



Accelerate Your Business With Engineering Lifecycle Management

Quickly Develop Products, Services, And Software At Scale

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FORRESTER OPPORTUNITY SNAPSHOT: A CUSTOM STUDY COMMISSIONED BY IBM | NOVEMBER 2020

Fearlessly Develop Products And Services

Astute product and software development decision-makers know that to maintain and improve their market position, they need to quickly release new products and services. But developing and delivering smart digital products and services at scale is easier said than done. Development decision-makers need help overcoming people, process, and technology challenges to successfully develop products, software, and services at scale.

They need predictable development processes to ensure regulatory and compliance requirements are met even while requirements evolve. Keeping up can be daunting for decision-makers. Engineering lifecycle management platforms help enterprises respond efficiently to change and create high-quality products faster while controlling development costs and meeting compliance needs.

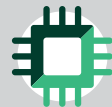
Key Findings



Forty-five percent of technology leaders are well underway with their digital transformation, while 44% have started but still have a long way to go.



Keeping up with changing requirements is the biggest process challenge when managing the development of products, software, or services.



Forty-two percent of product and software development decision-makers said their technology does not allow them to do simulation, analysis, and/or prototyping that could help improve decision-making.

Digital Transformation Is Well Underway

Nearly 90% of product and software development decision-makers are involved in a digital transformation (DT). Forty-five percent said their transformation is well underway, and 44% have started but still have significant work ahead in their transformation. The remaining 11% have just started their DT journey.

Technology leaders know that stagnation is a business killer, so they are improving their ability to develop and deliver complex, innovative products. As they digitally transform, they are focusing on business goals that will improve their position in the market. Product and software development decision-makers are not battenning down the hatches by reducing costs, and they are driving forward to grow revenue, innovate their products, and improve customer experience (CX).

“What are your organizations top business goals for the next 12 months?”



33%
Grow revenue



31%
Improve ability to develop
new innovative products



29%
Improve customer
experience



29%
Improve delivery/
development of
increasingly complex
products and services



26%
Reduce costs

Most Technology Leaders Invest In In-House Development Skills And Tools

Most software development decision-makers are managing the development of software either with discrete tools that communicate through interfaces they have written and maintained or with an end-to-end toolset that provides interfaces. The flip side is that forty percent are completely outsourcing their software development, potentially leaving their in-house teams without the ability to develop core software competencies. Less than a quarter (23%) of decision-makers manage the development of software with discrete tools that do not interface.

Technology/technology services and electronics enterprises are the most likely to completely outsource their software development.

Thirty-four percent of enterprises still manage primarily using spreadsheets and documents.

“Which of the following describes how your organization manages the development of software?”

Manage with discrete tools which communicate through interfaces we have written and maintain

59%

Manage with an end-to-end toolset that provides interfaces

56%

Completely outsource the development of software

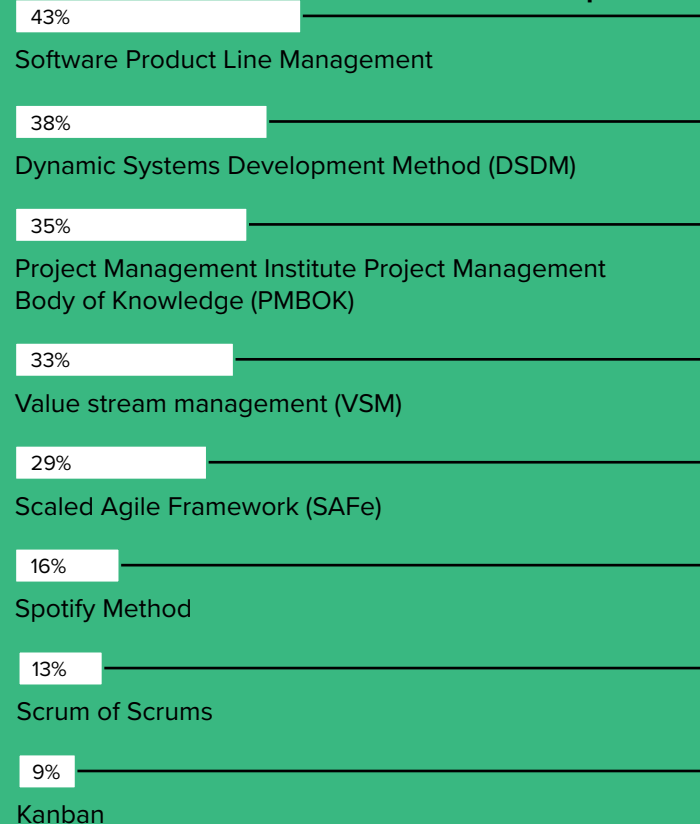
40%

Decision-Makers Rely On Formal Methodologies For Software Development

Software development decision-makers rely on a range of approaches to software development, but they most often turn to formal methodologies. Only a handful of decision-makers use less formal approaches like scrum of scrums and the Spotify method.

There is variation in preferences across the different industries in the study. Transportation and technology/technology services decision-makers said software product line management best matches their approach to software development. Government decision-makers feel extreme programming (XP) best matches their approach. The various needs and development strategies across the different industries allows for many approaches to software development.

“Which of the following practices best match your organization’s approach to software development?”



Misaligned Teams Struggle To Overcome Cultural Boundaries To Develop Services And Products

People and cultural challenges can be the most difficult to overcome. Misaligned staff, organizational barriers, and cultures too dependent on meetings impede efforts to accelerate development of products, software, and services. Adopting the correct development model and process can help address communication across organizational boundaries, keeping stakeholders aligned and building trust between teams.

Offering training opportunities is an easy, often inexpensive way to improve employee experience and to give employees the needed skills to build new products and services your customers want.

Forty-nine percent of technology leaders said collaboration within the development team is critical.

“What are the biggest cultural/people challenges you face when it comes to developing products, software and services?”

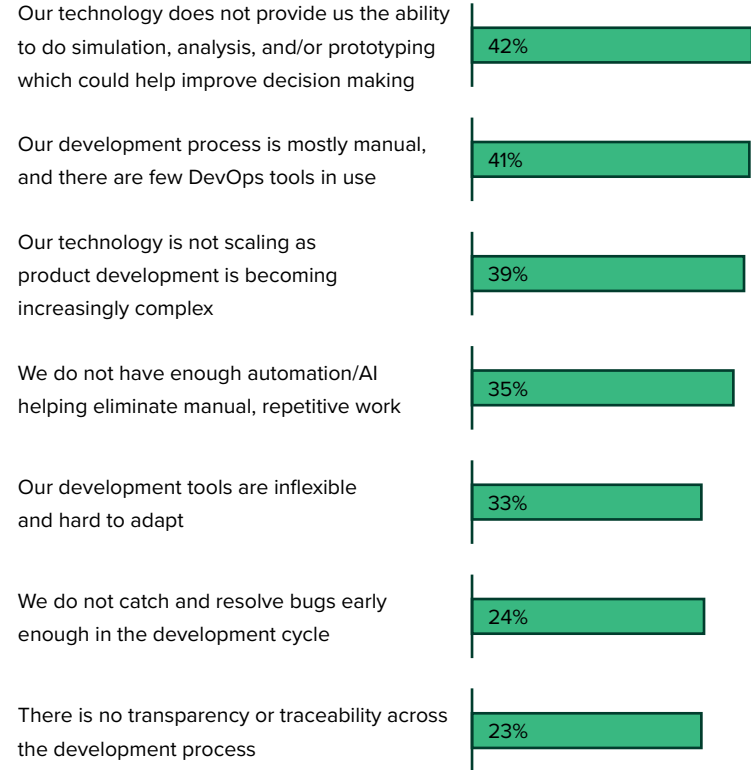


Development Tools Are Not Keeping Up

Product and software development decision-makers identified key areas their technology fails them as they develop products, software, and services. They need tools that provide the ability to do simulation, analysis, and/or prototyping. Better insight into these areas allows technology leaders to make better and more informed decisions about the development process.

As product development grows in complexity, manual processes must be automated with DevOps tools and augmented with AI to reduce error-prone, repetitive work. Decision-makers must also address scalability challenges as complexity increases. Without a scalable product development process, enterprises find it hard to keep up with demand. Decision-makers can no longer rely on inflexible tools that don't adapt fast enough for their needs.

“What are the biggest technology challenges you face when it comes to developing products, software, and services?”



Don't Let Process Stand In The Way Of Progress

Requirements evolve quickly for new products, software, and services. Keeping up with those changes and managing their impact is very challenging for technology leaders. Product and software development decision-makers also have to keep meeting all compliance and regulatory requirements.

Another key process challenge decision-makers face is keeping all the stakeholders in the organization in sync across multiple products, product components, or related projects. This task is challenging enough within the organization, but decision-makers often must also keep outside partners and suppliers in sync. Well-defined processes and communication streams are required to address this challenge.

“What are the biggest process challenges you face when it comes to managing the development of products, software, or services?”



Meet Requirements With Better Processes And Tools

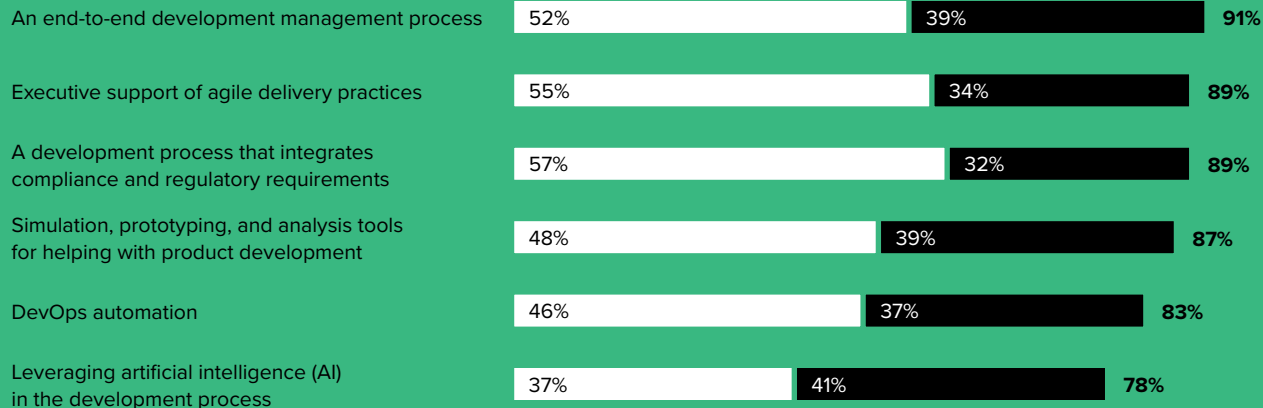
Product and software development decision-makers are relying on their staff, technology, and processes to help them meet their business goals. Having a fully integrated development environment is critical to meeting those goals. They need an end-to-end management process that integrates compliance and regulatory requirements.

They also need agile delivery practices and simulation, prototyping, and analysis tools to empower developers to make better decisions and to enable more seamless communication and collaboration across teams.

Thirty-nine percent of decision-makers said an end-to-end development management process is critical.

“How important are the following to achieving your business goals?”

- Important requirement
- Critical requirement



Clarity And Communication Are Critical To Compete In The Market

Decision-makers identified clear requirements, and they said collaboration and communication across the entire development team is the most critical to meet their business goals. They need insight into changing requirements and the transformation required to meet them to avoid slowing down development of products, services, and software.

Silos must be broken down across the development team. Adopting processes and tools that help automate requirements management, communication, and collaboration workflow and those that provide transparency and traceability of an end-to-end management environment are critical to achieving business goals.

“How important are the following to achieving your business goals?”

Critical requirement



Conclusion

As decision-makers strive to accelerate their business success, predictable development of products, services, and software at scale is more important than ever. Leveraging engineering lifecycle management tools enables predictability and innovation by:

- Addressing challenges to building products and software faster at scale by enabling communication and collaboration across firm boundaries.
- Providing management of evolving requirements and ensuring requirements are well-formed and well-managed, and that changes are communicated across all stakeholders.
- Enabling faster understanding of product opportunities and functionality through early feedback via simulation and early prototyping.
- Having best practices that embrace agile and DevOps tools for the needs of regulated industries and specific compliance requirements.

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Forrester's CIO professionals research group

Methodology

This Opportunity Snapshot was commissioned by IBM. To create this profile, Forrester Consulting supplemented this research with custom survey questions asked of US-based software development decision-makers. The custom survey began and was completed September 2020.

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Demographics

COUNTRY

99% US

1% Canada

INDUSTRIES

19% Electronics

19% Financial services
and/or insurance

18% Technology and/or
technology services

16% Government

12% Transportation
and logistics

11% Automotive

5% Aerospace and defense

COMPANY SIZE

9% 20,000+ employees

26% 5,000 to 19,999
employees

65% 1,000 to 4,999
employees

TITLE

37% C-level executive

20% Vice president

33% Director

10% Manager



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