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Abstract: **North Sea Construction Workers Sensemaking**

Background

Research into accidents in complex socio-technical systems recognises the influence that organisational factors have on operational safety (Turner, 1978; Reason, 1997). High Reliability Organisation (HRO) theory suggests that safety, especially in tightly coupled and interactively complex work environments, is the result of good organisational design (Roberts, 1990; Weick, 1987)

The original HRO study group related to US nuclear power plants, US nuclear powered aircraft carriers and US air traffic controllers, but other high-hazard industries e.g. petrochemical plants and offshore oil and gas platforms are now considered as HROs (Cox et al., 2006). Recent developments in HRO theory state that reliable safety performance in these organisations can be achieved by the use of a particular form of sensemaking that, when used adaptively, makes use of the on-going, unknowable, unpredictable streaming of experience that can characterize work in such organisations. (Weick et al., 2005, Weick, 2001; 2009).

Sensemaking at the Workface on Offshore Oil & Gas Platforms

Organisations in high-risk endeavours expend a lot of time and energy to ensure operational safety. In particular, there has been increased focus on UK North Sea oil and gas assets following the Gulf of Mexico Deep Water Horizon blowout in 2010. This type of catastrophic event leads to in-depth analyses of operational factors that contribute to accidents, and inevitably lead to new, tighter operating rules and, and increased procedural demands being placed on those charged with performing physical work activities.

While based on good intention, in practice the effect of increasing organisational structures may inadvertently demand risky practices, for example, by setting standards that are impossible to meet (Grabowski et al. 2007), or by failing to sufficiently encourage risk aversion (Grabowski & Roberts, 1997). Additionally, compliance structures can vary across organisations with different arrangements being in place for monitoring and detecting violations and communicating information to organisation's members (Edelman & Suchman, 1997).

Oil and gas platforms are relatively small; in often confined, busy, noisy environments, workers construct transient work areas, the nature of which means they are visible and obvious to others. At the same time, they interpret and make sense of the emergent hazards they encounter as a result of others performing tasks concurrently in tightly-coupled 3D space around them i.e. in a side-by-side or above-below relationship.

In the midst of on-going construction activities, there is a need for a constant, local interpretation of the safeness of the working environment. Workers make sense of dynamic, intrinsically risky work environments, and at the same time account for their own safe performance during day-to-day activities.

There is an assumption that by being compliant with organizational safety rules and procedures, construction workers will be directed towards safe working practice. However, as Suchman (1983) points out, the procedural structure of organisational activities is the product of the orderly work of the setting, and not just a reflection of some enduring structure that stands behind that work. Hughes et al. (1994) also state that, it is through the social practices, of which the setting's orderly work consists, that process emerges.

This research aims to explicate the 'real world' practices of safe working among workers engaged in a large-scale refurbishment project on an oil and gas production platform in the North Sea.

By collection of ethnographic data (daily dairy notes, audio recordings of structured and unstructured interviews, and photographic media, including video recordings), this on-going PhD research will use ethnomethodologically informed ethnographic analysis to assess if construction work in this conspicuous setting can be explicated in terms of locally accountable practices, or be seen to support sensemaking purported to be found in HROs. Preliminary data analyses suggest promising ways in which the role of ethnographic approaches could make a significant contribution to the way we view how North Sea Construction workers use sensemaking to stay safe in a hostile environment, with the future potential of developing the role of ethnography in other high-risk industries.

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