

## FEATURES OF KNOWLEDGE MIGRATION IN MARITIME INDUSTRY PROJECT TEAMS UNDER CONTEMPORARY CONDITIONS

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Knowledge migration within maritime project teams is becoming increasingly crucial amid globalisation, digitalisation, and dynamic changes in the global economy. The maritime industry is characterised by high technological complexity, the international nature of its activities, and the need to adhere to strict safety standards, making knowledge transfer and preservation crucial to the successful implementation of projects.

Unlike land-based industries, maritime teams face unique challenges, including prolonged physical separation, limited communication windows at sea, and the critical nature of decisions where errors can result in catastrophic consequences [1]. Furthermore, the transition to green technologies and alternative fuels necessitates rapid knowledge acquisition and dissemination across geographically dispersed teams.

To understand the mechanisms of knowledge migration in this industry, it is advisable to use an adapted version of the SECI (Socialisation, Externalisation, Combination, Internalisation) knowledge spiral that accounts for the specificities of the maritime environment (Fig.1).

***Socialisation*** involves transferring tacit knowledge through observation and joint practice [2]. In the maritime industry, this occurs through joint watches where junior officers observe experienced captains, mentoring during complex manoeuvres, simulator training, and informal crew exchanges. Critical elements include intuitive understanding of vessel behaviour, quick decision-making skills, and equipment expertise that are difficult to formalise.

***Externalisation*** transforms tacit knowledge into an explicit form, which is essential given high staff turnover [3]. This includes incident documentation, procedure checklists, Lessons Learned reports, video instructions, digital knowledge bases, and navigation charts. International conventions (STCW, ISM Code) reinforce documentation standards.

***Combination*** systematises explicit knowledge from multiple sources. Maritime projects integrate operational data across fleets, compile cross-project reports, establish corporate standards, implement cloud-based document management, develop Best Practices databases, and create digital vessel twins. Digitalisation enables Big Data analytics and decision-support systems.

***Internalisation*** converts formalised knowledge into practical expertise through simulator training, studying STCW procedures, structured onboarding programmes, supervised application of instructions, and ISM Code training. Effectiveness depends on quality externalisation – better formalised procedures enable faster learning and integration.

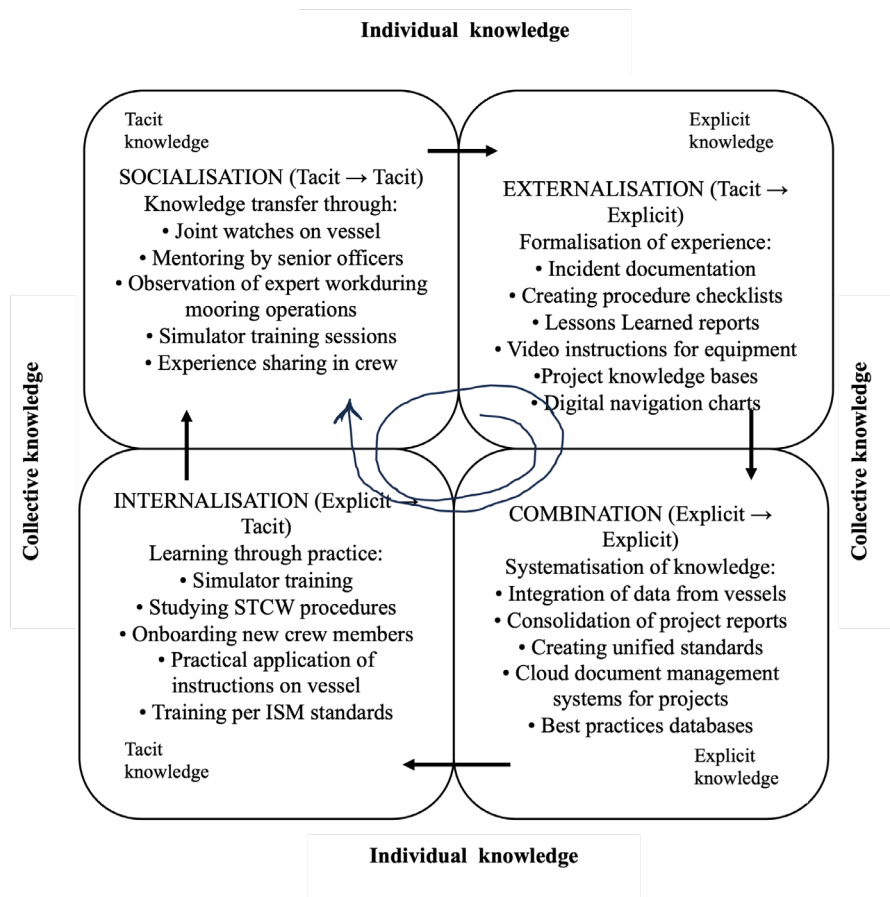


Fig. 1. Knowledge migration spiral in maritime project teams

The SECI knowledge spiral provides a comprehensive framework for managing knowledge migration in maritime project teams. Each stage addresses specific industry challenges: geographical dispersion, crew rotation, multicultural environments, and regulatory requirements. Successful knowledge migration requires systematic attention to all four stages, supported by digital technologies and an organisational culture that values continuous learning.

The cyclical nature of the SECI model is particularly relevant for maritime operations, where knowledge must continuously evolve through repeated iterations as crews rotate, technologies advance, and operational contexts change.

As the maritime industry undergoes ecological transformation and technological advancement, effective knowledge migration becomes a key competitive advantage, enabling organisations to preserve expertise, accelerate adaptation, and maintain safety standards in increasingly complex operational environments.

**References:** 1. Zhou, Yu., Yuen, K.F., Tan, B., Thai, V. (2021). The effect of maritime knowledge clusters on maritime firms’ performance: An organizational learning perspective. *Marine Policy*, 128, 104472. 2. Duva, M., Zhao, D., Frank, K., Mollaoglu, S. (2024). Interaction between Project- and Group-Level Knowledge Transfer in Project Team Networks: A Social Influence Analysis. *Journal of Management in Engineering*, 40(2), 05024001. 3. Kucharska, W., Scott Erickson, W. (2023). Tacit knowledge acquisition & sharing, and its influence on innovations: A Polish/US cross-country study. *International Journal of Information Management*, 71, 102647.