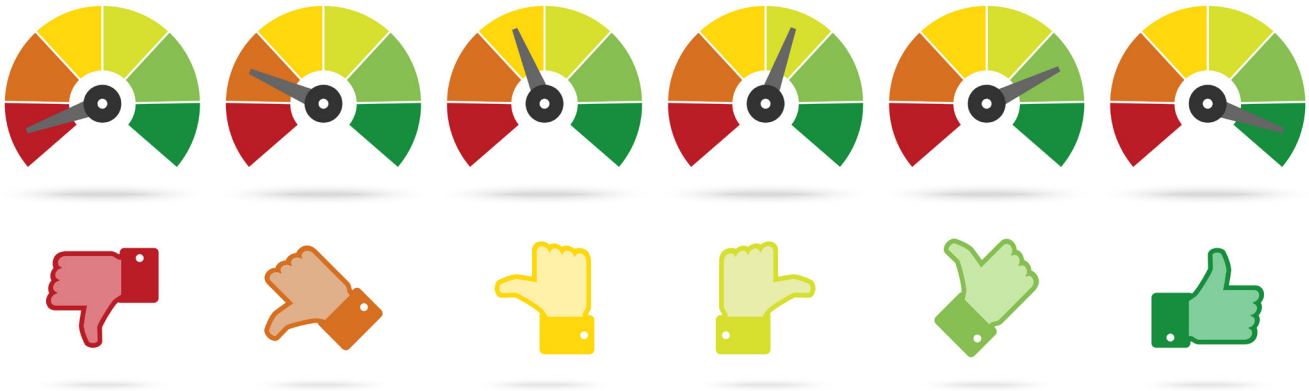
Arthur D Little

Viewpoint

Transforming business resilience

Implementing key risk indicators

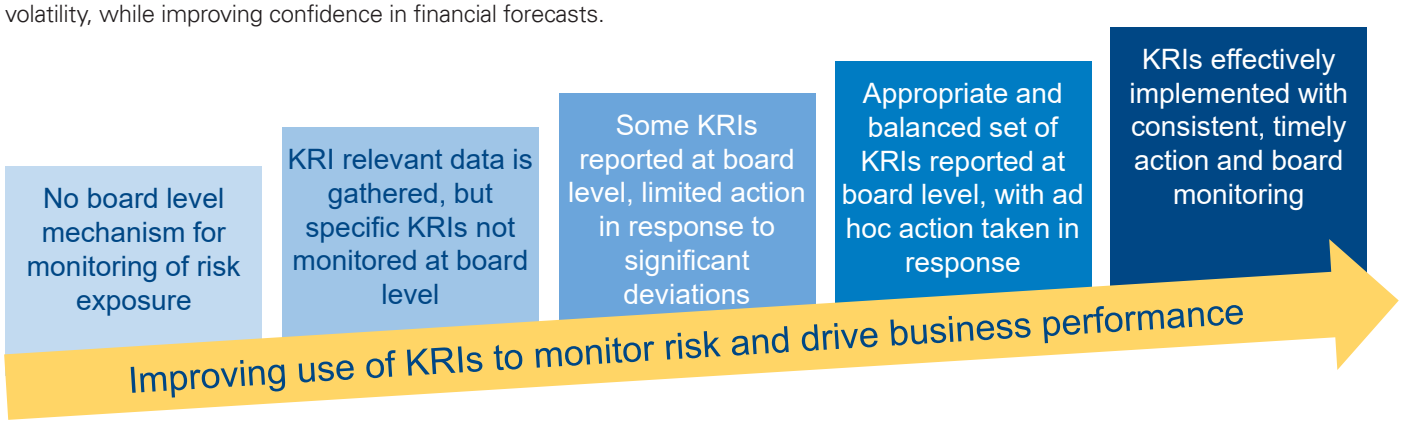


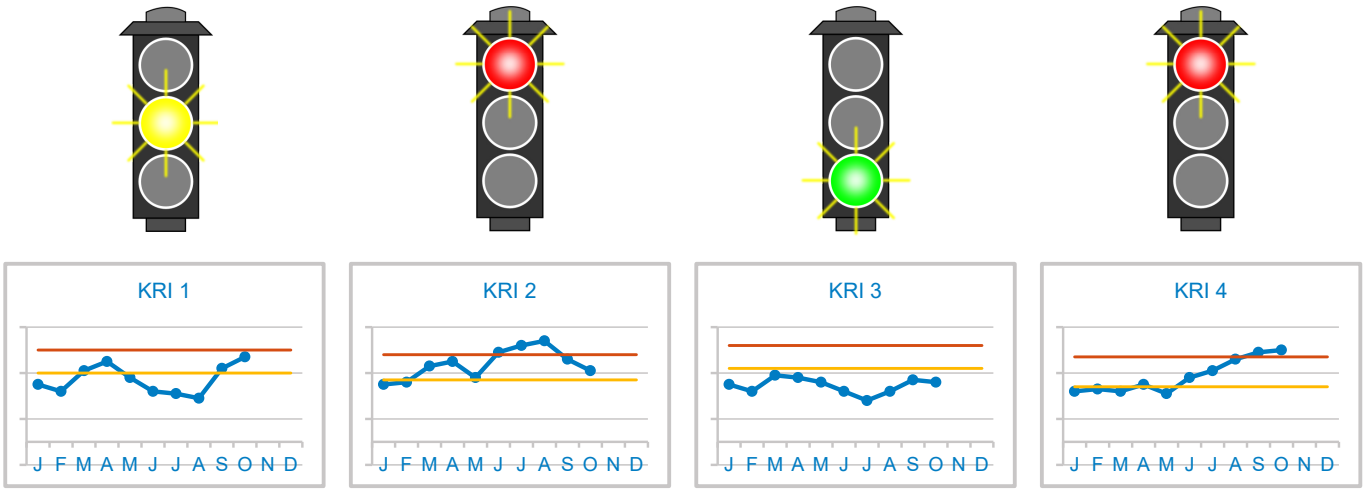
The risk landscape of the modern business environment is constantly evolving, and companies need to maintain continuous oversight to deal with key risks that could threaten their businesses. Over the past decade, a number of high-profile corporate crises, many directly attributed to failures in risk management, have highlighted the extent of the problem. Notable recent examples include the collapse of UK construction giant Carillion and the cyber attack on shipping and energy company A. P. Moller Maersk. Corporate boards are demanding the ability to continuously monitor risk exposure, using metrics to assess, validate and verify whether risk is increasing or decreasing. In addition, companies stand to benefit financially from reducing their total cost of risk (TCOR).

Risk monitoring maturity

Risk management is a growing priority for companies across all sectors, not just in highly regulated environments. Senior leadership needs to better monitor risk to support improved decision-making, as well as to minimize the likelihood of catastrophic events with crippling financial and reputational consequences. This is not a task a dedicated risk function can manage independently of the rest of the organization, so a cross-functional approach at executive level is required to guarantee results. Additionally, there is a growing regulatory obligation on companies to make statutory disclosures about financial viability, solvency and liquidity in light of their key risks. This is coupled with pressure from active investors to provide evidence that risk management is reducing uncertainty and volatility, while improving confidence in financial forecasts.

However, there are shortfalls in the current risk management approaches of many companies that can leave them dangerously exposed. They either have no corporate-level mechanisms for monitoring and acting on risk exposure, or they gather relevant data but fail to develop appropriate metrics to support effective monitoring, control and timely remediation. These metrics can take the form of key risk indicators (KRIs), which can be used at all levels of management to measure the effectiveness of risk management strategies. Even when companies do employ KRIs, they frequently select inappropriate ones (for example, relying too heavily on lagging rather than leading indicators) or struggle to implement effective monitoring environments that will provide early warning when their risk management strategies are off track.





The maturity of a company's approach can vary enormously, even though this methodology has existed for some time. Many organizations operate in the first two boxes of the simple maturity model illustrated on the previous page. Although insufficient KRI-related maturity assessments have been conducted to develop a robust universal benchmark, our experience of assessing maturity suggests that most companies, even those conforming to Fortune 500 best practices, lie towards the lower end of the maturity scale, and usually lower than where senior management thinks they are operating.

Selecting key risk indicators

Choosing effective KRIs is not a simple process; the following characteristics need to be considered:

- Strategic relevance to the business and its objectives.
- Alignment with the organization's true risk exposure, with coverage of all major risk areas.
- Specificity, measurability and objectivity.
- Basis in data-driven, cause-and-effect analysis.
- An appropriate number of indicators for reporting.
- Balanced use of leading and lagging indicators.

Lagging indicators are measurable outcomes that inform us about what has happened (e.g., frequency of adverse events), while leading indicators act as predictors of future outcomes (e.g., compliance with procedures relevant to the prevention of those events). Leading indicators are necessary to enable proactive intervention before an adverse event occurs, but lagging indicators are also required because they are grounded in actual observed outcomes.

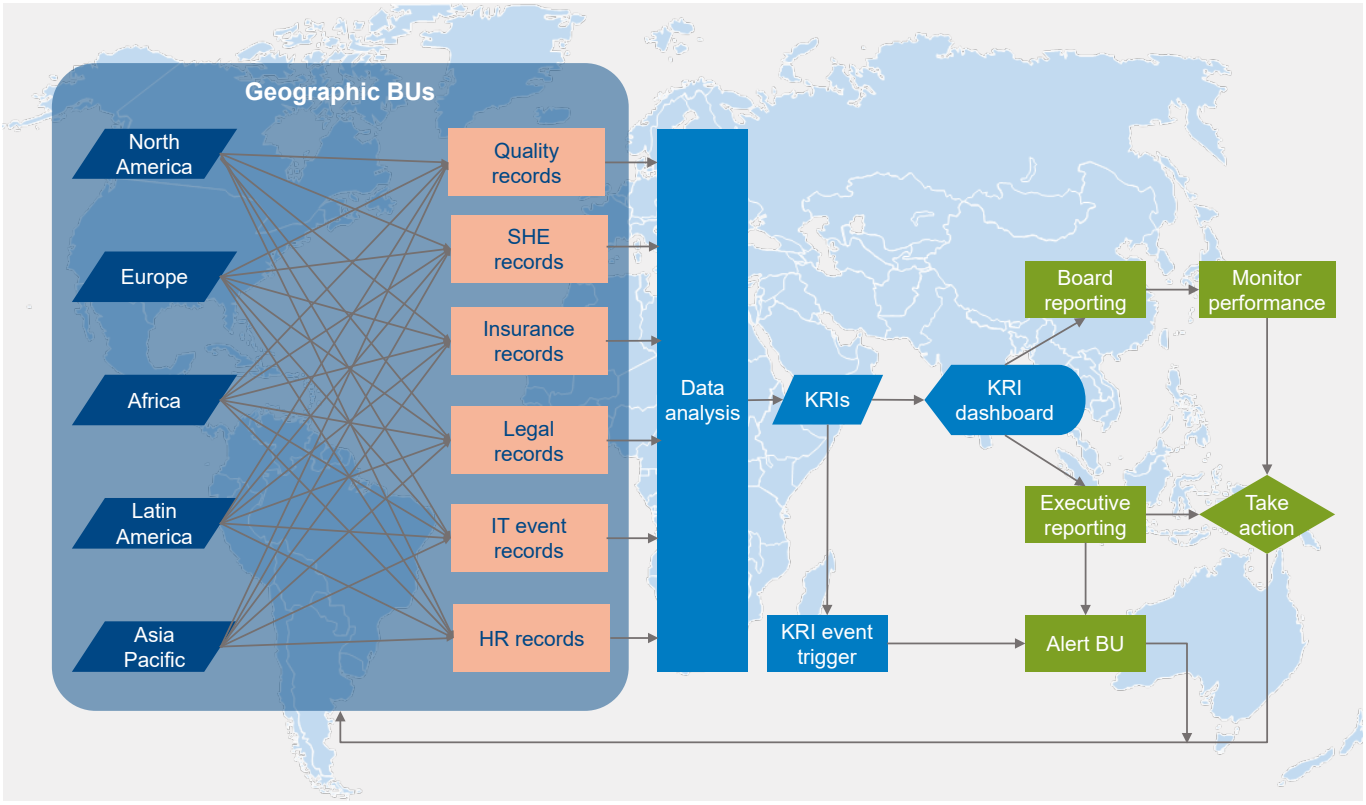
The rail industry in the UK is a clear example of how shifting focus towards leading indicators results in better management of safety risk. A number of railway accidents that occurred in the UK in the 1990s were caused by precursors that, although they were being monitored beforehand, in hindsight could have been better understood and managed. Train collisions were the result of trains passing through signals at danger, and derailments were a result of failures in track maintenance arrangements. Following these incidents, the rail industry shifted its focus to more comprehensive monitoring and analysis of these precursors together with improved understanding of what made them more or less likely to lead to accidents. Since 2007 there have been no passenger-train derailments or crashes leading to fatalities.

Implementing key risk indicators

Another reason companies fail to make effective use of KRIs is that while they may select relevant and useful indicators, and in many cases already possess most of the relevant data, they fall short of implementing systems to monitor and manage them proactively. Implementation is often more of a challenge to get right than identifying and selecting the right KRIs, something that many boards overlook in favor of simply deciding on KRI profiles and leaving it to the subdivisions of the organization to measure them and report back.

Furthermore, many organizations fail to commit to full implementation, citing lack of resources and capital, once they understand the complexities and effort required to deploy an effective monitoring environment. Features of effective KRI implementation should include the following:

- Appropriate limits and monitoring for their breaches.
- A "traffic-light" system for assessing the severity of breaches, with "amber" levels representing the organization's risk appetite and "red" levels representing the threshold for senior-leadership intervention.
- A data-driven approach to determining KRI thresholds, relying on actuarial data as far as possible, and expert judgement where this is unavailable, rather than pure estimation.



- Thresholds for intervention that correspond to conditions of genuine threat only, to avoid excessively frequent alarms and a resulting sense of complacency.
- Effective communication processes to ensure that the right information gets to the right level at the right time.
- Maximum use of existing data already available within the organization, removing barriers to implementation by reducing the additional workload of gathering new KRI data.

A typical "traffic-light" system is illustrated on the previous page, showing KRI performance by month, with different responses depending on the threshold exceeded.

Major crises, including industrial accidents such as the BP Deepwater Horizon oil spill, and financial collapses such as those preceding the global recession of 2008–2009, are usually to some extent unpredictable. However, the risk of such events can be managed if the right data and events are effectively captured across the organization, stored, processed, and visualized to support decision-making and timely intervention. In order to consolidate this data into a form that is usable for this purpose, management should consider the use of digital patterns, such as event-driven architectures that:

- Are designed to create insight from data that is locked into existing systems and was previously costly or difficult to access.
- Are visualized through a near-real-time dashboard in a time frame which enables the management team to make a difference to the outcome.
- Use consumer commodity and open-source technology, which can be implemented quicker and significantly more cost-effectively than traditional enterprise integration approaches.

A typical corporate arrangement is illustrated above. This demonstrates how the complexity of a full set of company-wide data necessitates the use of a technology-based platform to process the data and issue alerts as close to real time as possible.

Insight for the executive

The effective implementation and adoption of KRIs to support improved decision-making and performance improvement can be an involved and complex task for any organization. For risk management to be seen as an effective mechanism for achieving business objectives and delivering the overall corporate strategy, a pragmatic approach should be adopted that balances simplicity with innovative, technology-led solutions. Executives committed to improving risk reporting, getting better understanding of the effectiveness of controls across various operations, and addressing emerging threats early in the process should consider adopting the following steps:

- Develop (or redevelop) an appropriate, balanced set of KRIs, ensuring proper alignment with the needs and strategic goals of the business, ease of measurement, and the ability to provide objective evidence of whether key exposures are being effectively dealt with on a timely basis.
- Determine appropriate, data-driven limits for these KRIs. Where KRI monitoring has not been implemented previously, a simpler approach with a single limit for each KRI could be considered, with a view to developing a traffic-light system (as illustrated previously) in the longer term.
- Implement a proof of solution (POS) for a number of selected KRIs to demonstrate the technology solution, define the route to scale across the organization, explore adoption techniques to ensure take-up, and identify benefits resulting from the reporting output.
- Be prepared to commit time and resources to the development of an effective KRI-monitoring environment – the scale of the task should not be underestimated, but the return on investment is soon achieved through reduced insurance premiums, reduced uninsured losses, reduced risk management costs and improved credit ratings.
- Consider the level of detail and format of reporting that will enable effective decision-making, ensuring that critical information is not omitted, while not burdening senior management with excessive detail.
- Be prepared to use KRI information to inform all levels of management in order to ensure that these indicators are used to drive appropriate action – prompting timely investigation and intervention at appropriate levels when a risk limit is breached – and to avoid adverse financial and reputational impact.

A proactive approach is therefore required for KRI development and implementation with clear sponsorship and commitment at executive level, thereby preventing reversion to a passive risk management approach. It should act as an enabler to drive decisive action to preemptively manage risks, reduce TCOR, improve financial performance and provide the right level of board assurance that risk is being taken on a "controlled and informed" basis.

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Arthur D. Little has been at the forefront of innovation since 1886. We are an acknowledged thought leader in linking strategy, innovation and transformation in technology-intensive and converging industries. We navigate our clients through changing business ecosystems to uncover new growth opportunities. We enable our clients to build innovation capabilities and transform their organizations.

Our consultants have strong practical industry experience combined with excellent knowledge of key trends and dynamics. ADL is present in the most important business centers around the world. We are proud to serve most of the Fortune 1000 companies, in addition to other leading firms and public sector organizations.

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