

The Human Element

Why Shipping Is Learning to Measure What It Could Never See

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On the night El Faro was lost in 2015, the problem was not simply an absence of information. More current weather was available, officers raised concerns, and opportunities existed to reconsider the vessel's exposure to Hurricane Joaquin. Yet assumptions persisted and an evolving risk was not acted upon in time.

The uncomfortable lesson reaches far beyond a single casualty. Shipping has become extremely good at verifying what a seafarer knows. We are far less sophisticated at understanding how that person will behave when knowledge alone is no longer enough.

Certificates confirm competence. Sea time demonstrates experience. Training records tell us which courses have been completed. What they do not tell us is who retains situational awareness when several things go wrong at once, who challenges authority appropriately, and who recognises that a familiar situation has quietly become an unfamiliar one. They tell us nothing about how those individuals behave together.

Nor do they capture what a person carries with them. We certify a seafarer to work at height without ever establishing whether that person is afraid of heights. A phobia nobody has identified becomes an operational risk the moment a task demands clear thinking, and the crane is the wrong place to discover it.

We have always been able to see the ship, the instruments and the conditions. We are only now beginning to see the human decision-making behind them.

This is why Behavioural Competency Assessment and Verification deserves closer attention than it currently receives.

Beyond the certificate

The joint OCIMF and INTERTANKO BCAF framework, and the human factors emphasis in SIRE 2.0, reflect the same shift. The industry is beginning to look beyond whether somebody is qualified and towards how competence is demonstrated in practice.

BCAF should not become another certificate.

If behavioural competency becomes an assessment completed because a framework expects it, then filed away for the next inspection, we will have missed its value. The purpose of measuring behaviour is not the score. It is what an operator can do differently because of what has been learned.

A crew is not a sum of its certificates

Shipping has traditionally assessed competence individual by individual. The Master is qualified. The Chief Engineer is qualified. But a vessel is not operated by individuals in isolation. It is operated through the interaction between ranks, personalities, communication styles and approaches to risk.

Consider an experienced Master with a decisive manner, alongside a newly promoted Chief Officer who is technically excellent and acutely aware of how much he still has to learn. Both are competent. Neither presents a training gap. Now introduce a situation in which the Master's assessment is reasonable but no longer correct, and the person best placed to notice is the one least likely to say so. That authority gradient appears in no certificate. It exists only in the combination.

A collection of individually competent seafarers does not automatically create a competent crew.

Which is also why behavioural assessment should not take place on board. By the time a seafarer joins a vessel, they are already an integrated part of the crew synthesis, interacting with people and influencing decision-making and daily operations. Whatever we observe then, we observe from inside a system the individual has already altered, and we observe it late.

If behavioural evidence is going to change who we place together, it has to exist before anyone steps aboard. That makes BCAV a pre-hiring tool. Recruitment today works almost entirely from documents and an interview of perhaps an hour, and on that basis we place a person into a small, isolated team for months. Assessment before appointment means an operator knows who they are sending on board before they send them.

It also removes the personal from the decision. Every candidate goes through the same scenario, under the same conditions, measured against the same criteria, so the judgement rests on observed behaviour rather than on the impression formed in an interview room.

What becomes possible

At Prevention at Sea, we have been exploring this through Immerseav. Seafarers are placed in realistic shipboard situations ashore, before they go on board, and observed as events develop around them. The objective is not whether someone reaches the correct answer. It is to understand how they get there.

The methodology combines cognitive and psychometric assessment with scenario-based VR missions and analytics, so that technical competence, behaviour and character traits are considered together. It has been developed with research involvement from the University of Cyprus and used to assess the behavioural competency on numerous seafarers.

Assessing at that scale also makes benchmarking possible. A single score tells an operator very little. The same score means a great deal placed against others in the same rank, against the rest of the fleet, or against the same seafarer twelve months and one development programme earlier.

It also changes how we learn from casualties. Critical decision points from a known accident can be reconstructed and put in front of serving crews. No simulation can tell us what another crew would have done aboard El Faro. But placing that emergency in front of our current pool of seafarers tells us how the people we employ today would handle it.

And if a significant proportion of them reach the same decision point and make the same call, the lesson from that casualty has not been learned. It has only been documented.

Shipping will not abandon certification, nor should it. But the certificate tells us someone was ready on the day they were examined. Behavioural competency tells us how they are likely to perform alongside the specific people we have placed around them, on the day it matters.

The Human Element has always been there. We are finally developing the means to see it. What matters now is what we do with what we find.

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