

STRATEGY

A Playbook to Anticipate and Prevent Disasters

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Most disasters are predictable surprises that can be avoided.

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In April 2019, a fire severely damaged the Notre Dame de Paris cathedral. Two months after the disaster, the Paris public prosecutor's office released the results of its preliminary investigation. Arson was ruled out as no one had broken into the cathedral and no traces of gasoline were detected in the roof debris analysis. Two theories were put forth to explain how the fire started. The first theory is a poorly extinguished cigarette. Workers admitted to smoking on the scaffolding outside the building and cigarette butts were found at the foot of the scaffolding. The second theory is an electrical short-circuit. Several electrically-operated bells had been installed in the cathedral roof. Workers had stored some of the scaffolding in the roof space, which may have damaged the bells' electric wiring and triggered a short-circuit.

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As most disasters, the fire at Notre Dame was not only due to errors made by frontline workers, but also to errors made at the decision-making and organizational levels. Two “latent” errors increased the risk of fire. First, the alarm system was flawed. It relied on detection and rapid human intervention rather than automatic extinction. It was also difficult to use and not maintained properly. Second, safety was not a priority at Notre Dame. Although renovation work was under way in early 2019, there was little surveillance of the site and workers did not always follow safety rules.

Like many other disasters, the fire at Notre Dame was a predictable surprise that could have been avoided.¹ Predictable surprises can be defined as *“any event or set of events that take an individual or a group by surprise, despite prior awareness of all the information necessary to anticipate the events and their consequences.”*² They have four main characteristics.

First, leaders know that problems exist and that they will not solve themselves. Fires are frequent in historical buildings, especially during renovation work. The flaws of the Notre Dame fire alarm system had also been documented by the French National Centre for Scientific Research (CNRS), but its recommendations were never acted on.

Second, organizational members realize that the problems are getting worse. At Notre Dame, the Regional Cultural Affairs Department (DRAC) was in charge of operating the fire alarm system. It did not maintain the fire alarm system adequately and did not ensure sufficient site safety. As a safety guard observed: *“A shopping mall with as many visitors as the cathedral has a team leader and eleven security guards. At Notre Dame, from one year to the next, they cut down the number of fire safety guards until in the end there was only one left.”*

Third, fixing the problems involves significant costs in the short run, whereas potential benefits only materialize in the long run. At Notre Dame, the preliminary investigation made clear that there had been an *“apparently deliberate violation of a duty of prudence or safety laid down in the laws or regulations at Notre Dame.”* Avoiding potential disasters requires upfront investments that the DRAC was unwilling to make.

Fourth, fixing the problems involves challenging the status quo. The priority of the architect of historic buildings who developed the fire protection system of Notre Dame was to avoid “mutilating” the wooden roof frame. Thus, he never reconsidered the original decision to rely on detection and rapid human intervention rather than automatic extinction. The clergy also took advantage of the low safety standards at Notre Dame to install electric bells in the wooden roof of the cathedral.

Predictable surprises can happen in any organization. The following four-step playbook can help leaders and organizations anticipate and prevent them.

Step 1: identify problems. To increase the likelihood of identifying problems, leaders must enable information to flow from the bottom to the top of the organization by fostering a climate of psychological safety. This involves setting the stage for open discussions, inviting participation by asking questions such as *“what predictable surprise is currently looming in our organization?”* and rewarding frontline workers for reporting problems instead of punishing them.³

Step 2: acknowledge the problems that have been identified. Leaders often fall prey to the optimism bias (the belief that nothing bad will happen) and the illusion of control (the belief that events are more controllable than they are). Both biases can prevent them from acknowledging problems, even if they have been identified. Taking an outsider's perspective and looking at a set of comparable organizations instead of extrapolating from the organization's history can help leaders overcome the optimism bias and the illusion of control.

Step 3: respond to the problems that have been identified and acknowledged. Biases such as the tendency to discount the future and the reluctance to inflict a small harm now to avoid a potentially greater harm in the future can prevent leaders from responding to problems, even if they have been identified and acknowledged. A useful technique to overcome both biases involves "time traveling" to the future and finding out that a disaster has occurred due to a poor decision made in the past.

Step 4: make sure that the responses to the problems remain effective over time. Even if an organization has responded to problems, disasters may happen because of a phenomenon known as the normalization of deviance.⁴

Over time, standards and procedures tend to become less effective. Leaders should detect and eradicate deviant behaviors and practices before they become entrenched. Here again, nurturing a psychologically safe environment is useful because it facilitates information flows within the organization. Visualizing a potential disaster can also help leaders realize that the deviance is worth remediating, even if the likelihood of a disastrous event remains low.

In sum, most disasters are actually predictable surprises. The four-step playbook I introduced in this short article can help leaders and organizations anticipate them and prevent them from happening.

References

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