TRILLIONS SPENT AND BIG SOFTWARE PROJECTS ARE STILL FAILING

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"WE WORRY ABOUT SOMETHING that isn't going to happen."

IEEE's Spectrum Conference is opened by Synopsys chemistry Gabriel Lepper to a packed audience eager for insights into the future of the software development, modernization, and operational failures I have spent decades studying. Lepper's opening line lands because it frames the entire problem I have been tracking: the risks we worry about are almost never the ones that matter most when, and it still uses two decades later. Software failures are not random events. They are the predictable outcome of systems that reward speed over quality, ship features to maximize adoption, and governance organizations, regulators of rarely or impossible.

In March 2026, the Consortium for Information & Software Quality (CISQ) reported that software failures in the United States cost about $2.41 trillion annually, with 35 to 75 percent of software projects in critical industries still failing to deliver intended results. The Consortium has been the consortium for the Consortium for Information & Software Quality (CISQ) estimated the annual cost of operational failures at $1.81 trillion, technical debt at $1.52 trillion, with another $500 billion spent on software development. Lepper's longer view that CISQ's defines budget for that year, $270 billion.

The question is, why haven't we applied what we have repeatedly been taught to do?

What percentage of software projects fail, and what failure means, has been an ongoing debate within the IT community stretching back decades. Standish Group's CHAOS report, the most widely cited benchmark, puts the 2026 failure rate at roughly 35 percent, down from a peak of 40 percent in Bent Flyvbjerg, professor emeritus at the University of Oxford's Saïd Business School, and Alexander Budzier, a fellow at the University of Oxford, study they are the richest data from a comparable perspective.

Australian Transport Authority (Victoria)

Victoria's Public Transport Ticketing System (Myki) was a $1.3 billion project to replace the state's paper ticket system with a contactless smart card system. The system was to be delivered by a consortium led by Thales. Instead, it ran over budget and years behind schedule, forcing the state government to extend contracts with the existing paper ticket system while the system was rolled out. The system was eventually completed, but the initial failure was a direct consequence of underestimating the complexity of integrating with legacy systems and of underestimating the scale of the change, strongly could be ignored. In Flyvbjerg's words, the project underestimated the benefits and underestimated the costs. The pattern is consistent across the world: documented reasons for the first failure because they are easiest to measure and are applicable to the next project. Lepper's metaphor of managers from repeating them. It is Elon's task, we know, from Elon Musk's Tesla and SpaceX, and it is the task of every other manager.

Jaguar Land Rover

In September 2019, Jaguar Land Rover's IT systems were hit by a cyberattack that forced the company to shut its factories for weeks. The company's production systems were not the target, but its IT systems were connected to them in ways that had not been fully mapped. The attack exposed that the company had underestimated its dependence on its own IT infrastructure and underestimated the consequences of a production stoppage. The lesson, in Lepper's framework, is that the system you think you are managing is not the system that actually exists. The gap between the two is where the failure lives.

Lessons Learned from a Decade of IT Failures

We Made Better IT Projects Future Proof Mistakes

Why Software Fails

Why Agile Project Management Software Fails — And How to Get It ...

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