

‘Work as’ approaches in marine accident investigation: the tale of Kaami

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SUMMARY

This paper presents an applied assessment by two professional marine accident investigators of ‘Work As’ approaches, used to understand the local rationality of seafarers involved in the Kaami marine accident. The approach used was to consider three different perspectives to how work was conducted onboard the Kaami vessel. The ‘Work As’ approach was found to be highly useful during the investigation providing insights into the perspectives of those involved in the accident that probably would not otherwise been identified.

KEYWORDS

Marine accident investigation, Work as Intended, Work as Done, Work as Normal

Introduction

Much has been written about the importance in accident investigation of ensuring that the local rationality (Woods and Cook 2000, Dekker 2014) of those involved in an accident is well understood. Methods and approaches to understand local rationality beyond the use of appropriate interview methods have not been well researched to date, particularly from the perspective of professional accident investigators. In this paper we outline the use of ‘Work As’ approaches (Long 2017) for the purpose of looking at different perspectives of work (Shorrocks 2016), as used by professional marine accident investigators to explore the local rationality of those involved in the Kaami accident (MAIB 2021). In this paper, due to the limitations of reporting the analysis of the accident due to the UK Merchant Shipping (Accident Reporting and Investigation) Regulations 2012, we report on our perspectives on the use of the method.

Method

The Kaami investigation was the first fully remote investigation conducted by MAIB during COVID-19. There were significant challenges in accessing evidence from the accident site as well as issues in understanding the mindset of the crew involved.

‘Work As’ approaches follow closely traditional methods of accident investigation which rely on the development of the understanding of the events leading up to an accident as well as the facts about human actions and behaviours leading to an accident. ‘Work As’ approaches are subtly different in that the investigatory team develops three different perspectives of the accident:

- ‘Work As Done’ – How people did the work on the day of the accident
- ‘Work As Normal’ – How people usually did the work
- ‘Work as Intended’ – How organisational processes, practices and procedures tell people how to do the work

The order in which the understanding of the three different perspectives depends on the investigation, access to evidence and the information that has been gathered that enables the development of the specific perspective.

During the Kaami investigation we worked from the 'Work As' Intended first as the processes and procedures were well documented providing investigators with a handrail from which to work. From there we used information collected from interviews of differing types (cognitive, factual / structured, semi-structured), as well as navigational and human factors assessments on specific elements of the work system. Collecting our thoughts on the application of the approach after the investigation had concluded was done using a reflective set of conversations, recorded in a presentation capturing the themes from each 'Work As' perspective. The conversations were unstructured and not formally analysed, but reflected the lessons we thought were important from a marine accident investigation perspective.

Results and conclusions

The 'Work As' approach was useful in the Kaami investigation because it enabled the investigators to separate out differences in the behaviour of the actors in the accident. This included how navigation of the ship was usually conducted and what the organisational requirements for navigation were. This separation enabled gaps in evidence to be identified more effectively and supported the causal analysis following collection of evidence. Additionally, the approach helped managed the possible biases of a western investigatory team interpreting the behaviours and attitudes of a foreign crew. This stimulated the need for better cultural awareness that greatly improved the quality of secondary interviews that gained additional insights. One of the significant benefits of the approach was an improved understanding of the rationale of the crew involved. This highlighted the pressures they routinely operated under (a common experience for a ship of this type which typically have low levels of crewing), and the crew's issues in effectively operating the ship's navigational interfaces.

Overall, the investigatory team thought that the approach should be adopted routinely in marine accident investigation as a tool to improve understanding of local rationality.

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