



→ **Dr. Lianne M. Lefsrud, P.Eng.**  
Risk, Innovation, and Sustainability Chair (RISC),  
University of Alberta, Canada

---

# What is the value of risk management?

---

Effective safety and risk management are effortful non-events. It is difficult to prove that you have prevented an accident that does not happen. So, how can we understand the value of risk management: the avoidance of low-probability losses versus certain productivity gains say from shortcutting?

---



# To answer this question, we can look to the costs of incidents and the benefits of improved operations.

In the United States, the average cost of a medically-treated injury is \$40,000 and the cost per death is estimated at \$1,390,000.<sup>1</sup> Overall, in the U.S. in 2022, the total cost was estimated at \$167 billion per year.<sup>2</sup> The cost of injuries in Canada was estimated as \$29.4 billion in 2018.<sup>3</sup> In Europe, workplace incidents are estimated to cost €476 billion annually.<sup>4</sup> Overall, the associated losses of production loss, absenteeism, medical treatment, and compensation equate to 3–6% of countries' gross domestic product (GDP).<sup>5,6</sup>

Workplace incidents are expensive for companies too. Each 1% increase in the rate of occupational accidents led to a decrease of: 1.7-2.0% average sales per employee, 7.3-8.5% in operating profit per employee, 1.1-1.2% operating profit to sales, and 2.6% sales growth rate.<sup>7</sup>

For high-consequence 'worst-case' incidents, the financial impacts are even greater: the BP Deepwater Horizon explosion resulted in a cost of over \$65 billion U.S. in environmental risks and legal liability. Negative publicity creates reputational risk and affects companies and stock price. Announcement of a workplace incident results in a decline of approximately 2.4-2.9% in stock value.<sup>8</sup>

Environmental releases/pollution lead to conflicts over community health and safety and regulatory delays, cost escalation, and the suspension or abandonment of projects. "[A]s a result of conflict, a major, world-class mining project with capital expenditure of between US\$3 and US\$5 billion was reported to suffer roughly US\$20 million per week of delayed production in net present value terms."<sup>9</sup>

If your company is not managing its risks, stakeholders presume that it is probably not managing its operations very well either.

"Poor operational performance is, in large part, caused by poor operational risk management",<sup>10</sup> leading to an average performance loss of 37%.<sup>11</sup>

Given these costs, safety is often seen exclusively as the avoidance of loss, rather than as an investment. Risk managers – often safety guys who are sidelined from the operations – are viewed as loss managers or compliance cops, telling operations and senior executives what they cannot do, versus what they can.<sup>12</sup>

**Besides the avoidance of loss, risk management also generates value: higher productivity, efficiency, quality; better company image; and greater capacity to learn and innovate.** Research on 18 case studies of workplace safety initiatives show an average increase of 15-25% in operational reliability,<sup>13</sup> 82% in safety performance, 66% in productivity, 44% in quality, and 71% in cost benefits.<sup>14</sup> See Figure 2.

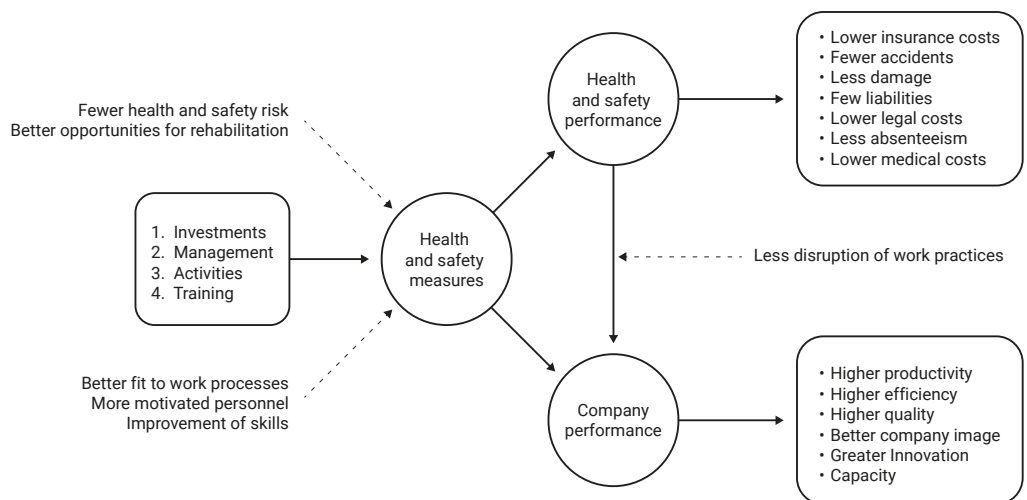


Fig 2: Risk management avoids losses and enhances performance

Risk management ensures that companies clarify objectives, align resources, and develop capabilities to prepare for the unexpected, which leads to better informed strategic decisions and increased operational efficiency. It also ensures compliance with applicable governance requirements, assurance to stakeholders regarding the management of risk and improved decision making. As a result, companies with mature risk manage-

ment systems are valued as much as 25% higher.<sup>15</sup> Despite this, only 3.4% of organizations have mature processes to actively identify, evaluate, and manage their risks. Thus, risk management is a market differentiator.

The management of risks cannot be handled off the side of someone's desk, as a 'special project' or left to occupational safety folks. Instead, improving risk man-

agement requires the attention of senior leaders to understand the predictor variables and embed measures of Key Risk Indicators (KRIs) into your company's everyday operations and management systems. What gets measured gets managed. Conversely, what does not get measured, does not get managed and could 'surprise' you later (*scare quotes intended*).



## In sum: Risk management is core to your company's success in terms of avoidance of loss and performance gains.

**IT REQUIRES DEDICATED SENIOR EXECUTIVE ATTENTION**

*Take action now to protect and enhance your organization's performance, contact:*

**Dr. Lianne Lefsrud, P.Eng.**

Risk, Innovation and Sustainability Chair (RISC)  
780.951.3455 | lefsrud@ualberta.ca

<sup>1</sup> National Safety Council, work injury costs: <https://injuryfacts.nsc.org/work/costs/work-injury-costs/>  
<sup>2</sup> National Council for Occupational Safety and Health (National COSH) [https://nationalcosh.org/2023-11-Millions-injured-ill-at-work-in-2022#:~:text=The%20National%20Safety%20Council%20estimates%20the%20true.and%20fatalities%20at%20\\$167%20billion%20a%20year](https://nationalcosh.org/2023-11-Millions-injured-ill-at-work-in-2022#:~:text=The%20National%20Safety%20Council%20estimates%20the%20true.and%20fatalities%20at%20$167%20billion%20a%20year), citing US Bureau of Labor Statistics (BLS) <https://www.bls.gov/news.release/osh.nr0.htm>  
<sup>3</sup> <https://www.canada.ca/en/public-health/services/injury-prevention/cost-injury-canada.html>  
<sup>4</sup> European Agency for Safety and Health at Work (2017) Work-related accidents and injuries cost EU €476 billion a year according to new global estimates. <http://www.icohweb.org/site/images/news/pdf/Safety%20and%20health%20at%20work%20-%20EU-QSHA%20-%20Work-related%20accidents%20and%20injuries%20cost%20EU%20%E2%82%AC476%20billion%20a%20year%20according%20to%20new%20global%20estimates%20-%202017-09-01.pdf>  
<sup>5</sup> Marks, N. (2011). Navigating Risk Management. Internal Auditor, 68, 26-33.  
<sup>6</sup> Safe Work Australia., 2019. Key WHS statistics Australia 2019-Costs of work-related injuries and diseases 2019. URL: <https://www.safeworkaustralia.gov.au/book/costs-work-related-injuries-and-diseases-key-whs-statistics-australia-2019>  
<sup>7</sup> Kim, D. K., & Park, S. (2021). An analysis of the effects of occupational accidents on corporate management performance. Safety Science, 138, 105228.  
<sup>8</sup> Kabir, Q. S., Watson, K., & Somaratna, T. (2018). Workplace safety events and firm performance. Journal of Manufacturing Technology Management, 29(1), 104-120.  
<sup>9</sup> Franks, D. M., Davis, R., Bebbington, A. J., Ali, S. H., Kemp, D., & Scourrah, M. (2014). Conflict translates environmental and social risk into business costs. Proceedings of the National Academy of Sciences, 111(21), 7576-7581.  
<sup>10</sup> Belluz, D. D. B. (2009). Operational risk management. Enterprise Risk Management, p. 552.  
<sup>11</sup> Mankins, M. C., & Steele, R. (2005). Turning great strategy into great performance. Harvard Business Review, 2607.  
<sup>12</sup> See the concluding chapter of Dekker, S. & Conklin, T. (2022) Doing Safety Differently. CRC Press, Taylor and Francis.  
<sup>13</sup> Olise, P., Opoku, L. K., & Mensah, N. (2025). The impact of advanced safety leadership training programs on reducing workplace accidents and enhancing asset reliability in US industrial sectors. <https://doi.org/10.30574/ijstra.2025.14.1.2594>  
<sup>14</sup> Maudgalya, T., Genaidy, A., & Shell, R. (2008). Productivity-quality-costs-safety: A sustained approach to competitive advantage—a systematic review of the national safety council's case studies in safety and productivity. Human Factors and Ergonomics in Manufacturing & Service Industries, 18(2), 152-179.  
<sup>15</sup> Farrell, M., & Gallagher, R. 2015. The valuation implications of enterprise risk management maturity. Journal of Risk and Insurance, 82(3): 625-657.