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An examination of the key benefits of assigning stable or fluid crews within the Merchant Shipping Industry.

Executive summary, conclusions and recommendations

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Executive summary

The Effective Crew Project showed that stable manning strategies can be cost effective and demonstrated clear benefits:

- for safety outcomes – with improved accountability and responsibility, leading to better vessel maintenance and familiarity with vessel and equipment;
- for the well-being and competency of the crew – with higher retention rates, a greater sense of ownership, familiarity, trust and loyalty, and increased capacity for on the job learning and mentoring;
- for longer term financial savings – with improved inspection results, reduced training and recruitment, and improved operational costs.

However, the research also identified various factors that influence the success of stable crewing, including:

- the effectiveness of the leadership and management skills on board or ashore – which need to be current and sensitive to continuous crew development and efficient vessel operations;
- the expansion or reduction in fleet size – which means crew stability can be difficult to maintain;
- the ability to accurately measure the financial implications of different crewing strategies – for precise evaluation of a crewing strategy.

Shipping is the instrument of globalisation and the international community depends upon safe, efficient, sustainable and reliable transportation of commodities and goods to promote social well-being and economic health. Where the industry fails in one or more of these respects it can have a profound impact on communities, the environment and the economy. Given the demands on the industry and the consequences of failure it is important to understand the factors impacting the performance of those employed at sea in order to permit the creation of an optimum working environment where negative outcomes are less likely.

The merchant shipping industry in common with others maintains a constant focus on its cost base. As crewing is the largest controllable part of a vessel's operating budget it often receives a great deal of scrutiny in terms of salaries and associated costs such as travel. This narrow focus on cost, if taken in isolation, risks missing the contribution of crewing strategies to other value-added aspects of vessel performance, however little research has been conducted in this respect.

The Effective Crew Research Project, sponsored by the Lloyds Register Foundation and the TK Foundation, was a two-year study which examined the benefits and challenges of implementing stable and fluid crews within the merchant shipping industry. The focus was on vessels types with more than 20 crew including: tankers, car carriers, containers, bulk carriers and chemical carriers, although some additional data was collected. The research incorporated a review of literature and collected data from an industry wide survey and 29 interviews with experienced maritime stakeholders and experts from other industries, including healthcare and aviation.

The research has shown that the fluid nature of crewing within the sea-going area of the industry negatively impacts on crew welfare, crew and vessel safety, and does not encourage employment retention. Stable crewing, however, is shown to develop a greater sense of ownership and responsibility which promotes better safety outcomes including improved vessel maintenance and knowledge of specific equipment on board.

Team familiarity generated by stable crewing was also found to promote trust and good working relations, which can increase productivity and provide better mental health outcomes for the crew. Other benefits from stable teams included improved vessel maintenance and reduced maintenance costs as well as shorter handover times and recruitment costs. These outcomes have longer term financial benefits for vessel operations and the shipping company. However, those implementing stable teams, particularly for the top 4 senior officers, should be aware that this can mean fewer promotional opportunities and, over time, an increased risk of complacency. Although there are some clear benefits to stable crewing, the uniqueness of individual shipping companies means that one size does not fit every situation. It is therefore vital that crewing strategies are continuously and consistently evaluated and adjusted where necessary. Changes to a different crewing strategy, or combination of strategies within a fleet, should be considered if evaluation highlights this as the best option for maximising cost efficiency, safety and crew well-being.

Regardless of the manning strategy adopted, it is important to recognise the influence that leadership and management can have on on-board culture. Poor leadership, despite the crewing strategy implemented, can have a detrimental effect on crew wellbeing and safety and ultimately on the budget. Recommendations from this project therefore include greater support for the senior officers both from shore side personnel, and on-going leadership training and development.

It is paramount for the ethical and sustainable advancement within shipping, that the highest levels of on-board team working are understood and achieved. This in turn will promote efficient, safe and sustainable working practices that support the best outcomes for the crew.

Best practice

This section identifies the best practice highlighted by the data in two areas: firstly, to support decision making in selecting an appropriate crewing strategy; secondly, in how to effectively implement a crewing strategy.

Best practice: selecting a crewing strategy

- Review the market conditions for vessel type and availability of crew, to assess the practicality of adopting a specific crewing strategy.
- Define the objectives for adopting the crewing strategy and identify valid measurements that will enable success to be accurately and consistently measured.
- Involve all the relevant areas of the business in the strategy decision, to obtain a balanced view and to understand the implications of the decision.
- Consult relevant crew to assess the potential response to the strategy and identify potential implementation issues.
- Consider implementation options, for example, testing the strategy with a pilot group of ships; implementation by fleet or vessel type and other areas of concern.
- Involve the top four officers in planning the implementation of the crewing strategy.
- Involve the top four officers in finance decisions affecting the ship in order to gain buy-in and commitment, and ownership of the strategy.
- Strengthen the leadership and team-building skills of the top four officers.
- Consider the impact of the proposed crewing strategy on the change in relationship between the office and the vessel and how this can be managed for the best transition.

Best practice: implementing a crewing strategy

- All departments within an organisation should be involved for maximum buy-in and the ultimate success of the strategy's implementation. Communicate the purpose, objectives and details of the implementation plan to everyone involved in crewing.
- Consistently use the defined measurements to assess the impact of the chosen strategy.
- Involve all relevant areas of the business in reviewing and interpreting the data related to the crewing strategy so that informed changes can be made if necessary.
- Assess the performance of the top four officers over a number of voyages to identify trends and issues and areas for development or change and sharing of best practice.
- Identify any additional leadership skills required by senior officers and ensure training is provided to address the necessary areas.
- Monitor communication between the ship and the office to assess the impact that changing the strategy has on working relationships and cooperation. Issues should be addressed immediately as the office and shore relationship, and the management and leadership of the two, were identified as key factors impacting on the success of any crewing strategy.

- Conduct a review of the impact of the crewing strategy and provide feedback to everyone involved.
- Develop a culture of mentoring and on the job training to support communications and standards on board and improve relationships.
- Obtaining crew feedback after each voyage was a procedure implemented by one of the research respondents in their shipping company. This allowed regular assessment of the company culture and the organisation's procedures to be examined against the well-being of the crew and the safety outcomes of each voyage. Crew were contacted immediately after leaving the ship to ask for anonymous feedback which was then assessed and acted upon to improve the on-board operations or issues that the crew were having. Best practice was shared amongst the fleet. This could be a role conducted by the superintendent who could sail on board for several days to observe both good practice and areas for improvements. This initial investment would provide long-term benefits including crew retention, morale and the reduction of incidents, which significantly outweigh the initial costs.
- Maintaining a stable four top officer team within a fleet manning pool could provide the solution for combatting complacency and ensuring that a 'fresh pair of eyes' are brought into the team mix. This still allows the crew the opportunity to develop good working relationships that engender familiarity, trust and ownership.

Conclusions

The following conclusions have been made based on the research findings.

1. The research shows that there are some clear, measurable benefits to stable crewing for safety outcomes, crew well-being and long-term financial performance, although this is not applicable to every shipping company. One size does not fit all, and each shipping company will have their own set of conditions to consider when planning the best crewing strategy, based on their specific requirements such as vessel type, fleet size and trading patterns.
2. The use of consistent data and metrics is necessary to evaluate the success of changing manning strategies. Without these it is difficult to accurately measure cost savings.
3. Many companies are not collecting reliable data over time to inform their crewing strategies. The metrics used may be consistent, but the research has shown that unexpected events, such as unscheduled engine maintenance, can impact the statistics and generate unreliable data.
4. Stable crewing often means that new relationships between ship and shore are developed. Crew going back to the same vessel have an increased sense of ownership and responsibility, which can promote better communications which is reflected in their relationship with the office. The value of the 'sense of belonging' has positive repercussions for crew wellbeing.
5. Stable crewing reduces handover times and increases crew retention however, promotion opportunities maybe restricted by the lack of 'movement' amongst the top four senior officers and especially if stability extends beyond this to other ranks.

6. Stable crewing can reduce recruitment and training costs.
7. Familiarity with procedures on board was shown to strengthen the on-board safety culture.
8. Reducing staff turn-over through maintaining stable crews offers opportunity to develop stronger mentoring relationships on board, build trust and extend support networks.
9. Complacency associated with stable crewing has been shown to become an issue over time if stable teams exceed their optimum time to stay together. The optimum time, suggested by the research, was approximately two and a half years, beyond which can lead to complacency, the normalisation of deviance and compromise to safety standards.
10. The benefits of implementing a stable or fluid crewing strategy were directly linked to leadership behaviour among the top four senior officers This has significant impact upon the on-board culture, with repercussions greatly influencing crew welfare and safety.

Recommendations

Further to these conclusions, the research team make the following recommendations:

1. Work is needed to develop measures that accurately assess the overall performance of a vessel and the impact of the crewing strategy adopted, so that decisions concerning crewing are better understood, implemented and evaluated.
2. Investment in on-going leadership and management development for all those responsible for leading teams on board and ashore is recommended to help establish the best working and safety cultures for whichever crewing strategy is in place.
3. Collaboration, between industry leading shipping companies that are operating stable crewing and working to improve safety and well-being standards, is recommended to share information and best practice to others.
4. The research offers conclusive evidence that stable crewing can improve safety, well-being, and over time, financial outcomes. However, as the report mentions putting hard figures against the cost benefits has been problematic due to inconsistent data sets provided by the case-studies and measurements taken over time. Future research, using shipping companies that operate both fluid and stable crewing and carefully defined comparative metrics, should be conducted within the same fleet to generate data of the cost benefits of different crewing strategies.