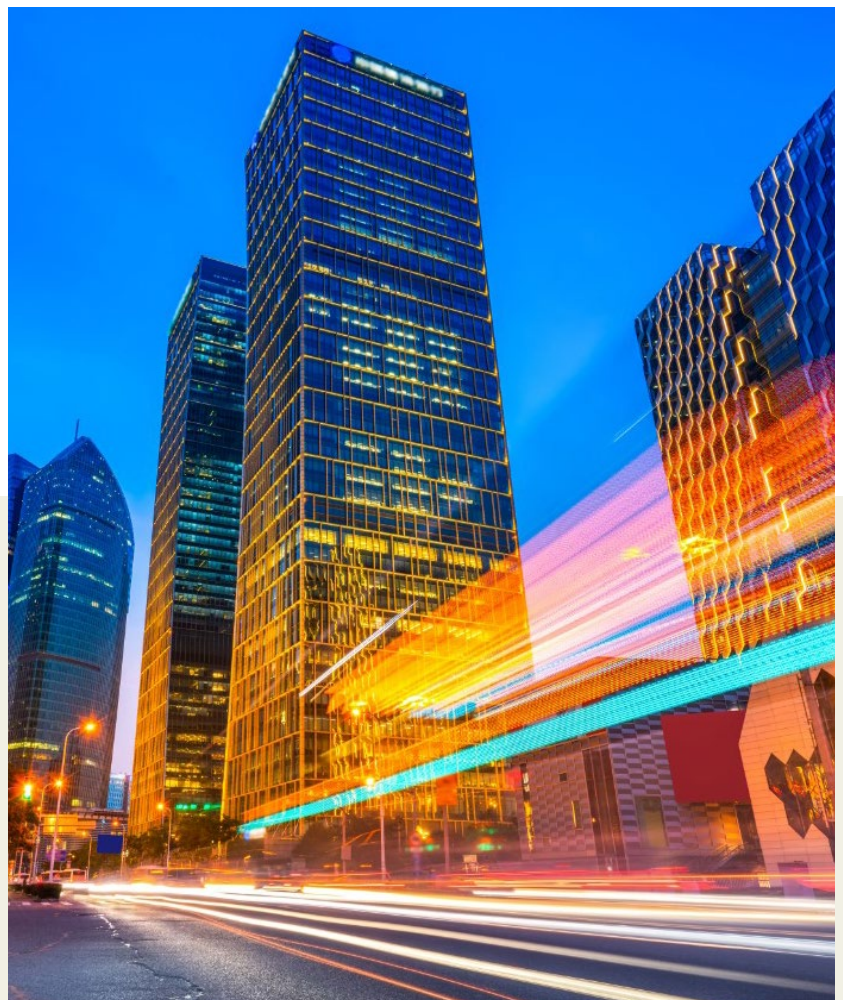


U S
T .

How to make your products and applications future-ready



WHITEPAPER

Pursue digitalization
while accelerating
time to value

ust.com

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Introduction

When taking the next steps in engineering transformation, large enterprises and startups with mature products have several factors to consider make the right decisions. Among other aspects, they need to look at how to assess current performance, the future direction, and where to allocate limited resources and budgets. The rapid pace of change and the competitive market add to the pressure. The mandate is simple - IT modernization or product innovation must be done at the fastest possible speed to avoid losses or the risk of failing to stay relevant.

Not surprisingly, organizations are expected to pursue and protect efficiency-driven digital investments. These include information technology and product innovation initiatives to help them extract the most from their existing infrastructure. Globally, the product engineering services market is predicted to hit **\$2041.4 billion by 2028**, driven by the amplified need to decrease time to market and swift product deployment. According to a Gartner forecast, **IT spending in 2023 will touch \$4.6 trillion**, with the highest on software and services.

Large enterprises are reviewing their stack of applications and products, trying to determine the most efficient way to manage, rationalize or modernize them. Even startups positioned themselves in the market with niche and popular products must think about the next steps to add value to users and drive profitability.

Deciding on the product roadmap is complex, especially in light of the volatile and changing macro-environment. These decisions must be based on a sound appreciation for technology and design that works well, combined with insight into business and market factors.

This whitepaper presents a holistic view of the challenges that frame the essential question that digital product owners or enterprise application management heads are asking – what next? How do we get fully informed about the current state of technology, and on what parameters do we chart the next steps? How do we decide on product development or IT investments that will optimize costs and leverage the existing technology stack to drive profits or guide product upgrades to reflect the needs of users and the market?

It also presents a solution with a tested framework from UST that can be used to address these challenges and develop a future-ready roadmap.

The challenges that frame the ‘what next?’ question for enterprises and startups

Industry analysts foresee several macroeconomic challenges to businesses in 2023 and beyond. These include economic unrest due to geopolitical uncertainty, frequent supply chain disruptions, shipping delays, and materials and labor shortages. Thankfully, companies now have the option to rely on digital tools and capabilities to address these macroeconomic challenges. Against this macroeconomic backdrop, CTOs face other challenges influencing their decision to modernize or upgrade digital products or applications.

Increasing pressure for digital investments to add to the bottom line

As per a [survey by Gartner](#), CEOs are demanding a return on investment for funding digital initiatives, whether they are related to operational efficiency or customer-facing applications. While the focus of investments is available for new and improved products or digital capabilities, this funding is directly tied to business priorities such as revenue growth or productivity.

CEOs focus on digital as a business driver

80%

plan to invest in new or substantially improved products.

85%

intend to increase investment in digital capabilities.

94%

want to maintain or accelerate pandemic-driven digital transformation.

Source: Gartner

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Digital funding ties to business priorities

70%

of CFOs expect digital technology to get more funding.

31%

of "grow revenue" digital initiatives lag.

Top 5

is where productivity will sit as a CEO strategic business priority by 2025.

Source: Gartner

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Keeping up with the rapid pace of technology

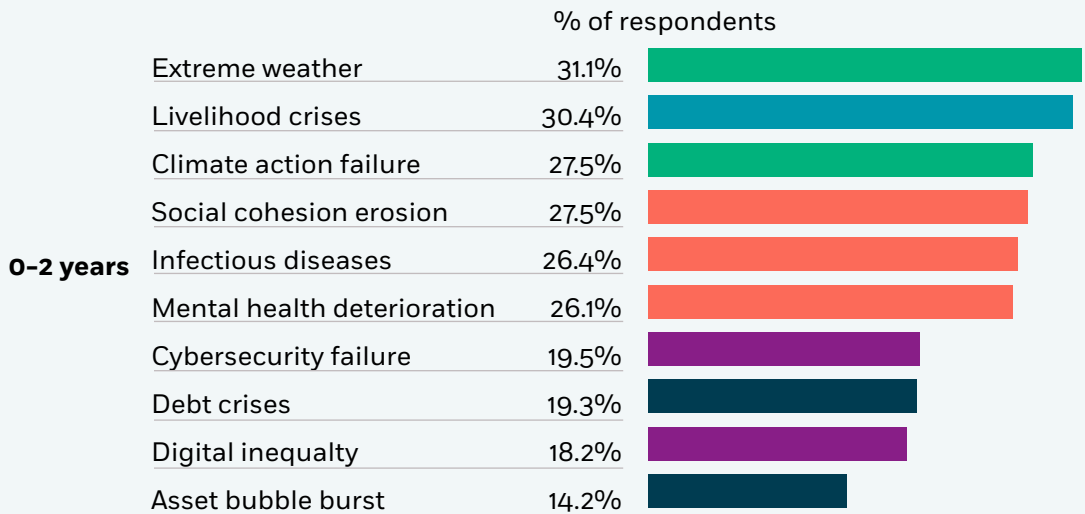
Another factor to consider is the rapid progress made by technology. The rate of technology acceleration in the last decade almost outmatches the progress over the previous 100 years. According to Forbes, 90% of the world’s data was generated in the previous two years. With quantum computing, artificial intelligence, and breakthrough technologies across domains - power generation, transportation, internet and mobile devices - factoring in this pace of change is critical in making strategic decisions for the future. For decision makers, being able to predict fast-improving technologies can spell success.

New global risks like climate disruptions and cybersecurity

The global risks report presented by the World Economic Forum in 2022 lists extreme weather, climate action failure, and cybersecurity failure among the top risks likely to play out in the short term. These underline the need for companies to focus their technology decisions on sustainability and cyber security.

Global risks horizon

■ Economic ■ Environmental ■ Geopolitical ■ Societal ■ Technological



Source: World Economic Forum

Global focus on sustainability

Research shows that 90% of technology leaders keep sustainability as a key IT objective for their teams. Also, an important fallout of accelerated digitalization and remote working is the expanded threat surface. Pursuing agility, enterprises invested in edge-computing, cloud and multi-cloud computing, containerization and micro-services, creating distributed environments. Tightening cyber security will be a major consideration for product and technology heads in building their IT/ product development strategy.

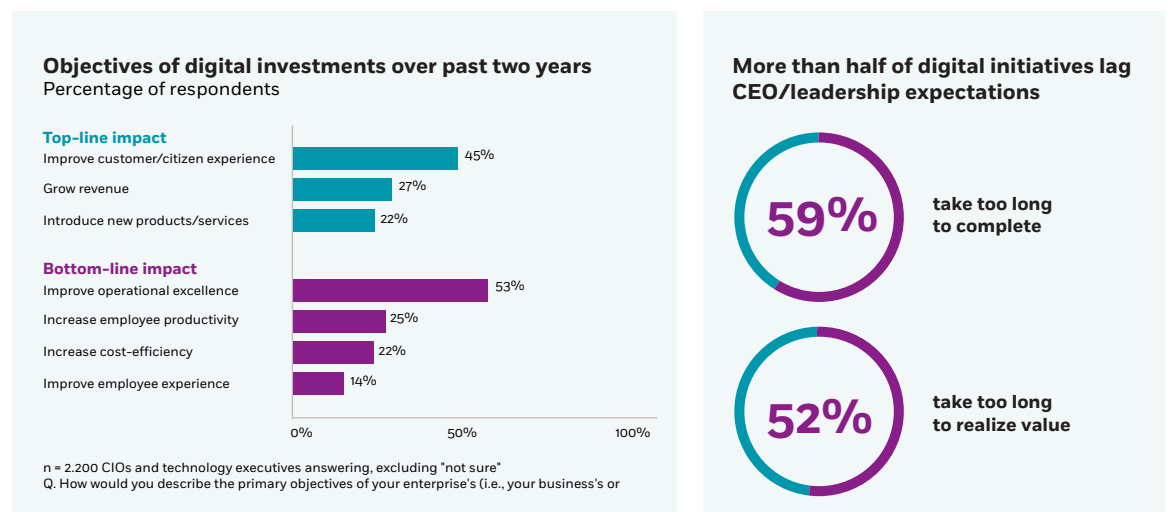
Overall, CPOs and CTOs will be hard-pressed to look for improved efficiency, automation, and other avenues for cost savings to balance out possible damages to businesses in the future.

An engineering transformation roadmap to dividends

IT modernization teams or product engineering teams often face complex challenges- a landscape that is too wide to work with and a complicated business environment. They must make relevant decisions on legacy technology and keep pace with the latest technology trends. At the same time, they must ensure the fastest time to value for business and customer impact.

Product organizations have a fundamental objective – innovate as productively as possible, and accelerate the time taken to bring product features from inception to commercial availability to user adoption. The desired productivity, speed, and successful adoption are hindered by technical debt, inefficient product engineering practices/processes, and low priority to NFRs leading to dissatisfying user experiences.

In [Gartner's annual survey](#), CXOs expect digital assets to deliver dividends as quickly as possible to positively impact top-line and bottom-line metrics.



Source: Gartner

With the pressure on digital assets to deliver business advantage, creating a well-informed roadmap for these assets is an important activity. It will help facilitate productive discussion at the C-suite levels and engage all stakeholders to collaborate to invest in its future.

Some of the main concerns of decision-makers tasked with creating a product roadmap are:

- **Building for resilience and scalability** – Recent years have made it clear to businesses of all sizes that resilience must be a priority. Volatility continues to be a theme that companies contend with, while at the same time, markets are expanding beyond geographical boundaries. Leaders rely on technology to provide both resilience and scalability. Hence IT and product roadmap decisions must be guided by the need for resilience.

- **Faster time to value** – Whether it is modernization, digital transformation, automation, or developing new applications, the time to execute these projects has shrunk, and failure to deliver value is not an option. A report by [Mulesoft](#) states that although IT budgets are rising, the number of projects that IT teams are being asked to deliver has increased by 40%, with over 52% not delivered on time. This corroborates the [Gartner](#) findings that 59% of CEOs think digital initiatives take too long to complete. In a fast-paced and competitive world, the speed at which a product or application is updated is crucial in winning against the competition or helping a business pivot to profitability.
- **High security and cost-effective maintenance** – The roadmap of any product or application needs to be cost-effective while factoring in risk mitigation, especially regarding cybersecurity. As technology architects pursue composability to meet the needs of agility and scalability, cybersecurity looms as the largest risk. Cyber security can no longer be an add-on activity but must become part of the development and maintenance processes, moving from DevOps, towards DevSecOps. Increasing use of APIs further widens the attack surface needing cybersecurity to be built by design rather than a set of monitoring activities.
- **Getting the most out of automation** – Companies want to leverage their workforce towards process and product innovation and look to their technology infrastructure to enable this through RPA, ML, and AI. As organization-wide automation reaches the next level, products and applications can no longer only be upgraded quarterly or annually. Successful products and applications incorporate ways for users to become co-creators, whether technical or non-technical. Low-code/ no-code platforms can take the workload off IT teams and allow product managers to benefit from real-time wide-scale innovation.

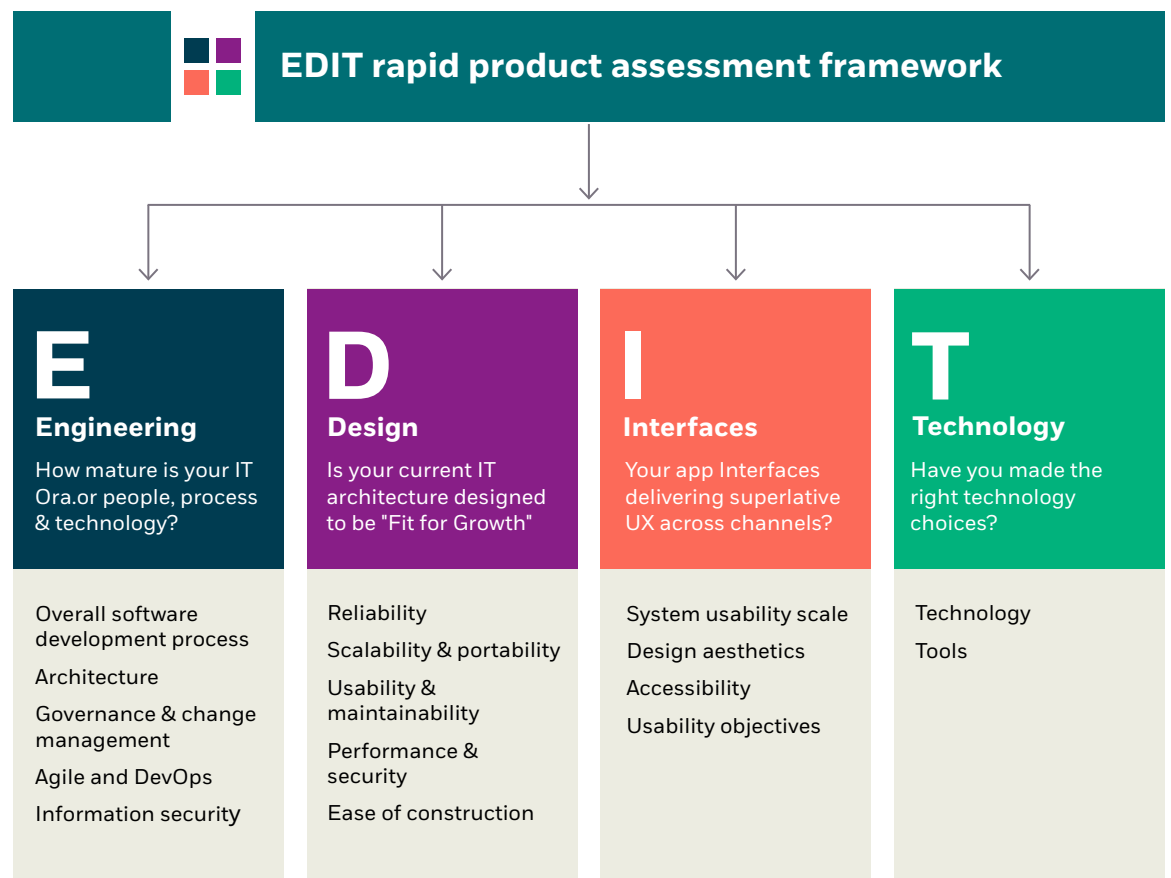
Mature startups have specific challenges and growth barriers as business processes become more complex. They need all systems (accounting, customer relationship management, project management, etc.) to be ready to function on a larger scale. Procuring the right software and hardware can be expensive and challenging and requires developing a long-term vision right from the beginning. Startups owning disruptive innovations will likely be targeted for industrial espionage and must fortify cyber security measures from the get-go.

Large enterprises will benefit from an in-depth understanding of their current business applications and IT landscape to pinpoint areas of improvement to survive and thrive in uncertain times. Using a standardized method to assess and benchmark their situation through application portfolio rationalization will help plan and derive better outcomes for the business. Such an exercise assesses the existing business applications/products/services within the organization to understand which can be retained, eliminated, or integrated with others for improved efficiency.

Getting a head-start with an accurate, holistic assessment

A product or IT roadmap is only effective if the foundation is based on a thorough, accurate state of existing technology. Often, the parameters of product and digital audits could be more exhaustive or more complicated and, therefore, inconclusive. This is because getting the right set of parameters to audit can be challenging. Besides being technology-oriented, these parameters must reflect the business's aspirations, the user's needs, and other dimensions, such as cybersecurity risks. The assessment must include detailed views and assessments from the entire It/product landscape.

A four-step process can help teams to gather the full information, focusing on the core parameters of **engineering, design, interface, and technology**.



- **Assessing the foundations of engineering**
This step helps evaluate the IT organization's maturity of its people, processes, and technology and whether they are optimized and streamlined. Therefore, the important parameters that need to be considered during assessment include the overall software development process, architecture, governance, and change management, agile and DevOps, information security.
- **Understanding if the design was built for scalability and agility**
This part of the assessment highlights the importance of reliability, scalability and portability, usability and maintenance, performance and security, and ease of construction from a design perspective. It aims to draw a clear picture of the current IT architecture and its suitability for growth in the future.
- **Reviewing interface for the meaningful user or customer journeys**
This part of the assessment highlights the importance of reliability, scalability and portability, usability and maintenance, performance and security, and ease of construction from a design perspective. It aims to draw a clear picture of the current IT architecture and its suitability for growth in the future.
- **Reviewing technology decisions**
Assessing the technology and tools the organization has already invested in will help identify how these are performing, their expected contribution to business outcomes, and what is being delivered.

Factoring in business prioritization

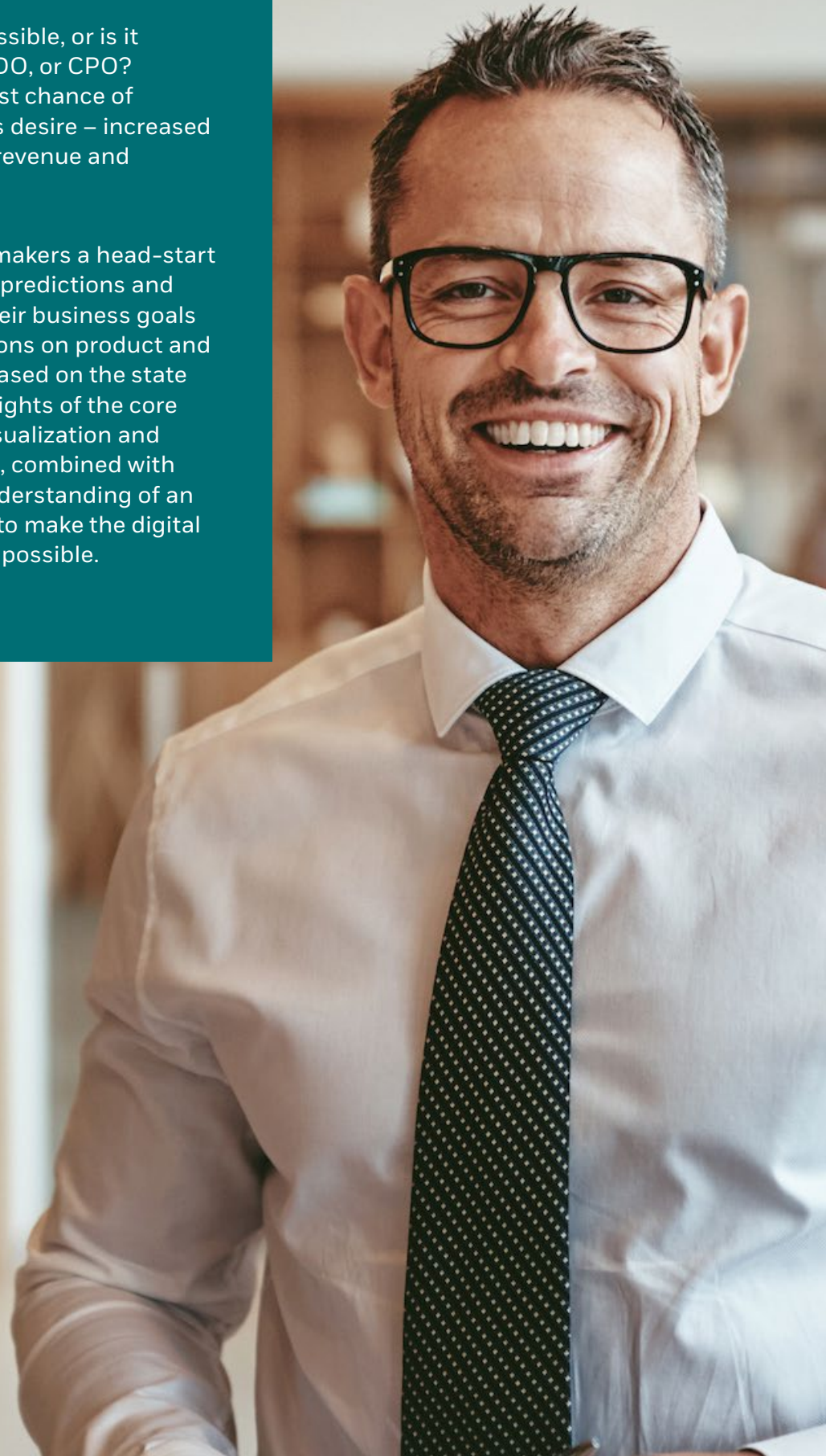
Often technology audits focus on technology itself, and while this may provide a view of the product, the business context adds invaluable perspective to the audit data.

The business environment is increasingly complex, with blurring geographical lines, increasing regulations and cyber security risks, with more empowered and vocal customers. However, alongside these risks are opportunities – engineering transformation or IT modernization brings new business potential. We can achieve anything today from a business perspective. However, long-term success and viability require backing the right technology practices & strategy. Technology is imperative for business. However, digital roadmaps for products, platforms or enterprises must focus on business prioritization. A well-planned implementation strategy will help establish a robust, resilient, agile, & scalable IT organization & product engineering teams that deliver the insights essential for making smart, timely decisions to nurture the business.

A future-ready digital roadmap

Is a future-ready digital roadmap possible, or is it an aspirational wish of every CTO, CDO, or CPO? Well-informed decisions have the best chance of achieving the results that companies desire – increased productivity, lower costs, enhanced revenue and profitability, and customer delight.

A well-defined audit gives decision-makers a head-start on key quantitative insights to make predictions and step forward with confidence that their business goals can be accomplished. Making decisions on product and digitalization roadmaps is not only based on the state of the technology but also on the insights of the core teams and creators involved in its visualization and implementation. Qualitative insights, combined with quantitative data, will strengthen understanding of an as-is situation and give more clarity to make the digital roadmap as close to future-ready as possible.

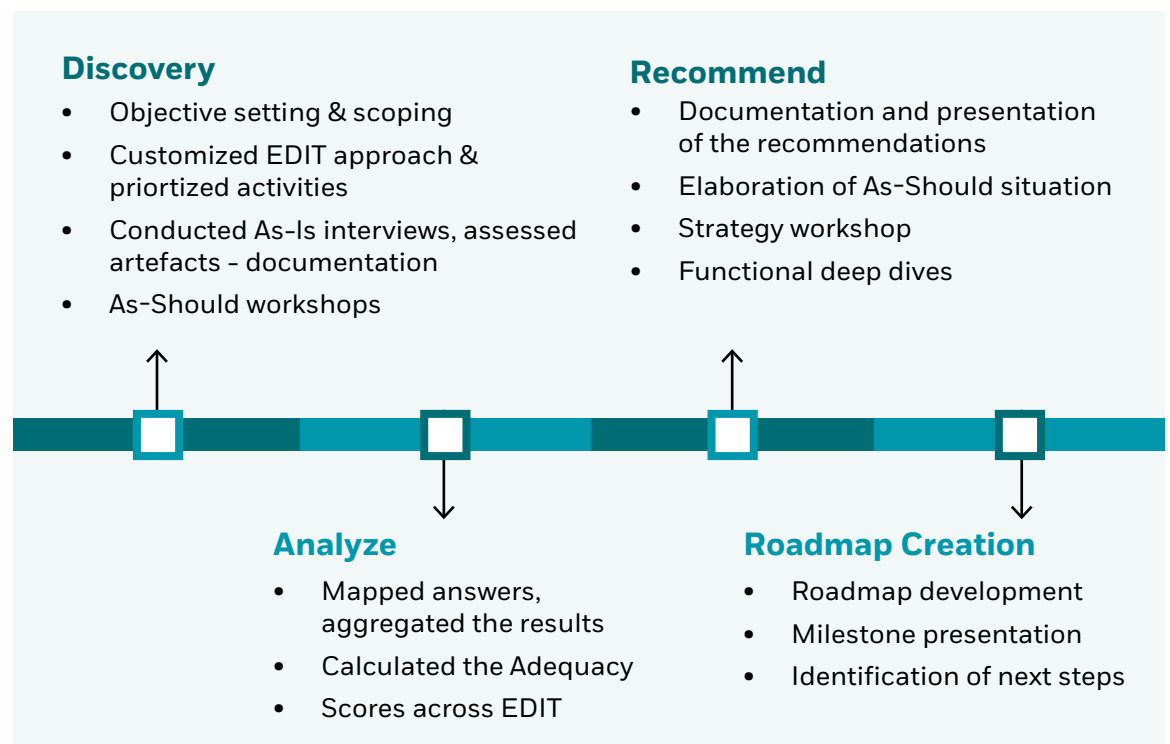


UST's EDIT framework aligns business and technology for a future-ready product roadmap

The most challenging step when tackling IT modernization or planning digital transformation projects is where to start. Whether leaders are considering a new product or looking at their legacy technology infrastructure to leverage it for business growth or operational efficiencies, the first step is to assess the as-is state. This can be a daunting task collating the parameters of business research and technology audit.

At UST, we understand what it takes to identify and prepare the right IT landscape and infrastructure to make businesses future-ready.

UST's proprietary EDIT (Engineering, Design, Interface and Technology) framework has been tested and refined over three years to do just this. These include different assessments – e.g., code highlights, DevOps assessments, well-architected reviews, assurance assessments, along with engineering. Our assessment framework is designed to identify not only gaps or improvement areas but also those areas that are making progress. To ensure timely and effective actions, the EDIT assessment is carried out over four phases: Discover, analyze, recommend, and create a roadmap through 10-15 dedicated sessions with our clients.



Key takeaways of UST's EDIT assessment:

Quantification of observations on the four primary components of the EDIT framework in the form of adequacy scores against each influencing parameter. This helps align business prioritization with technology-related decisions. The adequacy score measures how adequately the platform/product addresses each evaluation area. While 100% adequacy is ideal, the higher, the better. Most importantly, it gives a bird's eye view of how effectively the platform/product meets non-functional requirements. It evaluates the importance of the feature being assessed from a business standpoint.

Qualitative insights aligned with business priorities and interests are summarized at the end of the process. These qualitative insights are gathered by guided discussions with experts and highlight progressing areas and areas of improvement in detail, relevant to engineering, design, interface and technology dimensions of the product. These also include the identification of engineering management challenges.

The assessment also recommends the top five areas to strengthen the engineering transformation, modernization or product innovation roadmap.

A short- and long-term roadmap for each area is defined with short-term and long-term goals in mind. An action plan details a tactical (90-day), foundational (180-day), or strategic (1-year onwards) roadmap as required. It also sharpens the focus on the top five areas needing attention.

For example, during the assessment of the engineering component from an information security standpoint, the team might observe that threat modeling is not currently performed for an application involving sensitive personal information. Therefore, one of the recommendations is to include an appropriate process to identify, control, or mitigate vulnerabilities and threats.

Well-architected principles, including the cloud's sustainability pillar, are assessed as part of the review. Reviewing for operational excellence, security, reliability, performance efficiency, cost optimization, and sustainability is essential for any product or application in the cloud to ensure that the architecture aligns with best practices.

End-to-end automation and engineering process is outlined based on detailed reviews against the pillars of engineering, design, interface and technology. This step includes recommended automation deployments that remove manual errors and take over tedious tasks, freeing up resources for innovation and customer relationships.

Cybersecurity maturity is critical for success in any modernization, engineering or product roadmap. We can provide an expert lens on App Sec and overall cybersecurity stature in compliance with OWASP, and CVE/CWE standards.

Every product is flawed. Awareness of its deficiencies is business critical as it suggests requisite improvement pathways and next steps - EDIT brings this clarity.



Build a strong and future-ready product roadmap with UST's EDIT assessment

For over 20 years, UST has worked with the world's best companies to make a real impact through transformation. Powered by technology, inspired by people, and led by our purpose, we partner with our clients from design to operation.

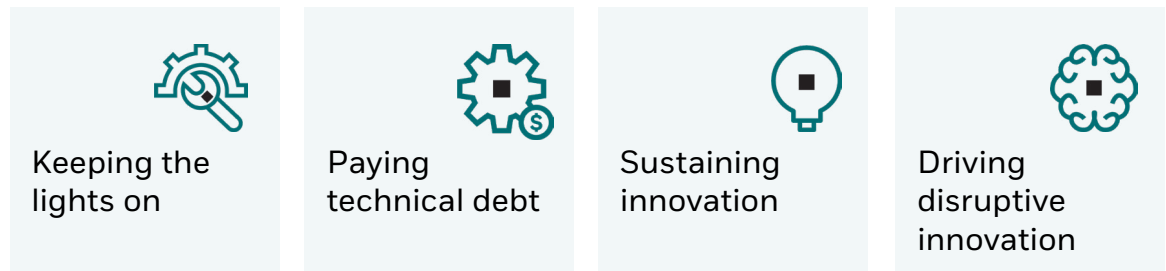
Our experts have deep knowledge and insights across domains. While conducting the EDIT assessment, they ask pertinent questions that will guide your vision for the future of your product or application, address all the business imperatives that CXOs are demanding, and give you that competitive edge in the market. Besides a thorough status evaluation, this assessment report brings insights to your leading differentiators and observations that will lead the discussion on the product's future.

We've enabled customers across financial services, retail, healthcare, and many other industries to make informed decisions and become future-ready.

Contact one of our expert consultants to get the EDIT advantage today.

Summing up

Every product organization must balance investments across four major areas that include:



Modernization and digital transformation investments must focus on the last two. However, many organizations are forced to spend an increasing proportion of their budget on the first two areas. This leads to sluggishness in addressing customer demands and an inability to react to or drive disruptive trends in the market. While the increase in technical debt is a major global risk for any organization that relies on software and must be paid judiciously, organizations need solutions that help them move as quickly as possible to the innovation quadrant.

Using EDIT, organizations can:



This allows organizations to pursue digitalization while accelerating time to value with a more focused set of priorities.

Together, we build for boundless impact

For more than 23 years, UST has worked side by side with the world's best companies to make a real impact through transformation. Powered by technology, inspired by people and led by our purpose, we partner with our clients from design to operation. Through our nimble approach, we identify their core challenges, and craft disruptive solutions that bring their vision to life. With deep domain expertise and a future-ready philosophy, we embed innovation and agility into our client's organizations—delivering measurable value and lasting change across industries, and around the world. Together, with over 30,000 employees in 30 countries, we build for boundless impact—touching billions of lives in the process. Visit us at:

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