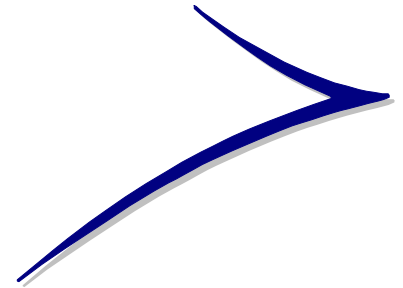


To err is human...



Most accidents are caused by performance failure ('human error') – but how do we assess the risk?

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Waiting to happen

Human error is inevitable. Up to 90% of all accidents in the workplace have human error as a cause.

Performance or organisational failures have been key factors in most major accidents such as Bhopal, Chernobyl, Piper Alpha, Valdez, Hillsborough, etc.

A 2004 study estimated that 850,000 medical errors occur every year in UK hospitals, resulting in 40,000 deaths.

Despite this, risk assessment methods are often technically focused or retrospective - looking at known past problems, not future unknown ones.

But humans have an almost infinite capacity to invent new ways to fail.

Complex is hard

Complexity is part of the problem. 'Human factors' is a fragmented science, with highly specialised aspects such as ergonomics and human reliability. There are also confusing layers of error - violations, mistakes, lapses, slips, and so on.

Organisations are networks of people. Like individuals, their reactions to threat are often driven by fear, perceptions, habit or emotion, rather than by rational analysis of risk.

As a result, many employers don't know where to start with human-error risk assessment. It is easier to fix technical issues, write procedures, analyse tasks, or train and assess.

Missing the point

A common mistake is to assume that human error is mainly about people at the sharp end. In 1990, Reason identified that active failures at the process interface are almost always influenced by human errors in the wider organisation ('latent' failures).

In other words, high-level managers, professionals and designers may be a key source of error. Some sectors are especially prone to a culture of denial, assuming that professionals are error-free and cannot be challenged except by their peers.

Keep it simple

What might help is a simple process to kick-start assessment of the real risk of human performance failure.

One option is a 5-step approach using standard risk assessment principles, but applying a novel twist.

The key is to map critical roles in your organisation and analyse the risk of human failure, so you can set priorities for action or more research:



People in industry are used to thinking about major hazards - events such as fire, emissions, explosion, or transport crash that can cause harm or loss. But service sectors also have hazards such as patient harm, fraud, financial loss, IP loss, or litigation.

When it comes to assessing impact severity of hazard *effects*, think outside the box, consider a range of possible effects and severity levels, and use a structured scoring system.

Factoring in the human

None of this is new. The twist comes in the next step, which is critical to success but all too often neglected.

Map key competence roles from top to bottom in the organisation, including contractors. Start from scratch, use a matrix of role types and think beyond organisation charts and job descriptions.

Be realistic about responsibilities and role or team interactions - and don't forget abnormal events.

With a robust role map you can then assess *Performance Failure Likelihood* (the probability that failure will cause an unsafe situation to arise), against *Performance Failure Types* (the factors that cause human error).

By combining impact severity with failure likelihood for roles you can rank criticality and set priorities.

Tracking the process

Rowanhill's simple RoleTrak software can guide you through the process. It includes generic job types and a matrix structure to help you build a comprehensive role map for any organisation within an hour or two.

It uses built-in hazard-effect types and performance failure types. Once you have scored severity and likelihood, it calculates probabilities to produce a rank order of error risk.

Designed with maximum flexibility in mind, it gives you freedom to replace built-in parameters with your own risk assessment model, likelihood factors, and scoring ratios.

It has an easy user interface, and has been tested extensively by managers on high-risk sites, from operations, risk management, HR, and Training.

Demystify human error

It's time to take the mystique out of human factors, and to tackle complex issues in a simple (not simplistic) way.

The RoleTrak process does not set out to be a substitute for detailed study of specific error situations. But it is a low-cost way to identify critical risks and to set priorities for action.

To err is human. Failing to assess the risk of human error is unforgivable.

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