

Safety-II as disruptive innovation

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The field of safety management has operated within the same paradigm for decades: finding and fixing things that go wrong, reactively and predictively. Much of the safety management of previous years can be seen as an expression of Safety-I thinking, as defined by Erik Hollnagel. What is now underway now is a change in thinking that could radically redefine the field.

The Safety-II paradigm can be seen as a paradigm shift and, like most others, a disruptive shift in how we see, understand and respond in the world. Safety-II can be seen as disruptive innovation because it changes the area of interest and the market for safety, in a way that we didn't really expect. For Safety-I this is fairly small; the tiny proportion of unwanted 'abnormal' events and a relatively small number of people. For Safety-II it is huge; all activity, especially normal work, and a much larger number of people.

Many innovations have had disruptive effects throughout history, and the pace of these innovations increases: consider email and letters, electronic files and printed paper, websites and books or magazines, text messaging and telephones. In many cases, the disrupted technology is displaced fairly quickly (such as floppy disks and film cameras). In other cases, the disrupted technology does not fade into disuse, or else this only happens over a very long period. Instead, it coexists alongside the disruptive technology, though it is used in a different way – qualitatively and quantitatively. Paper letters are still used, albeit more for formal purposes or very personal purposes. The paperless office never did arise; we still need and want to print and have paper copies. We still love paper books and magazines, and find the hard-copy format useful. And we still need and want to speak with people on the telephone.

Similarly, disruptive innovation does not necessarily supplant or replace, but performs functions that the old technology was unable to perform, or unable to perform as effectively. We are now able to do much more because we can store and access a vast range of material without need for physical storage or printing. We might send tens of emails in emails in a day, all around the world, and have a response in minutes. We never previously sent this number of letters, not did we ever use letters or memos in quite this way. Wikipedia is edited at will, and by a large number of people. This was never possible with paper encyclopaedias. SMS is used in a way that the telephone was never used.

Similarly, Safety-II, as defined by Hollnagel, does not replace or supplant Safety-I thinking or methods. Like paper, letters, physical books and magazines, and phone calls, we still need and want to avoid things going wrong. But as systems become more intractable – more complex and difficult to analyse, understand and predict – we increasingly lose something, and this is something that Safety-I cannot deliver. We lose an understanding of how the system works. Safety-I cannot give this understanding as it focuses on a tiny aspect of system functioning – those occasions where the system fails (or where we think it could

fail). It also works with a more detached view of systems and work, and with a relatively small number of people.

Safety-II changes safety management, and it changes us. It reminds us that things usually go right, in spite of a variable and often unforgiving – sometimes hostile – environment. It reminds us that we need to look not only at systems-as-imagined, but also systems-as-found; not only work-as-imagined, but also work-as-done; not only at the human as a hazard, but also the human as a resource, not only what goes wrong in exceptional events, but also what goes right in everyday work.

Whether this way of thinking takes hold among safety practitioners may depend how well we can get over our [personal barriers to new thinking](#) (especially lack of knowledge, fear, pride, habit, conformity and obedience). It also depends how well we collectively can overcome some [system barriers to new thinking](#) (especially goals, demand, rules and incentives, measure, methods, education). Some find the disruption too much, triggering not just healthy skepticism, but maladaptive personal barriers and defence mechanisms. Others have worked on their personal barriers, but remain in a system of seemingly overwhelming constraints. For these, the immediate situation is challenging. Once you have seen something in a new way, you cannot unsee it, and Safety-II is, to me, first a way of seeing (including what, where, who, how, when and why we see). The options available to the changed mind in an unchanging collective mindset are to: a) continue to working solely in the old way (which may trigger frustration and maladaptive responses); or b) to start to integrate the new way, perhaps by stealth – staying under the radar to prevent the triggering of the organisation's own maladaptive defence mechanisms. Once there are sufficient data on the utility of the new approach, along with sufficient working alliances with people in positions of influence at various levels of the organisation, the approach will speak for itself and decision makers and those with influence will see the systemic benefits.

As with the rise of other paradigms, events may overtake us if we fail to adapt. Understanding how ordinary work succeeds is pertinent to a much broader range of people than safety specialists, for a very good reason: It relates not only to safety, but to system effectiveness. It appeals to a more inclusive goal structure and value system, a more realistic business model, and (therefore) a broader range of people and interests. So we should not be surprised when others embrace safety as 'ensuring things go right'. Those who see value in this approach, in my experience so far, are many. They include front-line operators, other specialists, middle managers and senior managers; people who are not just 'safety specialists'. As this knowledge is vital to organisational effectiveness – to survival and growth – progressive safety specialists who see the benefits of understanding how the system really works become an essential source of intelligence, insight and feedback about the system – the real system.

Reference

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