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Assessment of the Qualification and Competency of Maritime Casualty Investigators of the Maritime Safety Services Command: Inputs for Enhancement

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Abstract

This paper presents a comprehensive assessment focusing on the qualifications and competency levels of maritime casualty investigators employed within the Maritime Safety Services Command. The primary objective of this assessment was to thoroughly analyze the existing capabilities of these investigators and pinpoint areas that could benefit from improvement. The study's respondents were the 57 maritime casualty investigators who have undergone the 10-day training on the maritime casualty investigation. Respondents are the casualty investigators who are assigned to different Maritime Safety Services Units and Coast Guard Districts all over the Philippines. The outcomes of the comprehensive assessment revealed several potential gaps in the qualifications and competencies of maritime casualty investigators. One notable gap pertained to the requirement for specialized training in accident reconstruction, a field that demands a deep understanding of various factors influencing maritime accidents. Another identified gap centered on the need for proficiency in digital evidence analysis, acknowledging the increasing prevalence of digital data in modern maritime operations. Analysis has shown no significant correlation between the level of education of the present maritime casualty investigators and the six investigative competencies. These results suggest that level of education alone may not be a reliable predictor of proficiency in the assessed competencies, warranting further exploration of additional factors that may contribute to the development of marine investigative skills.

Keywords: *casualty, assessment, maritime safety, enhancement*

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Introduction

The maritime industry encounters a variety of situations, from major accidents to near misses. These accidents and incidents should be investigated since many flag administration regulations require it; international agreements mandate it, such as the IMO's Casualty Investigation Code (CIC) and industry initiatives encourage it. The process of maritime casualty investigation is intended to assist organizations in reflecting on previous performance and formulating plans to increase safety (American Bureau of Shipping, 2005). To achieve a systematic and effective investigation of these maritime casualties, the appointed investigators need to have expertise in maritime casualty investigation and be knowledgeable in matters relating to the maritime casualty or incident.

This study, therefore, addresses the issue of how to assess the qualification and competency of maritime casualty investigators of Maritime Safety Services Command (MSSC) for them to be effective and efficient in the conduct of maritime casualty investigation. It also focuses on the development of the course framework for the Maritime Casualty Investigators Specialist Course to standardize the approach of the maritime casualty investigators in the conduct of maritime casualty investigations and will also fill up the gaps in the knowledge of the non-maritime background participants on the said course.

The Maritime Casualty Investigation Reports (MCIR) conducted by these maritime casualty investigators should be at par with the IMO's internationally accepted standards under the CIC. This can only be assured if the Maritime Casualty Investigators (MCI) of the PCG are rigorously evaluated on their qualifications and have been continuously assessed on their competency. This study aims to assess the competency of maritime casualty investigators of the Maritime Safety Services Command.

Methodology

Descriptive correlation was appropriate for the topic because it provided a relationship between the current qualification and competency of the maritime casualty investigators of MSSC with their performance in maritime casualty investigation. In the study's conduct, the researcher collected data by employing a general investigation technique test and competency self-assessment of the respondents. The study design enabled the

researcher to determine the changes that need to be done to enhance the performance and report-making of maritime casualty investigators.

The researcher created a questionnaire via Google Sheets to collect the study's data. Specific information was elicited by the questionnaire to meet the study's objectives. The questionnaire consists of three main sections. The first section determined the educational background of the respondents. The second section measured the technical knowledge of the maritime casualty investigators while the third part was the self-assessment of the maritime casualty investigators in their competence. To ensure and to make valid the reliability of the instrument, the validation process was done by employing experts in maritime casualty investigation, a language specialist, and a statistician.

On the other hand, to determine the reliability of the instrument, a reliability test was done through a test run of around 15 maritime casualty investigators who were asked to answer the final draft of the questionnaire. The final reliability of the instrument was determined through the Cronbach Alpha method. Frequency, percentage and weighted mean are used to describe the result of the obtained data; and Pearson correlation analysis and Chi-Square Test are utilized to determine the significance relationship and difference of the involved variables.

Findings

The study underscores that the majority of maritime casualty investigators hold bachelor's degrees, with a smaller cohort possessing master's degrees. This accentuates the relevance of formal education within this profession. The investigators predominantly hail from two distinct disciplinary backgrounds: social science and technology. This eclectic mix underscores the interdisciplinary essence inherent to maritime casualty investigation and meticulously assessed the MCI's efficacy across nine overarching investigative criteria: ethics, attention to detail, control, critical thinking, curiosity, interviewing, research, surveillance, and writing. Their ethical considerations exhibited an average performance and investigators showcased a heightened proficiency in meticulousness, an indispensable skill for precise incident assessment.

Control over the investigative process appeared relatively constrained, signaling a demand for augmented management of investigative procedures as critical thinking skills

were gauged ranging from low to average, indicating an avenue for enrichment in analytical acumen and an elevated level of curiosity was exhibited by the investigators, a trait that proves instrumental in uncovering latent facets of incidents. Regrettably, interviewing skills ranked notably low, underlining a substantial scope for enhancement in extracting information from witnesses but in the field of research, an elevated degree of research prowess was observable, spotlighting their capability to amass pertinent data.

Performance in writing skills on the other hand was evenly distributed, with half displaying superior capabilities and the other half at a comparatively lower level. MCI consistently adhered to secure work practices, encompassing proper lifting techniques and the adoption of personal protective equipment (PPE), thereby signifying their unwavering commitment to safety protocols.

Competence in identifying potential hazards within investigation sites manifested as generally rated from 'on average' to 'higher,' signifying their adeptness in discerning risks effectively. Over half of the respondents exhibited an advanced performance in surveillance techniques. Their adeptness in locating emergency equipment and evacuation routes onboard vessels ranged from 'on average' to 'higher,' underscoring their state of readiness during exigent circumstances.

In terms of interpersonal skills, a heightened aptitude in consistently manifesting respect towards colleagues and team members fostered an environment infused with positivity and regard. The MCI revealed a superior knack for taking initiatives, circumventing issues, and actively contributing to team accomplishments, thus accentuating their collaborative and proactive ethos. Their dynamic and constructive engagement in workgroup meetings was characterized by an elevated proficiency, indicative of their constructive input into collaborative deliberations.

Amid the six criteria: personal safety and knowledge of safety practices, evidence collection, snap chart construction, root cause analysis, corrective action development, and attitude and teamwork that underpin investigative competence, the 'attitude and teamwork' facet surged ahead with a resounding mean level of 3.96. This underscores that MCI exhibit an 'on average' to 'higher' level of attitude and teamwork, indispensable traits for effective collaboration.

Strikingly, the study discerned that attributes such as educational attainment, training history, and previous specialization displayed limited correlation with the performance attributes of maritime casualty investigators. This hints at the notion that while these attributes mirror theoretical understanding and expertise in particular realms, they might not comprehensively encapsulate all the requisite attributes for investigative success.

Thus, this comprehensive study furnishes invaluable insights into the competencies, proficiencies, and attributes held by the prevailing maritime casualty investigators. The findings underscore the significance of a diverse skill set, team synergy, and adaptability in effectively addressing the intricate challenges associated with maritime incident investigation.

Conclusion

The research findings underline a crucial aspect in the realm of maritime casualty investigation: the conventional benchmarks of qualifications, encompassing factors like one's level of education, participation in relevant training programs, and the specialized domain of prior work experience, do not exhibit a noteworthy correlation with the diverse range of skills and competencies demonstrated by present-day maritime casualty investigators. Although these qualifications can furnish a basic framework of theoretical knowledge, they prove insufficient in encapsulating the core attributes and pragmatic proficiencies imperative for conducting investigations with efficacy and finesse.

While qualifications can lay down a solid academic foundation, they fail to encompass the multifaceted traits and hands-on skills that form the bedrock of effective investigative work. Traits such as an unwavering commitment to ethical standards, a meticulous attention to even the minutest details, the ability to engage in critical thinking to unravel complex scenarios, an innate curiosity that drives thorough exploration, and practical aptitudes encompassing adeptness in interview techniques, adeptness in research methodologies, mastery in surveillance strategies, and adeptness in crafting comprehensive and coherent written reports, are not effectively captured by formal qualifications alone.

Furthermore, a holistic set of competencies that include ensuring personal safety during investigations, the proper collection and preservation of evidence, the construction of visually informative tools like snap charts to depict intricate details, delving into root cause

analysis to unearth underlying factors, formulating strategies for corrective actions, and exhibiting a positive attitude towards teamwork, are attributes that emerge and mature through practical experience, on-the-job learning, and the accumulation of industry-specific insights.

Moreover, to solely rely on qualifications as indicators of investigative success within the maritime sector would be a limited approach, as it fails to accurately gauge an investigator's true abilities and on-ground performance. The intricate blend of ethical principles, a keen eye for detail, analytical acumen, an inquisitive disposition, practical proficiencies, and a well-rounded repertoire of competencies forged through hands-on experience collectively shape an investigator's effectiveness and contribution to the field.

To enhance the selection and assessment procedures for maritime casualty investigators, the following recommendations are proposed: Firstly, establishing clear and unambiguous job prerequisites is fundamental to refining the selection and evaluation process for maritime casualty investigators. Secondly, implementing a robust screening process is imperative to determine the suitability of potential candidates. Thirdly, offering specialized training and certification programs tailored exclusively to maritime casualty investigators is essential. Regularly revisiting and refining evaluation criteria ensures alignment with evolving industry standards and best practices. Also, providing ample learning and development opportunities is vital to nurture a culture of professional growth. This involves organizing workshops, seminars, conferences, and involving investigators in simulation exercises. Encouraging investigators to stay updated on industry trends and fostering an environment of continuous learning is pivotal. Lastly, pursuing further education in this domain is strongly advised. By implementing these comprehensive recommendations, organizations can elevate the selection and development processes for maritime casualty investigators. This ensures the appointment of investigators equipped with the essential attributes and competencies needed to conduct effective, meticulous, and comprehensive investigations within the maritime industry.

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