

Human Error: A 10-Year Review of Trends and Techniques in Maritime and Process Industries

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Abstract

Human error is a widely discussed subject in socio-technical systems, especially in large industries where it has a profound impact. Process and maritime industries rely primarily on human performance thus human error is a highly relevant. It influences the safety, financial outcomes, and operational efficiency of an industry. This study presents a critical literature review from 2013 to 2023 by examining how human error is perceived and characterized in these (process and maritime) domains. The study aims to uncover the complexities of this subject by investigating the commonalities and differences in human error within these industries. The methodology used to identify human error, its interpretation, and demographic factors like geography and orientation by discipline are analyzed to provide a complete holistic view. The definition of human error and the framework used across these 2 industries is also investigated in the literature. By relying on a decade's worth of research, this preliminary work shed light on the prevailing themes and methods for managing human error. The insights from this work lay a foundation for future research and the development of precise interventions to mitigate the impact of human error, advocating for a safer and more robust industrial operational environment. Some recommendations are also provided at the end based on this literature review.

Keywords

Human Error, Maritime, Process Safety, Human Factors.

Biography

Salman Nazir, is a Professor in Training and Assessment, based in the faculty of Technology, Natural Sciences, and Maritime Sciences at the University of South-Eastern Norway, and serves as the Head of the Training and Assessment Research Group (TARG). With international academic credentials, including degrees from South Korea and Italy, his expertise extends into Human Factors, Virtual Reality, Training Simulators, Performance Assessment, Process Safety, and Complex socio-technical systems.

Professor Nazir has earned several awards, scholarships, and research grants during his career. His prolific contributions include the publication of over 100 peer-reviewed articles and co-editing 10 books. Beyond the conventional boundaries of academic pursuits, Professor Nazir took the role of Scientific Leader at the Centre of Excellence in Maritime Simulator Training and Assessment (COAST). His more than decade-long dedication to academia focuses on enhancing simulator training, education, industrial and maritime safety, and performance assessment methodologies. His works emphasize a multi-disciplinary approach, collaborating with Human Factors Specialists, Engineers, Cognitive and Computer Scientists, Industrial Experts, and Practitioners for the optimum solutions.