

THE FUTURE OF WORK

PART TWO: Business Requests for New Software Applications Soaring, but 50% End in Failure

SURVEY CONDUCTED BY:  IDG

Appian

Automate More. Code Less.

Executive Summary

In the summer of 2018, on behalf of Appian, IDG Explorer surveyed senior IT executives from North America and Europe to find out how their organisations were coping with digital transformation. The results were a wake-up call for business and for development teams.

The pace of digital transformation continues to accelerate. The rapid adoption of emerging technologies (artificial intelligence, robotic process automation, etc.), changing consumer habits, and competitive pressures are spreading digitisation to all parts of enterprise.

Because of this, the demand from business to IT for new and transformational software applications has increased so much that internal development teams across the United States and Europe are no longer able to keep up. In the U.S., enterprise businesses request an average of 153 new applications and major feature developments from IT. This number is dwarfed by the European enterprises, where internal development teams now get requests for an average of 230 new applications or features every year.

Despite this disparity, global success rates are all equally dismal. According to survey data, in the United States and across European countries:

- 50% of all new application development requests end in failure
- 40% of development time is spent dealing with ‘technical debt’
- 55% of respondents said this led to higher operational costs

This has serious consequences for businesses. It slows them down, increases their time to market, leaves them without the ability to respond to developing opportunities, and often lands them with low-quality applications and features that deliver a poor customer experience.

Technical debt, defined as the implied cost of additional rework caused by choosing an easy solution now over the right solution, is a major part of the problem. According to the research, organisations lose about two-fifths of their application development time to technical debt, and this is reflected in the cost a company incurs either by not developing an app it needs to take advantage of a market opportunity, or by creating an app that does not meet business requirements.

When asked how to combat technical debt, the number #1 response from survey participants — 53% — was “look for new ways to accelerate application development.” This highlights the need for enterprise low-code development platforms that accelerate the build process with robust but easy-to-use drag-and-drop visual design tools.

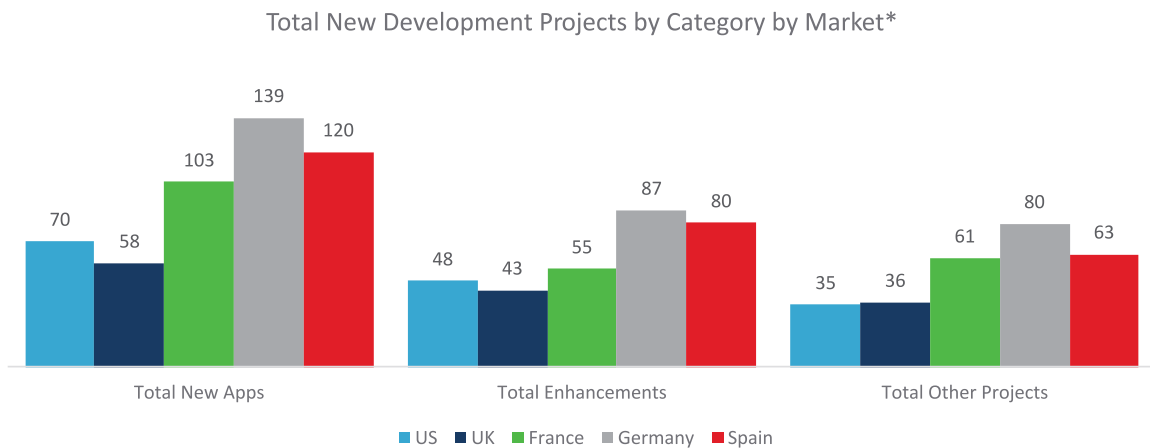
Enterprises are Struggling to Cope with Digital Transformation

EUROPEAN DEVELOPMENT TEAMS UNDER THE MOST STRESS

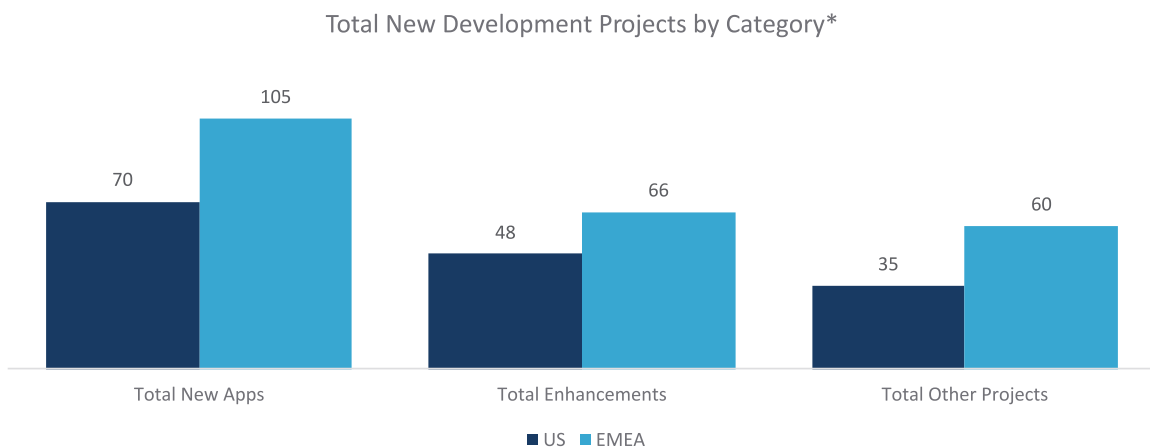
According to Eurostat, the EU's statistics agency, 80% of European businesses now have an online presence, compared with just 71% in 2010. Almost half of all EU businesses use social media to engage customers, 26% use Internet advertising, and 20% of all businesses now sell online.¹

European enterprises have embraced digital transformation perhaps more enthusiastically than their counterparts anywhere else in the world. This can be seen in Germany, with the "Industry 4.0" agenda pursued by manufacturing giants, in London's fintech hub, in the French leadership of European IoT development, and in countless other examples up and down the continent.

One consequence of this rapid digitisation, is that European enterprises are overloaded with requests for new applications and features. An average EMEA enterprise generates 230 internal development requests every year. In Germany that figure is as high as 306 requests. In France it's 263 and in the UK 137. The EMEA average is well above the US figure of just 153 requests a year.



EMEA companies also average more projects across all categories of IT projects, from new applications, to major feature enhancements, to other development projects.

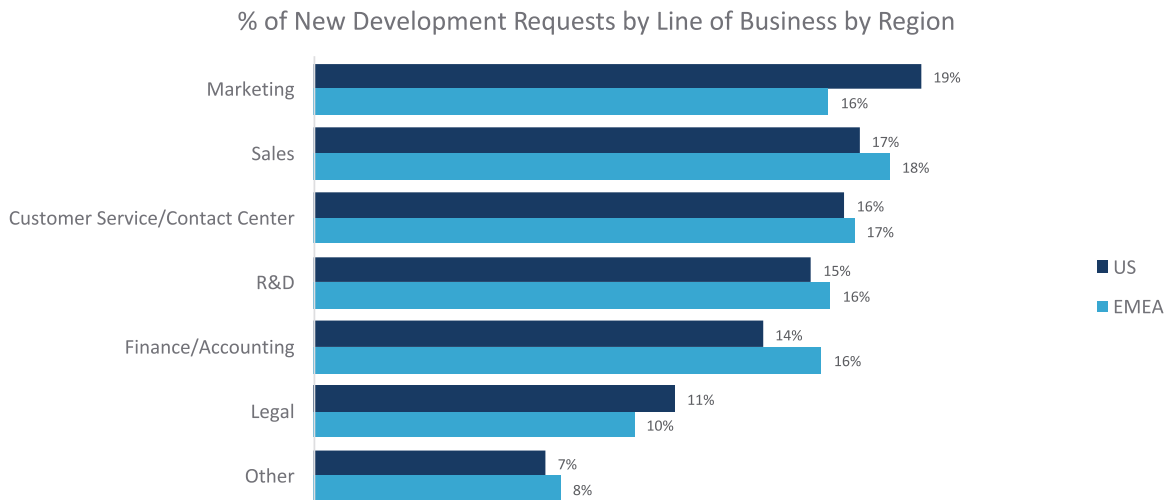


1. Digital Economy & Society in the EU: 2017 edition, Eurostat

The pace of digital transformation in Europe is eye opening. European businesses that embrace digital transformation will potentially enjoy a first-mover advantage in the global market. But for that to happen, their internal development teams need to be able to keep up with the demand. Unfortunately, IT departments are struggling — and failing — to meet evolving business requirements, primarily due to the slow pace of coding and issues related to technical debt.

Digital Demand is Spreading Through the Enterprise

Another feature of the spread of digital transformation is that demand for new applications and features is no longer coming from just a few customer-facing functions. Demand for new development projects is now generated across the enterprise, showing that all business units are looking for ways to change how they operate in the Digital Age. In the U.S., marketing is still somewhat more likely than other departments to request new apps, while in EMEA, requests for application development are less skewed toward the marketing department, with greater demand from a broad range of functions. Each department has its own specific set of business and technical requirements.



According to respondents, the most common goals covered by development requests are:

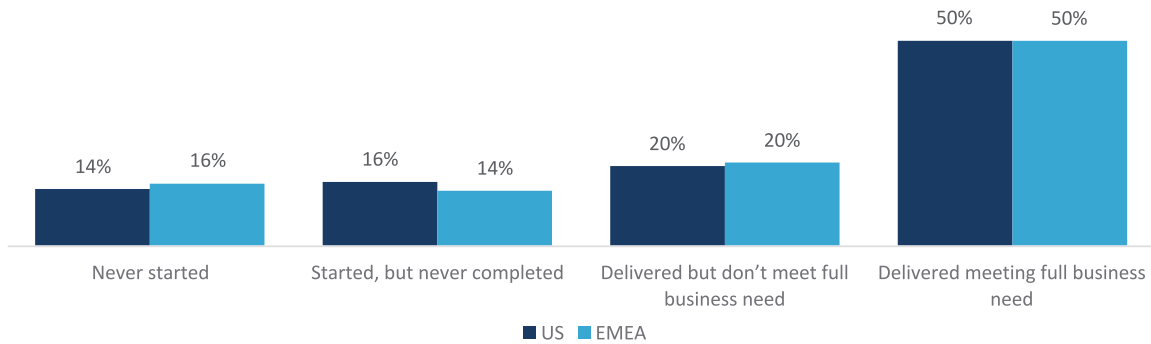
- Optimise customer experience — 85%
- Increase revenue — 84%
- Increase worker productivity — 83%
- Embrace emerging technologies — 83%
- Create new products — 82%
- Reduce cost — 80%
- Competitive differentiation — 79%

Developing for such a wide range of goals, across an equally broad spectrum of business functions, makes it difficult for European and U.S. enterprises to build the applications their teams need in time, and to the right standard. No off-the-shelf solution works in each case and often code is not widely re-usable, because of the variety of business functions and use cases involved.

Global Success Rates are Dismal

Despite any other disparity, European and U.S. companies have one thing in common: truly abysmal success rates in delivering the new applications that business units need. In the United States and across European countries, 50% of all new app development requests end in failure. 16% of new development projects requested by EMEA enterprises never get started (compared to 14% in the U.S.). 14% of new EMEA development projects are started but never finished (compared to 16% in the U.S.), and 20% of new development projects in both EMEA and the U.S. are finished but don't fit the business requirements need for which they were created.

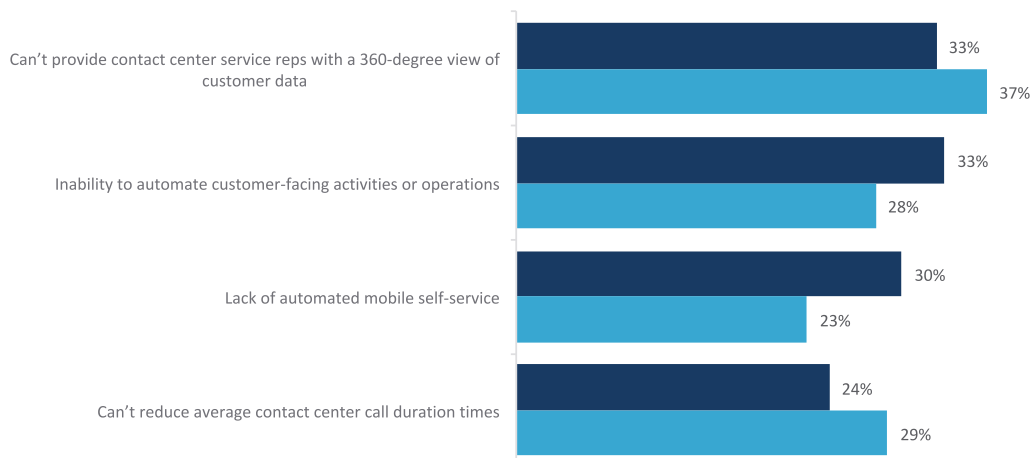
Level of Completeness of Delivered Applications by Region



With internal application development so critical to just about all business objectives, this is an untenable situation from the perspective of the business. It is equally untenable for IT teams themselves, who already spend a full 50% of their time on coding new applications and major enhancements.

Strictly in the realm of Customer Experience-oriented applications, the cost to the business of non-delivery is eye-opening. The top two responses were the inability to truly get a full picture of a customer and their relationship with the company, and the inability to introduce exciting new technologies for a more modern, faster, and more rewarding customer experience.

Impact on Customer Experience of Failing to Create CX Applications



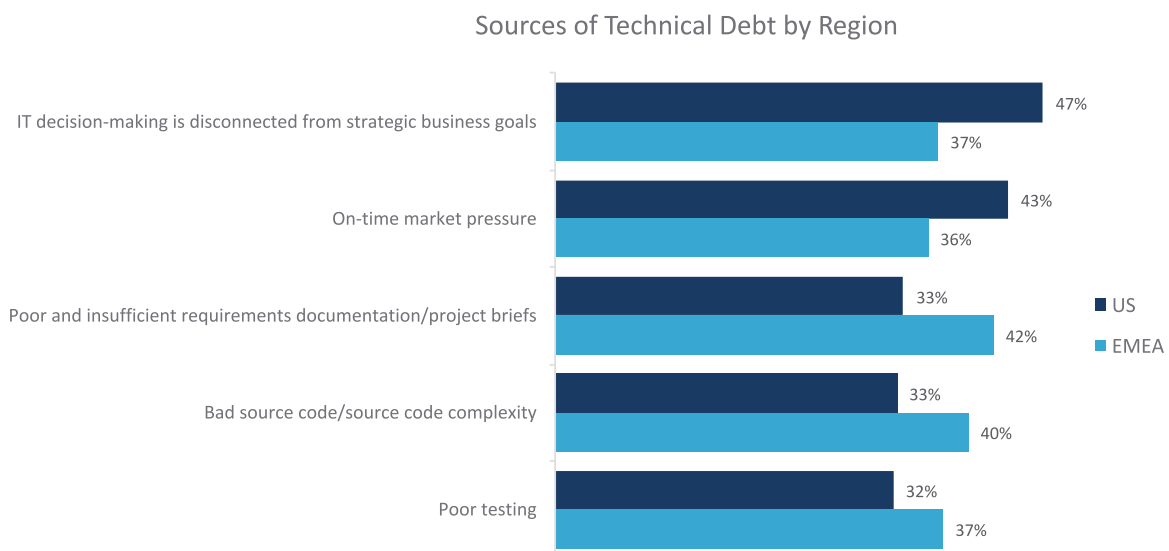
Enterprises are Piling Up Technical Debt

Technical debt reflects the implied cost of additional rework caused by choosing an easy solution now over the right solution. It also reflects the “lost opportunity” cost a company incurs either by not developing an application it needs to take advantage of a market opportunity, or by creating an app that does not meet business requirements.

This is not simply a theoretical construct. It has significant real-world implications for development teams and their internal customers. Currently, technical debt – dealing with the fall out of rushed applications or gaps in the product line-up because applications weren’t finished – actually costs EMEA and U.S. enterprises around 40% of their development time.

This is a vicious circle. Because of development bottlenecks, enterprises are left unable to meet the demand for new applications and features from their various business functions. This leads to gaps in the digital portfolio and to rushed applications that deliver a poor customer experience. The demand to fix these gaps then creates more development bottlenecks, increasing technical debt still further.

In the US, IT decision-making is a key source of technical debt while EMEA skews more toward operational and/or legacy code issues.



Technical Debt and the Bottom Line

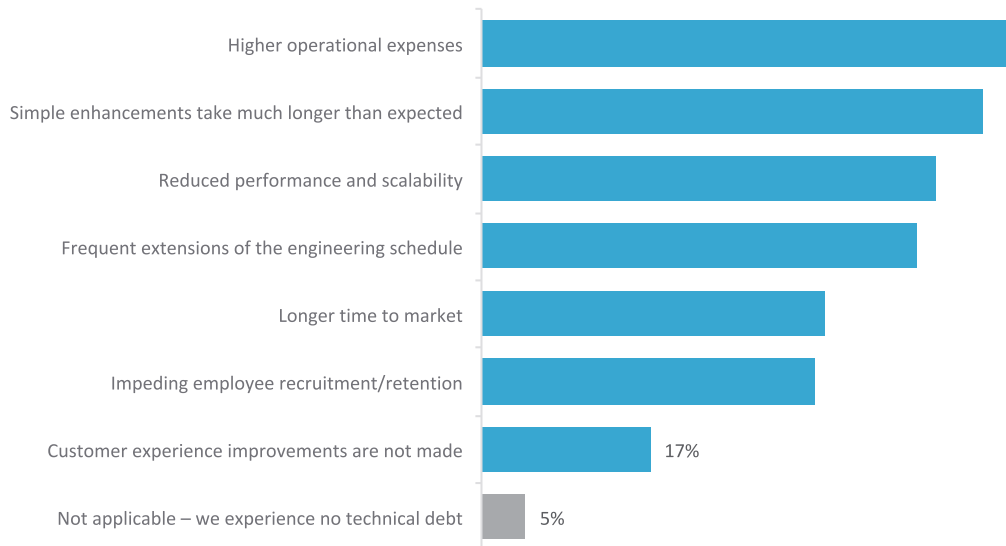
According to Appian’s research, the build up of technical debt has concrete impact on specific business outcomes related to the core goals of growing market share and increasing profitability. When asked about the impact of development bottlenecks and applications that don’t fully meet business needs:

- 54% said this had caused them higher operational expenses
- 48% said it had slowed down simple software enhancements
- 49% said it had led to reduced performance and scalability
- 37% said it had caused them to take longer to go to market
- 18% said it had prevented them from making customer-experience improvements

The negative impact of technical debt is higher operating expenses, development delays, and reduced performance. 34% of respondents said that technical debt had prevented them from giving customer-service the insights it needed to do its job.

Even if enterprises could find millions of new coders tomorrow, trying to meet this demand manually is not realistic. It leads to bottlenecks and to projects being rushed, with a negative impact on the quality of the software delivered.

Business Impact of Technical Debt



Why technical debt is worse in Europe

Technical debt hits Europe harder, because digital transformation is happening faster in Europe:

- EMEA firms request 230 new development projects a year, US firms just 153
- 16% of EMEA development requests are never even started, in the US it's just 14%
- 71% of EMEA firms say poor relations between business and IT causes technical debt, in the US it's just 61%

Enterprise Low-Code: A New Approach

Technical debt is a growing problem globally but particularly within European enterprises. The demand for new and innovative ways to engage with consumers across all platforms has spread to every part of the business. Failure to meet that demand, risks ceding competitive advantage to commercial rivals. But equally, trying to meet it by cutting corners in a way that impacts customer experience will alienate consumers.

Even if enterprises could afford to double or triple the size of their development teams, there just aren't the developers out there to fill those posts. According to 2017 research by the European Commission, 40% of companies already have difficulties filling software developer posts.²

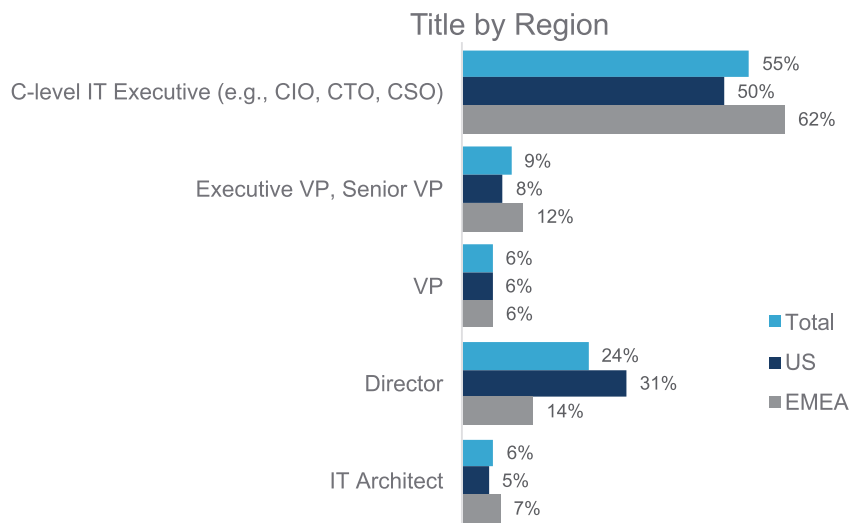
That's why a move to an enterprise low-code, intelligent, modern development environment makes sense. In an enterprise low-code development environment, developers can accelerate the build process with robust

2. *The Digital Skills Gap in Europe*, 19 October 2017, *The European Commission*

but easy-to-use drag-and-drop visual design tools. This gets applications and features to market faster without compromising on quality or customer experience. As a result, enterprises can minimize technical debt and react quickly in seizing new market opportunities.

Methodology

The Future of Work survey, conducted by IDG, gathered responses between August and September 2018. Respondents comprised of 500 IT leaders (50% C-level, all Director or above) with at companies with over 1,000 employees. For this leg of the survey, 50% of respondents were U.S. based, and 50% were from Europe (U.K., France, Germany, and Spain). To qualify for the survey, respondents also had to be undergoing digital transformation efforts for at least one year. Number of respondents: 506.



The Future of Work Survey results are being published in a series of reports that each drill into specific segments of the global data. To receive future reports register at www.appian.com/future-of-work or follow us on Facebook and Twitter.

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*Source: comScore Media Metrix, Desktop Unique Visitors, Worldwide, January 2017



Appian provides a software development platform that combines intelligent automation and enterprise low-code development to rapidly deliver powerful business applications. Many of the world's largest organizations use Appian applications to improve customer experience, achieve operational excellence, and simplify global risk and compliance.

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