



# The 5 Risks of Product Development

**R**isk assessment and mitigation in corporations is a highly complex topic. And rarely are the answers exact, no matter how much effort is expended to assess the types and levels of risk. Perhaps that is why so few corporations do a good job at it.

A recent column in *Industry Week* indicates that only 39% of corporations can quantify their risk. Within the enterprise, myriad daily internal decisions affect risk. External risks are no less challenging, with political, economic, regulatory, weather, and competitive risks becoming more common since the age of globalization. Perhaps today's external risk can best be described as "VUCA," a term first coined by the U.S. Army for Volatility, Uncertainty, Complexity, and Ambiguity.

With regard to product development risk, there is good news and bad news. The good news is that it is a smaller subject than corporate risk. The bad news is that half or more of corporate risk emanates from strategic product development risk.

**Strategic Product Development Risk:** *HBR* studied the major categories of corporate risk: Industry, Technology, Brand, Competitor, Customer, Project, and Stagnation. It looked at how specific risks could affect a company's bottom line (specifically, the percentage of earnings that could be at risk). In the first four of these categories, R&D and product development could have as much as a 40% to 70% effect. In the latter three categories, it is on the order of a 20% effect. No company function, department, or activity imparts more risk to corporate earnings than R&D and product development.

**Product Portfolio Risk:** For the past 15 years, ever since the technology boom of the late 1990s petered out, there has been a nearly steady decline in portfolio risk. Today, funding for risky innovation projects is down 80% from the last quarter of the 20th Century. Those monies have been channeled into incremental products and extensions, keeping pace with compliance and regulatory requirements. Recently, the U.S. government forecast a return to greater than 3% GDP rates. With anticipated reductions in regulations under the new administration, combined with easier access to credit, one can expect more risky projects to be undertaken in the years ahead. Yes, that is good (even great) news for product developers. But there are now almost two generations of managers with little

experience in handling portfolios full of high-risk projects. And many product developers have also become a bit rusty in achieving stretch products. Therefore, portfolio risk will be even higher going forward because experience and familiarity also need to be regained.

**Technical Risk:** Introducing new technologies too quickly can put companies ahead of the market and, as a result, products flop or have slow starts. Being late is just as risky. Markets now come and go quickly. Assuming market windows have been correctly gauged, and enabling new technologies have been introduced early enough into the pipeline to provide enough development time to achieve commercial volumes, managing the execution of technology readiness becomes paramount. Specific technical risks vary greatly by domain and discipline, but they all share one thing in common: The goal is to make money from them. Technology roadmaps identify when a technology is to be available, but do not help to assure it will be available on time.

**Supply Chain Risk:** Without delving into detail on this giant body of knowledge, but staying consistent with the earlier late 1900s vs. today benchmarks, the supply-chain impact on new product designs has now tripled. It is not uncommon to see 70% or more of product costs come from suppliers these days, versus 5 to 20% in the late 1900s. For better or worse, supply chain risk is a key risk for product and portfolio development.

**Talent Risk:** CAD systems and design automation do not invent or innovate products—people do. Some 50% to 70% of R&D spending goes to pay the people that do so. Unless the right quantity of the right people with the right skills and motivations are in place, projects will not be on time and roadmaps will not be realized. The risk of having a ready and able workforce is the linchpin of all other risks. Talent risk assessment is still in its infancy. 

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