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THE GROWING THREAT OF TECHNICAL DEBT

TECHNICAL DEBT COSTS BUSINESSES THOUSANDS OF DOLLARS A SECOND, SERIOUSLY INHIBITING THEIR ABILITY TO ADAPT AND GROW, AND IN SOME CASES SIGNIFICANTLY UNDERMINING FINANCIAL PERFORMANCE OR THREATENING THE VERY EXISTENCE OF LONGSTANDING CORPORATIONS. TAKEN AS A WHOLE, THE PROBLEM UNDERMINES TECHNOLOGICAL INNOVATION AND REPRESENTS A SERIOUS DRAG ON ENTIRE INDUSTRIES AND ECONOMIES.

Despite these risks, technical debt is a misunderstood phenomenon impacting all kinds of organizations – and it is too often ignored or reluctantly accepted because it is just a fact of life (like death and taxes). Simply put, technical debt is the coding you have to do now because of the shortcuts you took yesterday. More specifically, it's the technologies and time spent maintaining old, bad and broken code, rather than developing new ideas.

While many business leaders are aware there's a price to building software quickly but not necessarily right, few fully grasp the causes of technical debt or the true financial and strategic burden of its causes and how quickly it grows.

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Technical debt ties up financial resources and talented IT staff that could be focused on innovation and growth. Instead, companies spend precious financial resources on maintaining and patching old technology while coveted and hard-to-find technical staff are frustrated with where they have to focus their time. Because they lack an understanding of the presence and impact of technical debt, companies find it harder to craft strategies to address the problem and prevent it from worsening in the future. Technical debt grows like compound interest, further reducing the ability of organizations to maintain systems and develop new products and services. With technical debt, there is no such thing as standing still: Companies are actively addressing it or falling further behind.

And falling behind can be fatal in today's increasingly virtual economy, which places a premium on speed and innovation. The technological transformation we experienced over the past year, driven by the adoption of digital tools as the world quickly moved online during the pandemic, exposed cracks in IT departments that were burdened by technical debt. Many were unable to meet the unprecedented demand for new applications to support the business due, in large part, to the limited capabilities of their development tools and platforms. Those demands will only persist and grow, meaning it's imperative for businesses to tackle the problem of technical debt.

This report provides insights in how companies across the globe and across industries view technical debt, in terms of the cost of the problem, its causes and possible solutions. The findings are designed to create increased awareness and understanding of the issue, and spark discussions that can lead to real-world solutions.

STATEMENT OF METHODOLOGY

The findings of this report are based on a survey of 521 IT decision makers spanning enterprises (companies with more than $2.5 billion in annual revenue), commercial companies (with $1 billion to $2.5 billion in revenue), and small-to-medium businesses (with $50 million to under $1 billion in revenue).

In partnership with research company Lucid, the online survey was conducted in May 2021 across the United States, the United Kingdom, Australia, Europe, India, Brazil, the United Arab Emirates, and Singapore. Respondents come from the following industries: finance, retail, healthcare, education, business services, government and public administration, media and telecommunications, utilities, and real estate.

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A BIG BITE OUT OF BUDGETS

Technical debt takes a big bite out of company budgets and severely limits the resources businesses can dedicate to developing new capabilities as well as upgrading existing operations. On average, businesses devote more than a quarter (28 percent) of IT budgets to addressing technical debt compared to about a third (33 percent) to innovating and building new capabilities, and just shy of 40 percent to running status quo operations.

The problem is even more pronounced for enterprise companies, which spend roughly four out of every 10 dollars in their IT budgets on technical debt. In terms of actual spend, that's a serious drain on resources given the amount of money these companies dedicate to IT, and leaves just 30 percent or less in the IT budget for both status quo operations and new capabilities.

	ALL ORGANIZATIONS	ENTERPRISE	COMMERCIAL	SMB
ADDRESSING TECHNICAL DEBT	28%	**41%**	28%	**27%**
RUNNING STATUS QUO OPERATIONS	38%	**29%**	36%	**39%**
INNOVATING AND BUILDING NEW CAPABILITIES	33%	30%	36%	33%

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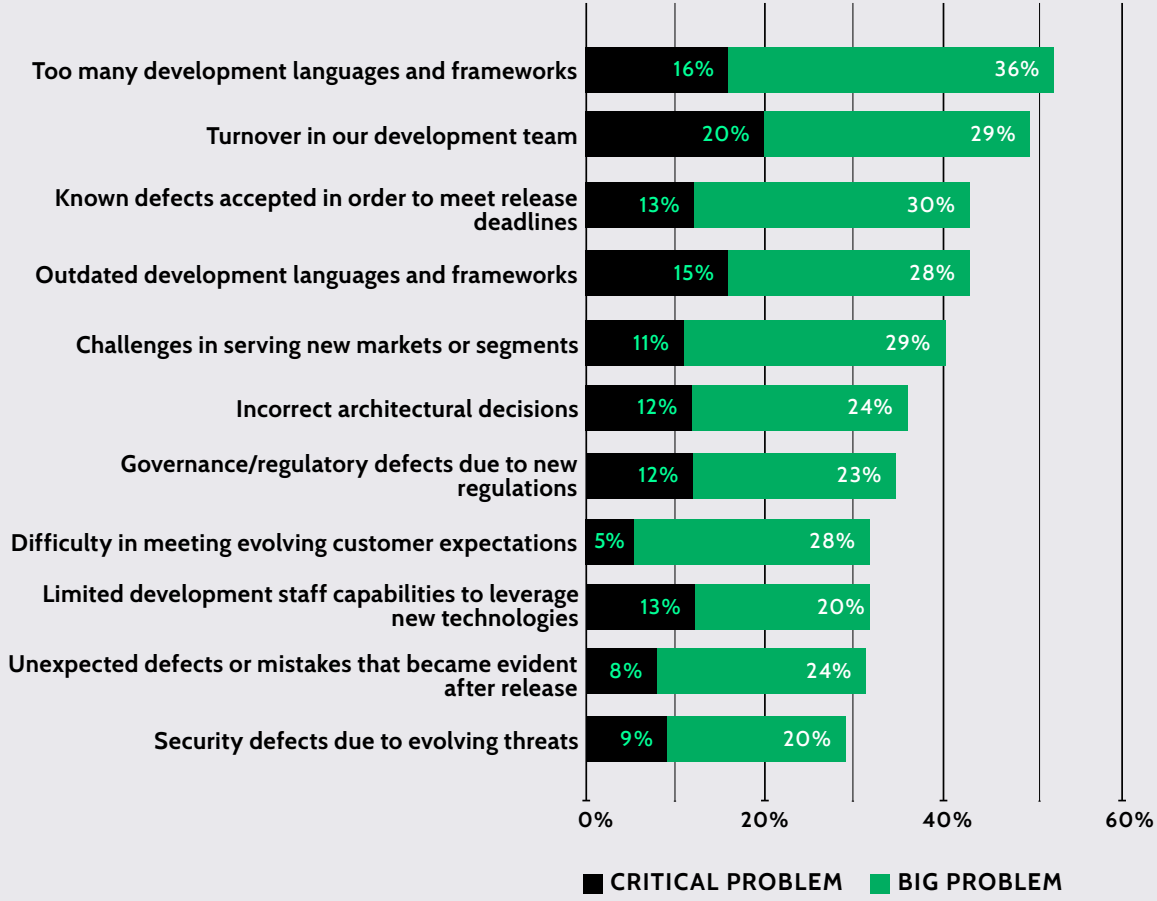
WHAT'S BEHIND THE PROBLEM?

While there is no single reason why technical debt has become such a large problem for businesses, there are several related factors that contribute to the growing trend.

Driven by a need to provide better and more customized solutions for their customers, businesses are competing for a limited pool of developer talent that can help them navigate increasingly complex IT platforms and operations. That's why companies in the survey said the two leading factors behind technical debt were the high number of development languages, which makes it complicated to maintain and upgrade systems, as well as turnover in development teams, which leaves new hires in charge of platforms they didn't create and may not fully embrace or understand.

Other leading contributors include companies accepting known defects in their rush to meet release deadlines, and the presence of outdated development languages and frameworks. All these factors make it hard for businesses to maintain and rework critical systems – and won't disappear on their own. In fact, the increased demand for digital tools that businesses experienced during the pandemic will persist in 2021 and beyond, threatening to exacerbate the problem for companies of all sizes.



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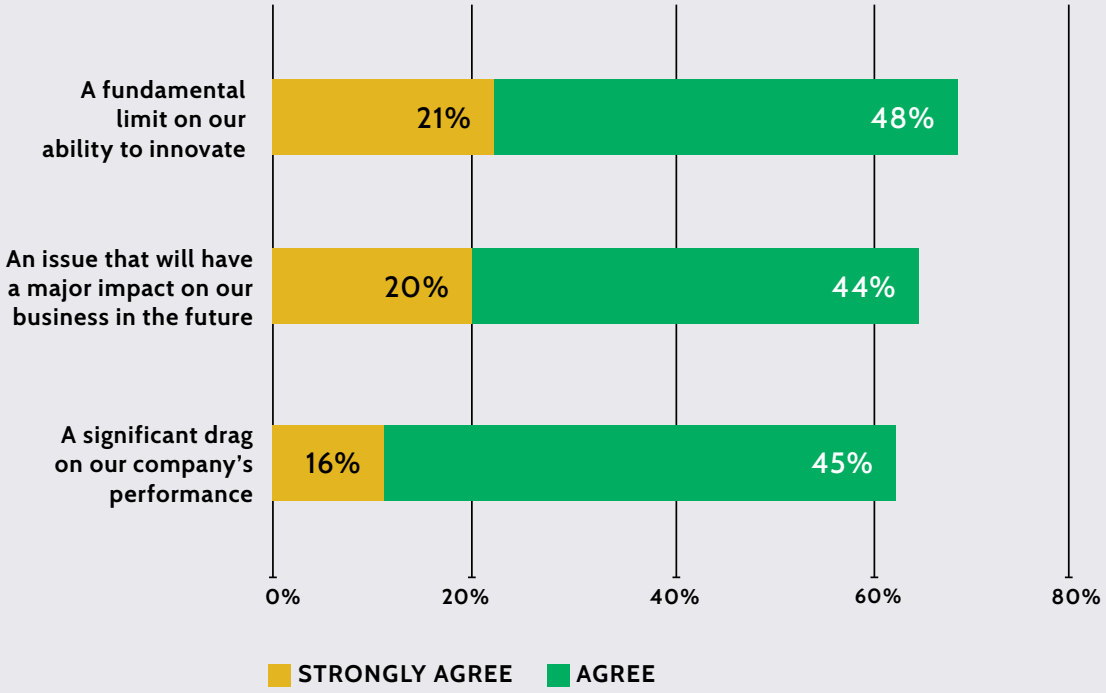
A THREAT TO INNOVATION

Technical debt poses more than just a drain on budgets and resources, as it distracts companies from their core mission and undermines their ability to thrive and compete in today's business landscape. In fact, nearly seven in ten companies in the survey (69 percent) said technical debt limits their capacity to innovate.

That's a particularly daunting concern in our digital economy, where innovation is critical to any business' survival. Not surprisingly, just over 60 percent of companies reported that technical debt is a significant drag on their performance, and an even higher percentage (64 percent) said it will have a major impact on their future business.

OPINIONS ABOUT TECH DEBT



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HARDEST-HIT INDUSTRIES

While industries across the board dedicate a good chunk of their IT budget to technical debt, some spend much more than others on the problem. Companies in the health care and social assistance category set aside the most, with 35 percent of their IT budgets going to technical debt, followed by these industries at just under 30 percent: banking, finance and insurance; education; government and public administration; utilities; and media and telecommunications. Meanwhile, wholesale and retail trade organizations spend nearly a quarter of their IT budgets on technical debt.

Naturally, paying for all of this debt leaves businesses with fewer resources for other critical functions that are needed to compete and grow. For instance, the health care and social assistance industry earmarks fewer resources to innovating and building new capabilities than it does to paying off technical debt, which severely limits its ability to meet the evolving needs of patients and customers.

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BY INDUSTRY

	BANKING, FINANCE AND INSURANCE	EDUCATION + GOVERNMENT/ PUBLIC ADMINISTRATION	WHOLESALE OR RETAIL TRADE	HEALTH CARE AND SOCIAL ASSISTANCE	BUSINESS SERVICES	TELECOM/ENERGY/ UTILITIES	TOTAL
Addressing technical debt	29%	28%	24%	35%	27%	28%	28%
Running status quo operations	36%	38%	40%	35%	43%	38%	38%
Innovating and building new capabilities	35%	34%	36%	30%	30%	34%	33%

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A DAUNTING TASK

Reducing technical debt is a daunting task that requires businesses to take an aggressive and comprehensive approach, rather than treating it as the cost of doing business.

Respondents reported that their main strategies to reduce technical debt entail stemming turnover within their development teams and trimming the number of programming languages and frameworks – logical solutions considering businesses identified those as factors contributing the most to the problem.

Once they have addressed these foundational issues, businesses plan to turn their attention to growth opportunities; their third biggest focus is removing challenges in serving new markets or business segments. Other leading priorities include a focus on governance and regulatory defects as well as addressing incorrect architectural decisions.

TECH DEBT PROBLEMS AND PRIORITIES

HIGH PRIORITY/ BIG PROBLEM	• Reducing turnover in our development team • Reducing number of development languages and frameworks
MEDIUM PRIORITY/ MEDIUM PROBLEM	• Removing challenges in serving new markets or segments • Addressing Governance/regulatory defects due to new regulations • Addressing incorrect architectural decisions
LOW PRIORITY/ LOW PROBLEM	• Repairing unexpected defects or mistakes that became evident after release • Reducing difficulty in meeting evolving customer expectations • Fixing known defects accepted in order to meet release deadlines • Replacing outdated development languages and frameworks • Improving staff capabilities to leverage new technologies • Removing security defects due to evolving threats

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UNDERESTIMATING THE PROBLEM

Given the sheer size and complexity of technical debt, we asked respondents about their ability to address the issue now and in the future. While a small percentage expressed confidence in their current efforts to tackle the problem, a higher number had a more upbeat outlook about the future, which signals they may be underestimating technical debt's tendency to compound over time.

Only one in five respondents strongly agreed technical debt is something they're currently managing well – with small-to-medium businesses expressing the lowest level of confidence and commercial companies reporting the highest. And under half (42 percent) of enterprise executives strongly agreed technical debt is something they're currently capable of addressing.

In comparison, roughly a third (32 percent) of respondents said that they strongly agreed technical debt is an issue they're capable of addressing, and slightly more (36 percent) noted it's something they'll be able to manage effectively one day. Once again, small-to-medium businesses were the least confident, which indicates that technical debt is a pressing concern to a critical segment of the U.S. and global economy.

OPINIONS ABOUT MANAGING TECH DEBT

	TOTAL	ENTERPRISE	COMMERCIAL	SMB
Something we can manage effectively in the future	36%	37%	46%	35%
Something we are capable of addressing	32%	42%	40%	30%
An issue our leadership is committed to addressing	28%	33%	31%	28%
Just a cost of doing business	23%	31%	28%	21%
Something we are currently managing effectively	20%	35%	45%	15%
A major issue limiting our business	19%	30%	27%	17%

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THE GOOD NEWS

Technical debt builds up and compounds silently, through thousands of seemingly small decisions, before becoming a major problem that prevents companies from investing in current operations and future innovations. Often, these outcomes are based on short-sighted or expedient decisions to “build it fast” rather than to “build it right” or to “build for the future”.

The pressures of the modern, fast-paced business environment increasingly push leaders toward building fast, which is how these otherwise tiny decisions – an impending deadline here, a new framework there – can spiral into a pile of debt that feels insurmountable and discouraging.

The good news is that it’s entirely possible to “pay off” technical debt creating a development process that meets both short-term deadlines and long-term strategic goals. By carefully aligning modern application development platforms, organizational structures and team priorities, any company is capable of steadily chipping away at their debt without compromising the timelines of their current projects.

With the correct tools and processes, a company doesn’t need to choose between building fast and building right.

OutSystems makes it possible to not only build apps fast with a visual, model-driven development environment and infinitely reusable components, but also to build apps right with an integrated development platform that ensures the security, resilience and scalability of cloud-native, enterprise-grade applications. At the same time, OutSystems makes these apps future-proof, minimizing technical debt with capabilities like an Architecture Dashboard that actively monitors for it and TrueChange, an AI-powered automation layer that makes sure performance and quality problems are detected early and resolved quickly.

While so many struggle to address this issue, OutSystems can help your business stop technical debt in its tracks and create apps that never go stale in the first place.

Get out of tech debt and on with the future
stoptechdebt.com >