

# Abstract

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## **Training Needs to Minimize Disasters on Merchant Fleet**

cademy For Science, Technology and Maritime Transport Productivity and Quality Institute Training Needs To Minimize Disasters on Merchant Fleet By Maged Mostafa ElZorkany A Thesis Submitted to AASTMT in Partial Fulfillment of the Requirements for the Award of Degree of The Doctor of Philosophy In Quality Management Supervisors Prof.Dr./ Iman Siam Assistant Dean of ISC Dr./ Alia Islam Lecturer in P&Q Inst. 2015 Abstract The number of accidents in the maritime field, were increasing due to lack of crisis management and training. it was shown that the tools of crisis management was not used in a manner to prevent the causation of disasters in the maritime field and had a great influence on the human factor that it increases human error. The research found that more than 80% of marine accidents are caused by human error. The researcher carried out this research for the minimization of maritime disasters with the view of the causes in order to find solutions to minimize this threat. The human error dimensions are numerous such as lack of knowledge, experience, technical and nontechnical skills, and behavior, workload and misinterpreting the orders. In the research problems there were gaps in using the tools of crisis management as making decision under stress, and action taken and preparedness and situational awareness with the procedures in emergency and crisis situations within the merchant fleet and the behavioral markers of the crew members, the crew resource management, the nontechnical skills, and the disaster risk reduction, also in applying the regulations and rules in merchant ships that is affected by the gaps in human knowledge in different types of training, that have a great influence on human error, thus increasing disasters. In the research contribution with the current situation of training, by measuring the tools of crisis management it was found that they have an insignificant effect upon human error, this means that these tools are not active with current training and if there are good training applied to crew members it would have a great influence upon human element. The researcher used a survey with a tailored questionnaire, distributed among four Maritime National Companies, three Training Simulators and two training Centers at the Arab Academy for Science, Technology and Maritime Transport, and via the E-Mail. By using different statistical tools, it was shown the causes of most maritime disasters were due to human error, lack in education and shortage in different types of training, the onboard training, the simulator training and the class training, and these types of training had an effect upon crisis management tools, thus increasing the chances of occurrence of disasters, and the increase of human error. In the current situation of training it should be mentioned that despite the fact that types of training provided are shown to have insignificant effect on crisis management tools, but this should not be the case. If training is provided in the right way, crisis management tools are supposed to be perfectly used. Accordingly the insignificant effects shown in the current research are considered as shortage in the training provided and crisis management tools can't be used properly. The research found solutions for different types of training, for minimizing the human error, with improving of the crisis management tools, thus reducing and minimizing casualties and disasters. To focus on all types of training, this will improve the attitude and responsiveness of the crew members to face any crisis, also for minimizing disasters which is the aim of this research. To enhance the crisis management tools, the staff and crew will be ready with intensive training, to act safely with these tools, as the main objective, and to reduce the human error, for minimizing disasters in the merchant fleet, as the secondary objective of this research.