

**Human Element Issues KISHPNI-HEI-04-2020**  
***(HSSEQ Improving Risks & Hazards Management)***

► **Understanding Big Data:** The maritime industry – not renowned for its willingness to proactively embrace changes - is now seeing both the benefit and necessity of employing big data to enhance commercial opportunities, and also improve the safety and sustainability of the industry and those that work within.

*The following is a depiction of big data in ship Rating/Grading/Vetting- Rightship, etc.:*



These opportunities also bring unprecedented challenges. Previously, the relative lack of connectivity of various data sources provided some sort of protection; however in the modern-day internet, things have changed quite a lot. Organizations need to understand and mitigate the risk they face within their operating environment, ensuring effective precautions and responses are in place, should they fall prey to risks such as a cyber-attack. The ability to instantly and meaningfully analyze multiple & massive data feeds into a simple risk assessment tool means that real-time analysis will better target sub-standard maritime performance.

This is based on receiving incoming data, running it through complex internal processes, and distributing the results through a secure online platform. Systems and procedures that protect this process are vital, and this can be achieved by utilizing tools such as ISO/IEC 27001 Information Security Management which provides a systematic approach to managing information & also to ensure it remains secure.

The aim of all of these tools are to ensure communication security, protection of information (in and out) and business continuity.

BIMCO, ICS, INTERTANKO and INTERCARGO have announced that they are jointly developing standards and guidelines to address the major cyber security issues faced by the shipping industry. A strategic, coordinated and ongoing effort is needed to protect the industry and its individual players who wish to maintain either the business as usual approach, or develop an operational advantage in this era of rapid technological change.

To Collect & Manage Data & Ensure Usability and Practicality, we must focus on Human Element issues & the information that we receive directly or indirectly from a Human-System aspect & their associated External & Internally driven motives.

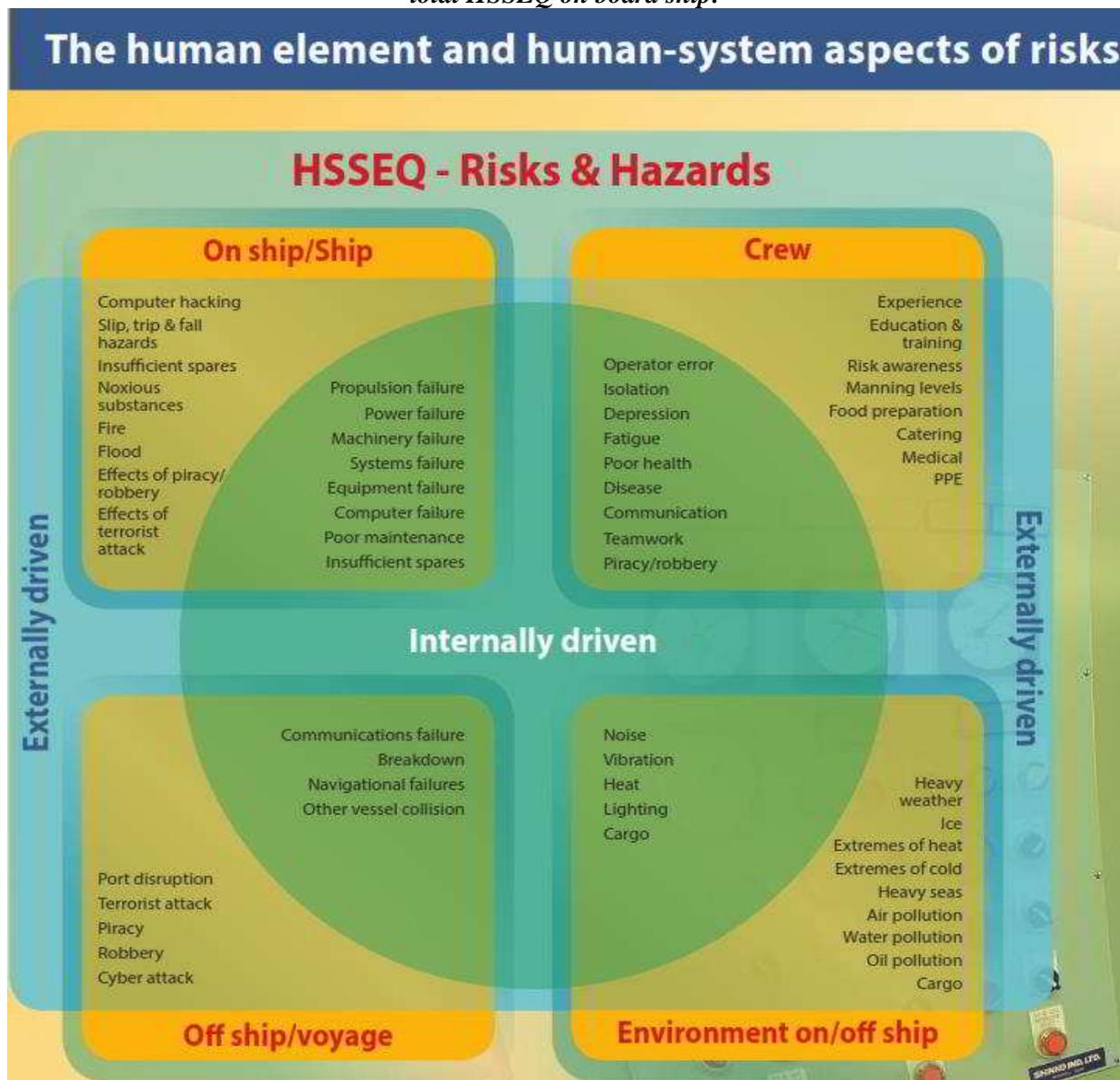
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► **Overall Concept of HSSEQ:** There are a growing number of codes and standards and guidelines related to different aspects of maritime Health Safety, Security, Environmental and Quality (HSSEQ) management, including:

- ISM Code (Safety & Environmental Protection)
- Guidelines for implementing the occupational safety and Provisions of the Maritime Labour Convention, 2006
- ISPS Code (Security)
- ISO 9001:2015 (Quality)
- ISO 31000:2018 (Risk Management)

*The following picture focuses on the human element and human-system aspects of risks in the context of total HSSEQ on board ship:*



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