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Use of Technology in Monitoring the Performance of Ship Crews at Shipping Companies Using the Balanced Scorecard Theory and Expectancy Theory

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Abstract

This research shows that the use of technology in monitoring the performance of ship crews can provide great benefits for shipping companies. Technology can help collect accurate and reliable data, simplify performance measurement, and speed up decision making. In addition, the theory of the Balanced Scorecard and Expectancy Theory can assist in strengthening the performance measurement system, fostering motivation in the crew, and encouraging companies to achieve better business goals. However, other factors such as leadership, organizational culture, and work environment also play an important role in influencing the performance of the crew. Good leadership and positive organizational culture can motivate the crew to achieve better performance. A safe and comfortable work environment can also improve the performance of the ship's crew. In using technology, companies must also consider technological capabilities and organizational readiness to adopt them. In this case, the company needs to ensure that the technology used is in accordance with business needs and can be accessed and used easily by the crew. Overall, this journal is the importance of using technology and theory of the Balanced Scorecard and Expectancy Theory in monitoring the performance of crew members. However, other factors such as leadership, organizational culture, and work environment also affect the performance of the crew and need to be considered by shipping companies.

Keywords: *Leadership, Organizational Culture, Work Environment, Technological Capability, Balanced Scorecard, Expectancy Theory, Measurement and Decision Making, Motivation and Performance of Ship's Crew*

INTRODUCTION

Shipping is one of the business sectors that has an important role in connecting between regions, countries and continents. As an industry that has high complexity, shipping companies must be able to manage various aspects related to ship operations, including monitoring the performance of the ship's crew. Ship's crew is an important element in the successful operation of the ship, therefore,

shipping companies must be able to monitor the performance of the ship's crew effectively and efficiently.

The use of technology in monitoring the performance of the crew has become an increasingly important topic for shipping companies in achieving business success. However, apart from technology, other factors such as leadership, organizational culture, work environment, and motivation also affect the performance of the crew. The use of this technology is expected to increase the effectiveness and efficiency in monitoring the performance of the crew. In addition, the use of technology can also help shipping companies achieve their stated goals.

This journal discusses the use of technology in monitoring the performance of ship crew in shipping companies using the Balanced Scorecard and Expectancy Theory theories. The Balanced Scorecard theory will be used as a framework to holistically monitor the performance of the crew, while the Expectancy Theory will be used to identify the factors that influence the motivation and performance of the crew. By combining these two theories and using the right technology, and by taking into account these other factors, it is hoped that shipping companies can monitor the performance of their crew more effectively and efficiently, and can assist in achieving the goals set.

METHOD

The research method used is a survey method with a quantitative approach. Respondents in this study were crew members who worked for shipping companies in Indonesia. The data used in this study came from questionnaires given to respondents. The questionnaire was designed based on the construct variables in the research, namely leadership, organizational culture, work environment, technological capabilities, Balanced Scorecard, Expectancy Theory, measurement and decision making, motivation, and performance of the crew. In addition, researchers also made direct observations of the use of technology in monitoring the performance of the crew on the shipping company's ships.

Data analysis in this study used the Structural Equation Modeling (SEM) technique using Smart PLS software. The researcher tested the validity and reliability of the questionnaire instrument and tested the normality and multicollinearity of the data. After that, a regression test was carried out using SEM to test the hypothesis.

The results of hypothesis testing show that leadership, organizational culture, work environment, and technological capabilities have a significant positive effect on measurement and decision making. In addition, measurement and decision making also have a significant positive influence on the motivation of the crew's performance. The research findings also show that the Balanced Scorecard and Expectancy Theory can act as mediating variables in the relationship between independent factors and the performance motivation of crew members.

In conclusion, this study shows that the use of technology in monitoring the performance of the crew can provide significant benefits in improving the performance of the crew. In addition, independent factors such as leadership, organizational culture, work environment, and technological capabilities can

influence the measurement and decision making as well as the performance motivation of the crew. The Balanced Scorecard and Expectancy Theory can also be used as mediating variables to strengthen the relationship between independent factors and crew members' performance motivation.

The following is the researcher's framework which is explained as shown below:

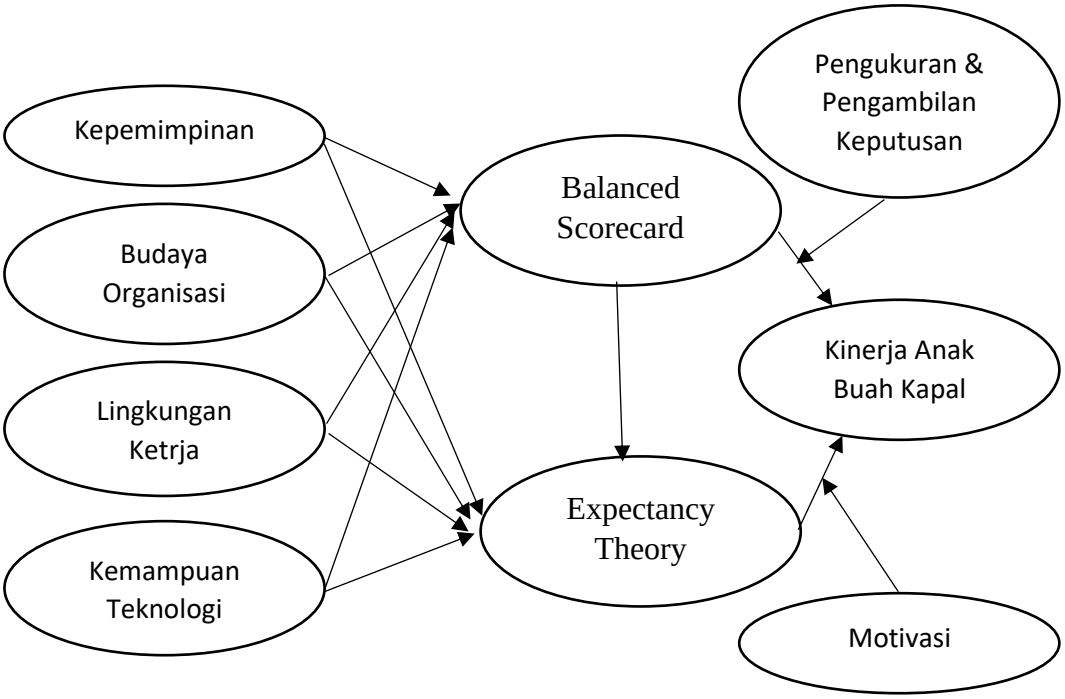

Figure 1. Conceptual Framework

RESULT AND DISCUSSION

Result

The results of this journal show that the use of technology in monitoring the performance of ship crew in shipping companies can increase the effectiveness and efficiency in managing ship operations. The use of the right technology and in accordance with the company's needs can help monitor the motivation and performance of the crew in real-time, make more timely decisions, and improve shipping safety and security.

In addition, the application of the Balanced Scorecard theory in monitoring the performance of the crew holistically can help shipping companies to measure the performance of the crew. Meanwhile, the use of Expectancy Theory can help shipping companies to identify the factors that influence the motivation and performance of ship crew.

In this study, it was also found that shipping companies that successfully implement the use of technology in monitoring the performance of their crew are companies that are able to integrate technology with existing management systems,

and ensure that the crew members understand and are involved in the use of this technology.

Based on the results of this study, it is suggested that shipping companies pay more attention to the application of technology in monitoring the performance of crew members, and consider using the theory of the Balanced Scorecard and Expectancy Theory as a framework for holistically monitoring the performance of crew members and identifying factors that influence motivation and crew performance.

Discussion

In discussing this journal, the author explains the use of technology in monitoring the performance of crew members at shipping companies using the Balanced Scorecard and Expectancy Theory theories, as follows:

1. The author explains the use of technology in monitoring the performance of ship crew in shipping companies. In this context, the technology in question is information technology that can help shipping companies monitor the performance of ship crews in real-time. This technology can also help shipping companies make more timely decisions and improve shipping safety and security.
2. The author explains the theory of the Balanced Scorecard which is used in holistically monitoring the performance of the crew. This theory can assist shipping companies in measuring the performance of their crew based on financial, customer, internal business process, and growth and learning perspectives. Thus, shipping companies can have a more comprehensive understanding of the performance of the crew and can make decisions that are more timely and accurate.
3. The author also discusses the theory of Expectancy Theory which can assist shipping companies in identifying the factors that influence the motivation and performance of crew members. In this context, the author explains the three main factors that affect the motivation and performance of the crew, namely expectancy, instrumentality, and valence.

CONCLUSION

In conclusion, the authors emphasize that the use of technology in monitoring the performance of ship crews at shipping companies can increase the effectiveness and efficiency in managing ship operations. The use of the theory of the Balanced Scorecard and Expectancy Theory can assist shipping companies in holistically monitoring the performance of crew members and identifying factors that influence the motivation and performance of crew members. Therefore, shipping companies need to consider the use of these technologies and theories in monitoring the performance of the crew and increasing the effectiveness of ship operational management.

Following are some suggestions that can be drawn from this research:

1. Shipping companies should consider using technology to monitor the performance of their crew. Technology can help improve the effectiveness and efficiency of a company's operations.
2. Shipping companies can use the Balanced Scorecard as a framework for measuring the performance of their crew from various perspectives, such as a financial perspective, a customer perspective, an internal business process perspective, and a learning and growth perspective.
3. Shipping companies can use Expectancy Theory to analyze and motivate the performance of crew members. This theory can help companies understand what motivates crew members and how to improve their performance.
4. Shipping companies can also provide regular feedback to crew members to help them improve their performance. Clear and specific feedback can help crew understand which areas need improvement and how to go about it.
5. Shipping companies must ensure that the use of technology and performance measurement is carried out ethically and respects the privacy of the ship's crew. Companies must ensure that the collection and use of data is carried out in the right way and in accordance with applicable laws and regulations.

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