

To address pervasive violations of workers' rights in global supply chains, global corporations – as well as non-governmental organizations – promote employer-centred voluntary compliance programmes (Locke et al., 2009). With a positive sense of corporate social responsibility, some types of multinational production can positively impact workers' rights in developing countries with currently low labour standards (Mosley, 2010). However, Locke et al. (2009) raise the challenge that a voluntary compliance-focused model is based on faulty assumptions that underestimate the power of multinational companies in global supply chains.

Studies are increasing on employer-centred compliance programmes in global product supply chains (Anner, 2017; Salmivaara 2018; Graz, Helmerich and Prebandier 2020), but few studies examine regulatory compliance in the human resource supply chain context. This paper examines the compliance initiatives of multinational shipping companies and their intermediaries involved in the international labour supply chain for seafarers, in particular in cases of occupational injuries and fatalities on the part of Chinese seafarers. Drawing on 75 semi-structured interviews with seafarers, managers of shipping companies and crewing agencies, the paper finds that different ownership types significantly affect the compliance choices of companies, and that commitment in ensuring seafarers' entitlement to workers' compensation is absent among shipping companies and their agencies. We propose a new liability system based on the human resource supply chain and a commitment-oriented compliance approach to improve labour standards in the maritime sector, as well as in other globalised industries making use of human resource supply chains.

Regulatory compliance in the global supply chains

There has been a long debate in relation to multinational companies' compliance with labour standards, in relation to the contrary trends within global supply chains of 'racing to the bottom' or 'climbing to the top'. The development of global supply chains creates both opportunities and challenges for workers from developing countries. While there are more job opportunities available, the low profit margins and fierce competition among contract manufacturers and labour suppliers have led to poor working conditions and limited rights protection for the workers who produce and transport goods (Distelhorst et al., 2015; Connor and Dent, 2006; Overeem, 2009; Verité, 2004). A trend to race to the bottom is identified in competition for job opportunities in developing countries (Zhao and Amante, 2005).

However, a tendency is also reported of climbing to the top. Mosley and Uno (2007) argue that foreign direct investment is associated with better collective labour rights, but that the export-oriented economy is negatively correlated to such rights. Bhattacharya and Tang (2013) suggest that the proper use of client power in the supply chain could improve working conditions and occupational health and safety performance in the workplaces of low-tier suppliers. With a concern for the good reputation and image of companies, corporate social responsibility agendas for firms in the top tier of the supply chain positively influence health and safety standards in the lower-tier suppliers (Walters, 2009; Walters and James, 2011; Zhang and Zhao, 2018). Marchington and Vincent (2004) also found a chemical company enforcing a code of conduct on their suppliers, including occupational health and safety requirements.

Gordon (2017) raises the concept of 'human supply chain' to describe American employers' channels for recruitment of temporary foreign workers through a transnational network of labour intermediaries. Gordon (2017) argues that the human supply chain reduces labour costs for American companies while creating distributional harm for US workers and placing temporary migrant workers in situations of severe subordination. In contrast to the product supply chain, this human resource supply chain has not been examined systematically, although there is a growing body of research concerning immigrant workers and their labour rights and working conditions. Violations of migrant workers' rights are frequently reported, but compliance by employers and labour intermediaries is relatively underexamined (MacKenzie and Forde, 2009; Refslund, 2016; Woolfson et al., 2014; Tucker and Sargeant, 2010). To better

understand the dynamics of the global human resource supply chain, it is necessary to integrate mechanisms for compliance by employers and labour intermediaries within the analytical framework (Larsen et al., 2005; Cooke et al., 2017).

The shipping industry and the human resource supply chain

Shipping is a globally organised and coordinated service sector, with the function of efficiently transporting commodities through the global supply chains (Walters and Bailey, 2013). More than 90% of world trade is carried by sea, by 1.3 million seafarers (IMO - Maritime Knowledge Centre, 2011, BIMCO/ISF, 2010). Since it is integrated into global supply chains, maritime transport faces intensified pressure to meet client requirements such as on-time delivery, high service frequency and flexibility in the provision of alternative shipping solutions (Panayides 2017).

The recruitment of low-wage seafarers from developing countries has become a predominant business strategy in response to fierce global competition (Panayides 2017, Cariou and Wolff 2011). Goulielmos, Giziakis and Pallari (2011) argue that the real competitive advantage in ship management is crew supply management at the offshore maritime centres, such as Singapore and Hong Kong, with friendly taxation policies, lower social security costs and selection of crew members from Ukraine, Russia, China, India and the Philippines.

Third-party crew management has become the driving force for the development of maritime human resource supply chains across national borders. Anastasiou (2017) argues that the human resource supply chain is beneficial for both ship managers and labour supply states. The massive 'production' of seafarers through training and qualification can lower crew wages and thus lower shipowners' operating expenses. Meanwhile, labour supply states see a reduced rate of unemployment, an increase in wages and remittances and development of maritime education facilities (Anastasiou 2017). Driven by this economic rationale, ship management companies open crewing agencies and establish maritime training institutions to source a cheap labour force from developing countries, such as the Philippines, China and India. On the other hand, to earn more on remittances from overseas workers, the governments of labour supplying states also promote the export of the domestic labour force to international fleets. As a result, today's maritime employment relations have become highly transnational – for example, with a Chinese seafarer

working on a Panamanian ship owned by a Greek shipowner, or a Filipino seafarer working on a Hong Kong vessel owned by a Chinese shipowner.

The top four flag states as of 2011 by share of transport capacity (DWT: deadweight tonnage), are Panama (17%), Marshall Islands (12%), Liberia (12%), Hong Kong (China) (10%) and Singapore (7%) (UNCTAD, 2019). However, the top four countries for actual shipowning by world transport capacity (DWT) are Greece (17.79%), Japan (11.47%), China (10.51%) and Singapore (6.19%) (UNCTAD, 2019). In addition, Hong Kong, China and Taiwan Province of China are also leading territories in the world for ship ownership, ranking fifth and eleventh in the world (UNCTAD, 2019). According to estimates from the BIMCO/ISF Manpower Report, the top four maritime labour supply countries are China (10.77%), Turkey (6.66%), the Philippines (6.17%) and Indonesia (5.9%) (BIMCO/ISF, 2010).

The global human resource supply chain is beneficial from an economic perspective for both shipowners and labour supply states, which are developing countries such as China, India and the Philippines. But seafarers are human beings, who can get sick, injured or even killed in ship operations. Working at sea is still one of the most dangerous jobs today, with seafarers facing greater risks of work-related injuries and deaths compared to land-based workers (Walters and Bailey, 2013). The risk of mortality from workplace accidents in the British merchant navy is 26 times higher than for workers overall in the UK (Roberts and Marlow, 2005). A transnational study shows that 8.5% of seafarers suffered an injury during their most recent tour of duty (Jenson et al., 2004). A Danish study also finds that the rate of fatal accidents in the merchant shipping industry is 10 times than in shore-based industries (Hansen, 1996).

Between 2002 and 2011, occupational injury and illness claims accounted for 31.27% of the total costs of liability claims against ship operators, amounting to about USD 527 million, which exceeds cargo loss claims and constitutes the largest group of liability claims arising from ship operations (UK P&I Club 2016). In the context of these human resource supply chains, seafarers' compensation claims are potentially complicated due to the involvement of multinational shipping companies as well as the crewing agencies, which all face potential liabilities from workplace injuries, death and illness. However, in the current literature compliance by maritime employers in claim handling practices and liability management is rarely examined.

To fill this research gap, this article will explore the pre-accident **financial liability risk management** practices of shipowners and crewing agencies that recruit seafarers from China, the

world's largest crew supply state. Drawing on qualitative interviews and documentary analysis, this research will critically evaluate whether current liability management processes can satisfy the legal compliance obligations towards their Chinese seafarers and whether ship managers and crew managers are motivated to maintain socially responsible human resource management.

Labour regulatory compliance in the shipping industry

There are two sources of maritime labour standards for occupational injuries: one is that of the international labour standards and the other is national labour standards. At international level, the Maritime Labour Convention, 2006 of the International Labour Organization is the main legal source of international seafarer labour standards, having come into force in 2013.

Regulation 4.2 of the Maritime Labour Convention, 2006 provides minimum standards for shipowners' liabilities following workplace injuries: (1) bearing the cost for seafarers working on their ships in respect of sickness and injury occurring between the date of commencing duty and the date on which they are deemed duly repatriated; (2) providing financial security to assure compensation in the event of the death or long-term disability of seafarers due to an occupational injury, illness or hazard, as set out in national law, the employment contract or collective agreement; and (3) defraying the expenses for medical care until the sick or injured seafarer has recovered, or until the sickness or incapacity has been declared of a permanent character.

Shipowners are liable for payment of wages in whole or in part from the time when the seafarers are repatriated until their recovery. **These standards are applicable to the member States that ratify the Convention, and the member State is responsible for adopting laws and regulations requiring shipowners to bear the minimum liability set out in these standards.** In addition, workers' compensation is an important component of the social security system in many countries. In line with Regulation 5.3.1, the labour supply state also has a responsibility to ensure the social security protection of seafarers who are its nationals or are resident or are otherwise domiciled in its territory.

At national level, the domestic laws of flag and labour supply states are applicable in determination of shipowners' liabilities following seafarers' workplace injuries. However, not all member States have equal capacity to implement and enforce the international labour standards

adopted by the International Labour Organization. Infringement of labour standards has been frequently identified, including abusive treatment towards seafarers, such as the abandonment of seafarers overseas (Couper, 1999; Alderton et al., 2004; Chen and Shan, 2017). Walters and Bailey (2013) point out that the employment relations structure of the global maritime labour supply chain hinders effective implementation of labour standards. The ‘flagging out’ strategy enables maritime employers to avoid both inspection by the maritime states and the intervention of trade unions (Walters and Bailey, 2013). Bhattacharya (2011) claims that the lack of job security increases seafarers’ fear of refusing unsafe work, so the enforcement of international safety regulations is weakened. Sampson (2013) presents contemporary seafarers as transmigrants facing dilemmas of isolation, marginalisation and exclusion. They are isolated in employment relations and it is almost impossible for them to fight for better treatment from their shipowners. There is nearly no contact by a shipowner with his crew, even in times of severe anxiety such as when a company’s cash flow chain is broken and seafarers’ wages are withheld. Seafarers are marginalised from the national protection of their home countries and not recognised culturally as workers of the flag states. Seafarers usually do not have easy access to the social security services in their home countries, and seafarers’ high mobility makes them workers who are invisible to the flag states’ societies. They may be excluded by the societies of both their homelands and of their workplace community (Sampson, 2013). Sampson et al. (2014) find that regulatory inspectors put efforts into checking cargo safety and environmental protection compliance, but little attention has been paid to whether safe working practices are maintained on ships. Therefore, any lack of compliance or irresponsible conduct by ship management may turn out to be a human rights crisis at sea, which may also harm the image and reputation of the shipping industry.

Obligations of shipowners and crewing agencies under Chinese law

China is the world largest maritime labour supply state. Due to their competitive advantages, such as low wages and no union affiliation, a large number of Chinese seafarers are recruited by multinational shipowners and placed within the human supply chains in the maritime sector. In 2011, Chinese seafarers completed 110,000 duty voyages on foreign vessels (Ministry of Transport

of the People's Republic of China, 2012). The recruitment of Chinese seafarers to serve on foreign vessels is multi-levelled and multi-angled. The wages of Chinese seafarers are lower compared to the world average, and even lower than their counterparts from developing countries like the Philippines and India (Wu, 2008). Chinese seafarers working on foreign vessels are less likely to receive the employers' contribution to their social security schemes than seafarers employed by state-owned enterprises. Local labour intermediaries have extracted 4.4% to 38.5% of seafarers' wages as agency profits. Moreover, Chinese seafarers are usually unable to access trade unions affiliated with the International Transport Workers Federation (ITF), due to government control. Chinese seafarers have little chance to improve their rights through collective bargaining strategies. Low wages, limited social security, and a lack of worker representation make Chinese seafarers a 'competitive' labour force for overseas maritime employers within the global human supply chains. However, this 'competitiveness' may also mean Chinese seafarers are a group that is among the most vulnerable workers in these supply chains. Managerial interventions for safety compliance may fail to address real risks, but rather increase the workloads, mental pressure and fatigue suffered by seafarers (Xue and Tang 2019).

In line with Standard A4.2.1 of the Maritime Labour Convention, 2006, shipowners' minimum obligations following occupational injuries include defraying medical care expenses and paying full or partial wages until recovery. Meanwhile, the Convention provides that the national laws of member States may also limit shipowners' liabilities for payment of medical expenses to a period of not more than 16 weeks from the date of injury.

As a signatory of the Convention, China has domestic laws addressing Chinese seafarers' compensation claims following workplace injuries. Despite the fact that in the context of global human resource supply chains, shipowners, managers and seafarers are of different nationalities, Chinese law is usually chosen as the primary source for standards of compensation to address Chinese seafarers' compensation claims. This choice of law is based on the domicile of the injured worker as the proper jurisdiction for compensation claims. This principle is reconfirmed by the Maritime Labour Convention, 2006: 'each member State shall prohibit violations of the requirements of this Convention and shall, in accordance with international law, establish sanctions or required the adoption of corrective measures under its laws which are adequate to discourage such violations'.

The human resource supply chain is used by both foreign and Chinese shipowners to recruit Chinese seafarers. More than 60% of the Chinese fleet is operated under foreign flags (UNCTAD, 2014), which makes them nominally ‘foreign’ ship operators, even if their actual shareholders are Chinese. In this context, for Chinese seafarers who participate in the human resource supply chain, whether hired by foreign or domestic shipowners, recruitment must be coordinated by local labour intermediaries – crewing agencies. To establish a transnational employment relationship, a crewing agency is required to sign a ‘labour contract’¹ with the seafarer, and then the seafarer will sign an ‘employment agreement’,² containing a detailed job description, with an overseas shipping company. The crewing agency and the shipping company have a crew management agreement to assign their obligations with regard to the management of seafarers, including as regards standards for compensation for workplace accidents. In this context, there are three types of contractual relationships: (1) the labour contract relationship between a seafarer and a crewing agency; (2) the employment contract relationship between a seafarer and a foreign shipping company; and (3) the commercial contract relationship between a crewing agency and a shipping company. (See Chart 1.) Within this triangular transnational employment relationship, compliance with labour standards following occupational accidents will involve both shipping companies and local Chinese crewing agencies. In crew management agreements, the two parties identify and assign their potential liabilities in a legal risk management protocol.

[Chart 1: Transnational employment relationships of seafarers]

There are two sets of standards applicable to seafarers’ compensation claims following workplace injuries. One is the Work-related Injury Insurance Regulation (2011) (WIIR 2011), which adopts the no-fault compensation principle, with its source of payment being public social security funds and employers. The other is the Interpretations on Damages of Personal Injuries and Death (2004), which also provide compensation in tort law for workers who are not covered by the Work-related Injury Insurance

¹ ‘Labour contract’ is a Chinese legal term, which means an agreement between an employer and employee according to Chinese *Labour Law* and *Labour Contract Law*. Once the ‘labour contract’ is signed, the employer must fulfil its legal obligations, including to contribute the employee’s social security scheme.

² ‘Employment agreement’ between a Chinese seafarer and a foreign shipping company is an agreement of wages and welfare when the seafarer working on the foreign vessel. Since the foreign shipping company does not reside in the Chinese territory, the Chinese government is not capable and willing to enforce foreign companies employing Chinese workers to obey Chinese labour regulations.

Regulation. The source of payment of the tort compensation is the organisation or individuals who hire workers who get injured.

Under the Work-related Injury Insurance Regulation (2011), injured seafarers are first entitled to claim medical care expenses, travel expenses (including meals and lodging), expenses for prosthetics and rehabilitation, nursing care, and wages during medical treatment and rehabilitation (see Table 1). Secondly, if permanent disability results from the injury, seafarers are entitled to a lump sum disability payment and severance payment (see Table 2). In the case of a work-related fatality, surviving families are entitled to funeral subsidies, allowance for dependents and a lump-sum death compensation payment (see Table 3). The public social security funds and employers share these compensation liabilities. If the shipowner and crewing agency fail to arrange work-related injury insurance for their seafarers, the employers are liable to compensate seafarers in line with the standards of the Work-related Injury Insurance Regulation (2011).

<Table 1 Compensation standards (medical treatment) in the WIIR (2011)>

<Table 2 Compensation standards (permanent disability) in the WIIR (2011)>

<Table 3 Compensation standards (work-related fatalities) in the WIIR (2011)>

The nationwide workers' compensation system of work-related injury insurance was firstly launched in 2003 and was revised in 2011. The no-fault compensation principle was established and social security insurance funds were founded nationwide. Later on, the Labour Contract Law (2008) and Social Security Insurance Law (2010), were also promulgated, aimed at improving Chinese workers' rights and access to the social security system. Meanwhile, more regulations were made to clarify seafarers' rights, such as the Seamen's Regulation (2007) introduced by the State Council, and the Rules of Dispatching Chinese Seafarers on Foreign Vessels (2011) introduced by the Ministry of Transport. These two regulations attempted to enhance seafarers' rights to social security. At this stage China has made significant efforts to unify workers' compensation standards to provide social security for her citizens. Although these regulations provide seafarers reasonable rights to claim compensation, for many Chinese seafarers claiming workers' compensation is challenging and they may not receive sufficient and timely compensation (Shan 2018). There is a tort law approach available as an alternative for seafarers if they have been unable to obtain work-related injury insurance compensation. Taking workplace death as an example, the calculation of tort compensation is according to the Judicial Interpretations on Damages of Personal Injuries and Deaths (JIDPI), which include the medical fee, funeral expenses, compensation for death, living allowance for dependents, damages for emotional stress suffered by the surviving family, and other expenses incurred due to the accident and claim activities (see Table 4). Depending on the province where

the court hears the claim, the compensation may vary in accordance with the level of local annual disposable income (Shan 2017).

< Table 4 Compensation standards (Death) in the JIPID (2003)>

If the shipping companies as principal employers reside outside of Chinese jurisdiction, and they are not willing to arrange work-related injury insurance for their Chinese seafarers, very few enforcement measures can be taken by the Chinese labour authorities to discipline non-compliance. If the principal employers and crewing agencies choose not to comply with the Work-related Injury Insurance Regulation (2011) by arranging work-related injury insurance for their seafarers, they are liable for compensation to the injured seafarers or surviving families, with payment according to the standards of the WIIR (2011) or JIPID (2003). (See Tables 1, 2 and 3.) In the context of the international human resource supply chain, the crewing agencies are responsible for ensuring that the seafarers' work-related injury insurance is paid by the shipowners, or by themselves, and they shall purchase accidental life insurance for seafarers. In addition, the crewing agencies shall inform the seafarers of the details of insurance coverage. In order to fulfil their obligations towards Chinese seafarers, shipowners and crewing agencies shall insure against payments under maximum liability under Chinese law, through private insurers. The financial liability insurance plans of shipowners and crewing agencies may reflect whether they have prepared for compliance with the labour standards of the crew-supplying states, in cases of workplace accidents.

Methodology

This research adopts qualitative research methods to investigate legal compliance by employers and their crewing agencies in the event of workplace accidents, so as to discuss whether the current compliance practices are sufficient to ensure Chinese seafarers' rights in the context of the global human supply chain. Two qualitative research methods were applied in this research in order to obtain a thorough understanding of maritime employers' compliance in cases of workplace accidents: in-depth semi-structured interviews and documentary analysis. The latter is the core source for understanding the legal context through exploring the legal framework of the Chinese workers' compensation system as applicable to seafarers' workplace injuries.

In-depth semi-structured interviews were conducted with seafarers (and/or family members) who had made work-related injury insurance claims. Legal documents – statutes and regulations – were collected from the website of the State Council of the People’s Republic of China (www.gov.cn). Judicial interpretations were collected from the website of the Chinese Supreme People’s Court (www.court.gov.cn).

Companies’ organizational management policies, crew management agreements between crewing agencies and shipping companies, and the employment contracts of seafarers were also collected, with organizational permissions. Claim files and records from insurance companies and law firms are also important documents recording the process and activities involved in seafarers’ claims. With permission, the authors collected these documents in photocopy and photographic form from shipping companies, crewing agencies, law firms, insurance companies and agencies, as well as seafarers. These constituted valuable sources of data in studying the compliance strategies for organizations’ management of workplace accidents and seafarers’ compensation claims. With the permission of shipping companies and their crewing agencies, the principal author collected seven crew management agreements containing organizational rules for workplace injury compensation for seven shipping companies.

The principal author conducted the fieldwork data collection in two phases: the first from July to September 2013, and the second from November 2013 to January 2014. In total, the principal author conducted 41 interviews with injured seafarers and surviving family members and 33 interviews with ship and crew managers, claims handlers, maritime judges and lawyers (see Tables 5 and 6). All interviews with injured seafarers or family members were recorded, with the interview length ranging from 50 minutes to four hours and the average length being approximately 90 minutes. The participants were from 18 Chinese cities in 12 provinces (see Table 5 and Table 6).

[Table 5. Summary of participants (injured seafarers/family members).]

[Table 6. Summary of participants (professionals)]

The manager respondents were given ample opportunities to introduce their internal policies for workplace injury compensation, and their concerns, comments and opinions on the

current Chinese labour standards that apply to seafarers. The seafarer respondents were also provided opportunities to tell their stories, share their feelings, and explain any difficulties they had encountered and the extent of loss they had suffered. The interviews were recorded in audio and transcribed. Atlas.ti software was used to code and manage the transcripts. A thematic analysis approach was taken, aimed at identifying common themes in the interviewees' experiences.

A comparative approach is taken to analysing the management strategies of shipowners and crewing agency managers in relation to their liabilities for workplace accidents. Companies with different ownerships were selected so as to compare different companies' responses to seafarers' liabilities, to legal compliance and to corporate social responsibility. Seven crew management agreements were collected during the fieldwork. The agreements include those for crew claim management between seven shipowners and their crew managers. Two shipowners are Chinese companies and the other five are overseas shipowners, from Singapore, Taiwan and the UK. One shipowner is owned by the Chinese state and the other six are privately owned by Chinese and overseas entities (see Table 7).

[Table 7: Nationalities and ownership of shipping companies]

All interviews were conducted in Chinese. The interviewer translated the transcripts into English herself in order to minimize the loss of meaning in the translation process. Ethical approval was obtained from the Research Ethics Committee of the School of Social Sciences, Cardiff University. Written and oral informed consent was obtained from the interviewees, and all participants were given a considerable period of prior notice before the interview. All information provided by the participants was anonymized so as to protect their privacy, with the interviewees' identities and company information being pseudonymized.

Findings

Compliance by shipping companies: A financial liability risk management approach

In ship management practice, the liability for compensation arising from casualties among the crew is described as follows: 'liability to a third party may be incurred by the owner of the vessel due to navigation at sea' (Arnould and Gilman, 2008). According to the mutual insurance agreement,

‘Protection and Indemnity’ (P&I) insurance covers an owner’s liability for all deaths and personal injuries that occur on board, including death or injury to crew, passengers, stevedores, pilots and visitors to the ship (Skuld, 2015). This insurance coverage includes hospital, medical, funeral and repatriation expenses in respect of injured crews (Caesar et al., 2015; Skuld, 2015; North of England P&I Association, 2012). By entering into a P&I club mutual insurance scheme, shipping companies can reduce and dilute their legal risks arising from occupational accidents. The P&I clubs will not only cover costs and compensation arising from risks of crew injuries/claims (Arnould and Gilman, 2008), but will also provide an overseas claim handling service for shipowners (Hazelwood and Semark, 2010).

With assistance from the global offices of P&I clubs and their relatively comprehensive coverage, it is possible for shipowners to control their loss and liability (Hazelwood and Semark, 2010). However, the limits of coverage for seafarers’ casualties vary depending on shipowners’ choices. The shipowners can decide to choose the compensation standard that is applicable for their seafarers. Although crewing agencies may sometimes participate in the negotiation to ascertain compensation standards, seafarers are not represented by unions in this negotiation.

1. Different employer incentives for management of financial liability risk

In their varied ownership types, shipowners usually have different incentives for their levels of financial liability risk management. The interviews with managers reveal that Chinese state-owned shipowners tend to have a higher limit to levels of compensation for total damages, medical treatment period and salary payment in the treatment period (see Table 8). A major difference between the state-owned shipowner CA and owners of foreign ships can be identified as follows: CA requires all seafarers serving on its vessels to be covered by work-related injury insurance in compliance with Chinese law. Although CA has subcontracted crew management to its sibling company, and no longer employs seafarers directly, this company still requires the manager of its sibling crewing agency to arrange social security insurance for the seafarers working on its fleet, and to refuse to hire any seafarers from external crewing agencies that have not insured their seafarers against work-related injury.

<Table 8: Comparison of shipowners’ insurance compensation schemes>

CA's liability insurance limit is CNY 1,000,000 (USD 161,600),³ higher than all foreign shipowners' schemes in respect of this research. According to the chief manager of CA's claim handling department, the current risk management scheme is adopted to ensure that their seafarers are protected by work-related injury insurance in compliance with Chinese labour law. She explained why the company decided to improve its compensation standards:

‘As a state-owned company, we have to take the maintenance of social stability as our political task. We proposed a plan to increase our liability insurance limit to CNY 1,000,000 and got it approved by headquarters as an organisational policy of our group enterprise. We have been very strict about social security coverage of our seafarers and will never accept any agency workers without work-related injury insurance, because none of us is able to assume this huge liability in relation to workers who are victims. Once headquarters started to investigate an accident, they would find that we have not arranged social security insurance for the seafarers. There would be an internal disciplinary punishment waiting for us.’ (Ref: Shipowner_CA)

This quote highlights the two incentives for the managers of state-owned shipowners: (1) to fulfil the political task as state-owned enterprise of maintaining social stability; and (2) to avoid liabilities and potential disciplinary punishment arising from a breach of the Chinese law. In addition, workplace safety and compliance with social security law are two crucial indices for evaluation by the government of the performance of state-owned enterprises.⁴ However, risk management incentives for private shipowners are different. A manager of a Chinese private shipowner, with more than 70% of its tonnage registered overseas, explains its differing concerns:

‘We are different from state-owned companies. They have to control the rate of accidents and claims, and comply with the law as a good example because it is their political task. We do not need to worry about this kind of political task. We can report all of our seafarers' casualty claims to the P&I Club according to the Work-related Injury Insurance Regulation. However, we cannot have Work-

³ The currency rate used in this research is 1USD=6.178 CNY, at the time of the fieldwork in 2014.

⁴ The State-owned Assets Supervision and Administration Commission and the Ministry of Human Resources and Social Security

related Injury Insurance arranged for all seafarers, due to cost control. To maintain our manning company's licence, we have to arrange this insurance for one hundred of our seafarers.' (Ref: Shipowner_SDH)

This account reveals that the private shipowner relies on P&I Club liability insurance as a financial liability risk management measure, but has a passive attitude towards compliance with the Chinese Work-related Injury Insurance Regulation, due to cost concerns. The major incentive for his company to have social security insurance is to maintain its licence, rather than recognising it as an obligation to their employees. Comparing the above two accounts, it can be found that the state-owned company's incentive to provide sufficient work-related injury insurance is stronger than the private company's, because there is greater political pressure from the government on the state-owned company. But the non-state-owned company is free from this pressure and is usually more concerned with the cost of social security insurance and maintaining their license.

2. Different choices in compensation standards

Choosing a definite and equal compensation standard for seafarers' workplace injuries is supposed to help crewing agency managers to settle claims with seafarers efficiently and avoid disputes. This works well in the state-owned shipping company CA. A crewing agency manager acting on behalf of Company CA explains the necessity of adopting a definite compensation standard for his workers:

'We have similar standards for all seafarers. Both our officers and ratings have social security and shipowner's liability insurance. If the seafarer refuses our compensation offer, we could show him the company policies, and explain to him: "it is not necessary for me to cheat you, and I do not need to pay the money out of my own pocket". If we did not have these standards in our company policies, I would really worry about how to settle these claims, and it would be extremely hard to persuade seafarers to accept the compensation offer.' (Ref: Crew Manager of CA)

For Company CA, with a large state-owned fleet of over 100 ships, enforcing a unified compensation standard can be efficient and effective. However, the situation of foreign shipowners

is different. According to Table 8, different multinational shipowners also have different internal compensation standards. The insurance limits range from USD 60,000 to USD 159,914. The periods for sickness payment vary from 90 days to two years. The treatment periods vary between one year and two years, or until the accidental injury is cured or a medical determination is made concerning degree of permanent disability.

Overseas multinational shipping companies usually need their crewing agency managers to implement their compensation standards with their Chinese seafarers. A crewing agency can cooperate with several overseas shipping companies. Negotiating with their seafarers based on differing shipowners' standards can be problematic. A crewing agency manager acting on behalf of Companies TC, TD and UE explains the problems of enforcing the compensation standards of different shipowners for seafarers as follows (see Table 8):

'This European company UE only provides USD 60,000 as an insurance limit for ratings, which is much lower than the two Asian companies TC and TE. We send our seafarers to serve with different shipowners, but these shipowners adopt different compensation standards. These different standards make it very hard for us to negotiate with our seafarers. Company TE only gives 90 days basic wages as sick pay, while TC can give up to two years. We have a seafarer now who feels the 90-day sick pay limit is unfair, because this is much lower than the benefits for other injured seafarers. Even though we have shown the crew management contract to him and informed him of all of the shipowners' policies, he still cannot accept this standard.' (Ref: Crew agency manager of XH)

This crewing agency manager's account indicates that it is difficult to implement differing compensation standards within one crewing agency in line with the shipowners' choices, since their seafarers can compare different standards and resist the lower standards. Comparing the above two quotes from different crewing agency managers, we can see that implementing different compensation standards is harder than undertaking a single compensation standard.

3. The limitation of the shipowners' measures for management of financial liability risk
The ocean shipping companies that have entered their vessels in P&I clubs can choose different compensation schemes for seafarers. A crucial question has become whether the compensation

scheme shipowners arrange prior to an accident is able to cover their highest liabilities to seafarers in China. Through the above analysis, we can see that the state-owned company CA has the highest amount of insurance compensation among the eight companies at CNY 1,000,000, along with work-related injury insurance. Among the other seven companies that are not state-owned, the TF Company has the highest insured amount at USD 159,914 (CNY 987,253.07) for senior officers, in line with the International Transport Workers' Federation collective bargaining agreement. Company SDX has the lowest insurance limit among the eight companies, at USD 30,000 (CNY 185,209.50). The insurance compensation range of the above non-state-owned companies is between USD 30,000 (CNY 185,209.50) and USD 159,914 (CNY 987,253.07) (see Table 8).

According to the Work-related Injury Insurance Regulation, one-off compensation in 2013 for domestic work-related death (non-fault based) is CNY 539,100 (USD 87,374.40). According to the 2003 Judicial Interpretation on Personal Injuries and Death, which presently regulates seafarer casualties, the highest level of compensation for death is CNY 858,880⁵ (USD 139,202.60). According to Chinese law, shipowners' liability for compensation should not be less than USD 87,374.40, and the maximum liability may reach USD 139,202.60. This payment is compensation for death only. If medical care expenses, funeral expenses, dependents' allowance and damages for emotional distress are considered, compensation will be increased further. Therefore, the insurance coverage for Companies SDX and UE as stipulated in their crewing agency management contracts, are insufficient to cover their basic liabilities in China (see Table 8). The contractual compensation schemes for Companies TC, TD and SB may be unable to cover their liabilities in some cases, if other expenses arise, including survivors' benefits, medical fees and funeral fees. In addition, TD Company's limitation of the sick pay period to 90 days makes it shorter than the statutory Chinese sick pay period for work-related injuries, which is 12 months to 24 months (see Table 4).

Therefore, as the crew management contracts show, the P&I insurance schemes for many shipowners are lower than the statutory Chinese compensation standards, and so are unable to comprehensively cover their liabilities to workplace injury victims. In some cases, the P&I Clubs promise a second level of insurance coverage, i.e. to cover shipowners' higher liabilities arising

⁵ This is calculated according to Dongguan Per Capita Disposable Income, which ranks top one in 2014.

from the law itself as opposed to contractual crew compensation schemes. To be able to contravene the primary contractual compensation schemes, the shipowners need to prove that they are ‘legally bound to settle according to the law’. In this case, in order to compel shipowners to settle according to the law, the victim seafarer usually needs to initiate formal legal negotiations with a maritime lawyer’s help, or initiate maritime litigation, which will usually be time-consuming and costly. In this sense, settlement is beyond the shipping companies’ internal rules of management of crew claims. Non-compliance with Chinese labour law by the shipowners can only be corrected through external litigation.

Crewing agencies

1. Increased legal obligations for crewing agencies

Unlike shipping companies, whose legal liabilities for damages from injury to seafarers are direct and obvious, the liabilities of crewing agencies can be controversial, in particular for those registered as independent crew management companies with a large pool of seafarers. These crew management companies are licensed by the Ministry of Transport to export labour services to foreign ships. If crew management companies are regarded as agents recruiting seafarers on behalf of shipowners, then the shipowners’ compliance programmes and insurance should cover the crew management companies’ liabilities. It would thus not be necessary for crew management companies to have separate financial liability risk management and compliance strategies to address their potential liabilities to injured seafarers. In this research, in most of the interviews with crew management companies the interviewees tend to hold this opinion and insist they not assume any independent liability in relation to seafarers. However, with socio-economic and legal development, the cost of living has been increasing significantly in China, and more regulatory obligations are imposed on crewing agencies or management companies, aimed at protecting Chinese seafarers. For example, according to the Rules for Dispatching Chinese Seafarers to Foreign Vessels (2011), crew management companies supplying seafarers on foreign vessels must formulate formal labour contract relationships with at least 100 seafarers, and ensure that all seafarers supplied to foreign vessels are covered by social security insurance, either directly by them or by third parties. In addition, they are required to arrange extra commercial life insurance for the seafarers that they supply abroad. According to the Labour Contract Law, if crewing

agencies supplying seafarers on domestic vessels fail to contribute to the seafarers' social security scheme, upon the occurrence of workplace accidents they must assume joint liability with the shipowners. Due to regulatory reform, crewing agencies and crew management companies now confront higher legal liabilities than before (see Chart 2).

Chart 2: Insured liabilities in the process of recruitment of Chinese Seafarers

Based on the results of the interviews with crew management companies, societal and economic changes in mainland China have considerably increased the victims' needs in order to maintain their living standards. The ongoing strong growth of the Chinese economy significantly increases the cost of living in urban areas and creates huge bubbles in the residential real estate market. However, the increases in shipowners' liability insurance is falling behind the increase in the Chinese cost of living. All manager interviewees indicated that they are under pressure due to the tremendous growth in the cost of living in China today. For example, a manager complained about the shipowners' limited liability insurance:

'One of our shipowners only provides USD 60,000 at most for injury and death compensation, which is far from enough to persuade any victim's family to accept. If the shipowner is unwilling to contribute more, the situation will be very embarrassing, because we have to cover the gap to meet the victims' claims.' (Ref: MC_XM_L)

This concern indicates that there is a gap between the amount of the shipowners' liability insurance and the victim's increasing needs. This gap leads to manning companies facing increased pressure and risks from seafarers' claims. From the manning companies' perspective, another significant factor that increases the expectations of the victims is the increasing standards for compensation in public safety accidents, including the Wenzhou Bullet Train Accident (2011) and the Xiamen Bus Rapid Transit fire accident (2011). In these two accidents, the compensation amounts paid to the passengers who were killed exceeded CNY 900,000 and CNY 1,000,000. Therefore, victims' expectation for death and disability compensation has increased. However, the foreign shipowners' liability insurance cap is usually below this compensation amount, roughly between USD 60,000 (CNY 372,456) and USD 140,000 (CNY875, 063).⁶ Thus, the compensation

⁶ Data from crew management contracts collected in the fieldwork

scheme provided by overseas shipowners is unable to meet claimants' expectations, and the victims regard the manning companies as another source of compensation. As expressed by another manning manager:

“The seafarers cannot fight with the shipowner abroad, so they will come to fight with us. The shipowners' compensation standard is lower than those for the victims of the Wenzhou Bullet Train Accident (2011) and the Xiamen Bus Rapid Transit fire accident. The relatives of the victim feel it is unfair for them, so they keep fighting with us. They were very troublesome. To cater for them during the negotiation was very costly. Now it is hard for us to recruit a seafarer, and if an accident were to happen, it would cause us endless costs and trouble.’ (Ref: MC_XM_H)

Crew management companies can still class themselves as ‘intermediaries’ rather than employers, arguing with workplace accident victims that they should not be liable for compensation. However, in reality crew management companies have to work at the front line to negotiate compensation with the victims. The argument of lack of liability can result in blaming and even attacks by victims. The manager MC_XM_H described the negotiation situation as follows:

‘Sometimes the relatives of seafarers can be mad at us, and they would never listen to any of our explanations. They may gather all their relatives, friends and colleagues to occupy our office and even smash our computers and furniture. It has become more and more challenging for us to settle disputes, since the cost of living has risen so dramatically in recent years. Seafarers are more unwilling to accept purely (or solely) the shipowners' compensation schemes, gradually claiming more compensation from us, and therefore we are now encountering more liabilities. This kind of business has now become very difficult.’ (Ref: MC_XM_H)

Crew management companies are confronted with direct pressures from the families of victims. The negotiation can get out of control, especially when the victims' families are irritated by the compensation amount being much lower than expected. The desperate and irate families of

victims will likely undertake violent attacks on the property or staff of the crew management company.

In addition, promulgation of the Labour Contract Law (2006) has increased Chinese workers' awareness of rights. Many seafarers know how to submit arbitration applications to the local Labour Arbitration Committee to claim their rights, in cases in which the manning company refuses to contribute to social security insurance schemes (including work-related injuries insurance) for them. As one manager explained:

'It is no longer news that we are sued at the Labour Arbitration Committee. The awareness of seafarers' rights under the law, especially for university graduates, has increased. As an enterprise, we have encountered an increasing amount of pressure from seafarers' in their requirement for social security.' (Ref: MC_QD_Y).

2. Semi-compliance: Work-related injury insurance or commercial life insurance?

To control the increasing risks mentioned above, many Chinese crew management companies have started to adopt relevant financial liability risk management measures for workplace accidents. The managers interviewed indicate that they have various insurance schemes for different types of seafarers. As manager MC_QD_Y said:

'We have purchased social security insurance for university graduates who have entered into a long-term labour contract relationship with us. For the freelancing seafarers sent to foreign vessels through our company, we will purchase a temporary life insurance policy.' (Ref: MC_QD_Y)

In addition, the insurance coverage is also different for different types of seafarer. Manager MC_QD_Y said that:

'We have insurance coverage of CNY 350,000 for seafarers formally employed by us, taking into consideration that they already have social security insurance. For freelance seafarers, given that they don't have social security we have coverage of CNY 550,000. If a fatal accident occurs, in combination with the P&I insurance coverage, we can have over

CNY 1,000,000 for the victim's families, and so far this amount has been acceptable in China.'

Another crew manager, MC_XM_L, explained why they have different insurance arrangements for different ranks of seafarers, as follows:

'Officers and engineers already have social security protection through our company, so we arrange insurance coverage of CNY 350,000 for them. For ratings who do not have social security protection, we arrange CNY 550,000. In addition, the shipowners' P&I insurance schemes usually compensate officers higher than ratings, so we have to provide a higher life insurance coverage for our ratings, to make the compensation offer much more acceptable to ratings victims and their families. We are trying to accumulate money from different sources to offer victims a more acceptable compensation amount, because shipowners' P&I club insurance coverage is no longer enough, especially in the case of workplace death.' (Ref: MC_XM_L)

The above two quotes indicate that the crew managers apply social security insurance and commercial life insurance to their seafarers employed on a long-term basis, but that for flexible/precarious seafarers, the companies apply commercial life insurance only. Nevertheless, to reduce the inequality between employee seafarers and freelancing seafarers, especially in the case of death compensation, the manning companies decide to insure freelance seafarers and ratings for a higher amount.

The combination of work-related injury insurance and commercial life insurance is a compromise. Compulsory work-related injury insurance has confronted strong resistance from crew management companies, because it will increase their operational costs. However, in its absence manning companies will be exposed to various risks. Commercial life insurance has therefore become a compromise replacement for compulsory work-related injury insurance.

3. Limits of crew managers' strategy of semi-compliance

Applying work-related injury insurance and/or commercial life insurance, in addition to the shipowners' P&I clubs' liability insurance, the manning company can access another source of

compensation for their seafarers following accidents. However, the above-mentioned compliance measures still contain some weaknesses. First, the coverage rate of work-related injury insurance is insufficient. Due to the resistance from crew management companies, the policy-makers' efforts to make social security for seafarers compulsory turns out in practice to be a compromise, since crew managers are still able to treat their seafarers as freelancers. Many crew management companies still view themselves as solely intermediaries for shipping companies. They insist that they have only signed contracts with seafarers on behalf of shipping companies, rather than having formed employment relationships with the seafarers – even though the regulation requires them to enter into a labour contract with seafarers. The crew managers believe the workplace for seafarers is overseas and not under their control, so they should not be liable for purchasing any social security insurance for them. The Ministry of Transport requires that crew management companies form employment relationships with at least 100 seafarers. Compared with the actual amount of seafarers, the number of seafarers able to benefit from this regulation is limited. Most of them are high-ranking officers and engineers, but ratings usually are unable to enjoy these benefits. As a manager from a crewing company, which places their seafarers on foreign ships, pointed out:

‘It is not financially realistic for us to formally employ all seafarers. It would dramatically increase our human resource cost, and the employers' responsibilities are too strict. What we can do now is to just fulfil the minimum regulatory requirement: 100 employed seafarers at most.’ (Ref: MC_SH_W)

Although the government makes regulatory efforts to standardize the forms of seafarers' employment and regulates crew management companies as domestic employers for seafarers, the effects of the efforts are contradicted by the companies' non-compliance.

Secondly, commercial life insurance is not reliable security for the victims. Crew management companies have the decision-making power on whether to contribute to life insurance, how much of the premium seafarers should contribute, the insured amount covered and the insurance period. However, seafarers usually cannot participate in this process. Since the aim of this insurance compensation is to help the crew management company settle a compensation dispute more easily (Ref: MC_XM_L), crewing agencies can choose the insurance scheme voluntarily, and there will be no liability in law if they fail to arrange insurance. Crew management

companies can also shift the cost of this insurance to their seafarers by requiring them to contribute to the insurance scheme. In this sense, the fact is that the seafarers contribute to their own insurance, but the crew management company can take advantage of the insurance compensation to deny their liabilities. In addition, seafarers cannot claim insurance compensation directly from the insurer, because they do not have their own individual policies. All they can do is to rely on the assistance of the crew management companies in compensation claims. If the crew management companies refuse to assist seafarers to claim this compensation, the seafarers have no evidence at hand to prove the existence of this insurance contract. The contracts are all under the crew management companies' control, which creates a barrier for seafarers, who must claim the insurance compensation on their own.

Thirdly, there is no legal consequence for crew management companies if they fail to purchase commercial insurance for the seafarers. Unlike public compulsory social security insurance, commercial insurance is a profitable business. This means if the insurance companies identify that the accident rate for seafarers is higher than they had estimated, they can either increase the premium or refuse to renew the insurance contracts. Therefore, whether commercial insurance is able to provide workplace accident victims with timely and stable compensation remains in doubt today.

To sum up: the arranging of insurance by crew management companies provides another source of compensation for seafarers, but the limited coverage of work-related injury insurance, the unpredictability of life insurance for seafarers and the lack of government supervision over crew management companies' behaviour, together put into question the effects of financial risk management by crew management companies.

Concluding discussion

Maritime logistics operations continue to generate considerable work-related injuries and fatalities. This article examines whether current compliance by shipping companies and crewing agencies is sufficient or not to ensure the seafarers' entitlements to compensation as provided by the national labour standards of their home countries.

Transnational third-party crew management drives the development of the global labour supply chain in the shipping industry. Through recruiting Chinese seafarers, with their low wages and social security protection and lack of union affiliation, many international ship managers have gained a competitive advantage in the use of human resource supply chains. However, competition in labour cost may also affect the motivation of ship managers and crew managers to comply with the law of the labour supply states and with regulations and business ethics, which may further threaten the sustainability of maritime logistics and global supply chains.

This research shows that liability insurance coverage is determined voluntarily by shipping companies based on their understanding of corporate social responsibility. As a result, compliance choices are highly diversified, and most shipowners' coverage is far from enough to cover their liabilities once workplace fatalities occur. For the managers who have better legal compliance performance, two determining factors are political pressure (for state-owned ship managers) and maintaining their crew dispatch licence (for private companies). The commitment to compliance is also weak: most companies rely on their agencies to handle claims with seafarers. The private companies have much lower incentives for compliance or corporate social responsibility than state-owned shipping companies.

The crew managers' liabilities are still ambiguous, in the context of the global human resource supply chain. With the development of third-party ship management, the interest of shipowners is for crew management companies to become independent employers of seafarers, thus transferring the liability risk from shipowners to crew managers. However, crew management companies cannot control safety management on ships operated by shipping companies. If safety management obligations and liabilities for workplace accidents are separated, and crew management companies are mainly responsible for crew claims, the incentives for ship operators to ensure a safe working environment may be reduced. If crew management companies are defined as only agents of ship management companies, seafarers have to claim their rights against overseas ship managers. In such a situation, the health, safety and rights of seafarers will be compromised no matter which route is followed. Up till now, crew management agreements have been unregulated business contracts, although they stipulate the obligations and liabilities of crew managers and ship managers in the event of workplace accidents. Current management prior to accidents largely depends on market solutions. As shown

in the seven crew management agreements, most of the compensation standards agreed between crew managers and ship managers are unable to fulfil their legal liabilities according to Chinese law. We can see self-regulation practices in state-owned companies, due to political pressure within the management culture. However, most companies do not take such pressure into consideration, which means voluntary compliance is not realistic for ensuring that crew managers and ship managers establish pre-accident risk management measures in fulfilment of their legal obligations.

Depending solely on the voluntary compliance of ship managers and crew managers may drive liability management into a ‘race to the bottom’. In the cost-driven transnational third-party crew management business, liabilities for crew injuries and death have become an undesirable cost. Maritime centres with low social security cost for the crew are preferable for ship operators. Minimum standards are necessary for management of liability following crew injuries, although to some extent Maritime Labour Convention, 2006, Standards 4.2 and 4.5 address shipowners’ liabilities and social security protection for seafarers. Given the differing enforcement levels of the Convention in labour supply states, it remains questionable whether the Maritime Labour Convention, 2006 can be an incentive for ship operators and crew managers to comply. If the key competitive advantage in ship management is identified as crew costs, and liability management is simply treated as part of crew costs, a good legal compliance culture with strong corporate social responsibility would be very difficult to develop among ship managers and crew managers. To change this trend of a ‘race to the bottom’, it will be necessary to regulate the agreements between ship operators and crew managers. A joint liability system between employers and labour intermediaries should be established within the global human supply chain. To ensure decent occupational health and safety (OH&S) conditions for all people working in global supply chains, the Global Reporting Initiative promotes the GRI 403 Standard: Occupational Health and Safety 2018, which extends the definition of workers to ‘all workers who are not employees but whose work and/or workplace is controlled by the organisations’ and ‘all workers who are not employees and whose workplaces are not controlled by the organisation, but the organisation’s operations, products, or services are directly linked to significant occupational health and safety impacts on those workers by its business relationships.’ This effort could ensure that organisations that benefit from the supply chain are liable for the OH&S of global supply chain workers. To ensure injured workers’ rights following a workplace injury, a similar definition of workers should also be

adopted in workers' compensation legislation in China, as well as in that of other major labour supply countries. With this legislative change, the liability of shipowners and crewing agencies will become joint in the maritime labour supply chain.

The traditional private maritime liability insurance – the P&I liability insurance fund – could provide a certain level of compensation for injured seafarers, but a more transparent claim handling process subject to public monitoring is necessary. The current private, internal compensation claim management process is not sufficient to achieve fair, just and legal outcomes. In addition, to protect the industry's reputation and retain talented crew in the shipping industry, the associations of ship managers should also adopt a commitment-oriented compliance programme to prevent liability shirking by shipping companies and crewing agencies following workplace injuries and fatalities. Instead of outsourcing claim handling to crewing agencies, a joint problem-solving model should be developed between the principal employer and their crewing agencies.

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