Innovating for health

Five keys to digital product success in life sciences

thoughtworks

Design. Engineering. AI.

Transformation isn't optional

Life sciences organizations are creating digital products that can improve operational efficiency and provide rapid, accurate insights for faster decision-making — from AI-powered drug discovery platforms to clinical trial management systems and automated compliance documentation tools.

For some pioneering organizations, this transformation has led to valuable outcomes for the business and its customers. For others, persistent challenges have impeded their digital product progress.

A well-executed digital transformation strategy ensures that data becomes a true competitive advantage, enabling faster innovation and better patient outcomes. Although life sciences companies are surrounded by oceans of data, they often struggle to turn information into insights that can accelerate time to market for life-changing drugs and therapies. They're held back by operational complexity, silos and a lack of enterprise-wide digital strategy, which lead them to adopt a localized approach to digital products that limits the pace and scale of innovation.

At Thoughtworks, we see a similar pattern of challenges across our life sciences clients. We help these organizations eliminate silos and unleash the power of their data by changing the way they think about digital product strategy and delivery.

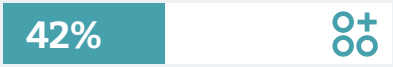
To understand how leading organizations are overcoming these challenges, prioritizing their investments and achieving success with digital products, Thoughtworks partnered with Forbes Insights to survey 300 global business leaders, including 100 life sciences executives.

The full cross-industry findings of the survey are available in the *Unlocking digital product success* report. In this whitepaper, we'll take a closer look at what the study tells us about digital product development in the life sciences sector and offer practical advice for achieving digital product success.

Digital product challenges in life sciences

When survey respondents were asked to name their biggest digital product challenges, two options stood out as particularly common. “Keeping pace with user demands for new features and enhancements” was selected by 65% of respondents, and “Scaling digital products beyond POCs or MVPs” was cited by 42%.

65% of life sciences companies struggle to keep pace with user demands



42% find it difficult to scale digital products beyond POCs

These obstacles are rooted in deeper operational issues often found in matrix organizations. Domain teams tend to work in silos, with isolated data sets and processes. This leads to duplicated work, missed opportunities and a lack of alignment, leaving digital initiatives fragmented and inefficient.

Adding to the complexity, many organizations have sprawling technology estates made up of legacy systems and newer tools that often lack standardization and interoperability, creating bottlenecks that hinder progress. For life sciences organizations, regulatory compliance further complicates development, requiring painstaking oversight that can slow timelines.

A lack of cohesive digital product strategy compounds these issues. Without clear objectives and value-driven prioritization, efforts become scattered and reactive. Organizations may chase trends, like adopting AI without a clear purpose and without considering the balance between AI automation and human augmentation, resulting in wasted resources and underperforming projects. These interconnected challenges make it difficult to deliver digital products that drive meaningful impact.

How do top performers unlock digital product success?

The top 25% of performers in life sciences across three digital product performance metrics (product-to-launch, product-to-adoption and product-to-ROI) say they're **overcoming digital product challenges** by:

- Investing in employee training and development in digital product management.
- Developing product roadmaps with clear goals and milestones.
- Implementing agile development to increase flexibility.

This commitment to agile is reflected in *Forrester's State of Agile Development, 2025* report, which reinforces agile as a cornerstone for organizations. It highlights that agile practices enhance collaboration and efficiency, and are crucial for meeting business value priorities and improving release frequency.

Top performers also say they're **driving success** by:

- Creating a safe environment where team members feel comfortable taking risks.
- Fostering a culture of experimentation and innovation.
- Designing products with scalability and flexibility in mind.
- Prioritizing user-centric design.

Top performers aren't resting on their laurels; they're **preparing to stay ahead** in the digital product landscape by:

- Implementing user-centric design principles to revolutionize customer experiences.
- Using data analytics and business intelligence for decision-making.
- Developing new business models and revenue streams for digital products.
- Investing in talent and skills development.

What's encouraging about these responses is that the organizations seeing the most success with digital products have aligned their efforts with key principles and best practices used by Thoughtworks and our clients.

Five recommendations for digital product development

In the life sciences industry and beyond, most high-performing organizations share similar ways of approaching digital products. Based on our engagements with organizations at all levels of digital product maturity, here are five of the most powerful ways to accelerate and sustain success.

1. Define value clearly

High-performing organizations have clarity on their desired outcomes and are rigorous about prioritizing product investments that will deliver them. It's important that teams are driven by a clear understanding of what "value" means — both for customers and the organization — so they can make decisions in service to the value the organization is striving to realize.

While the importance of defining value may seem intuitive, organizations often fall into the trap of focusing on outputs over outcomes. An outcomes-based product roadmap — a vital part of a product strategy — can help focus teams on delivering value rather than a list of features, which can become irrelevant based on insights and evolving customer needs. A roadmap can also help guide near-term decisions and prioritization with a long-term view, ensuring the decisions teams make today enable them to scale in the future.

2. Adopt product thinking

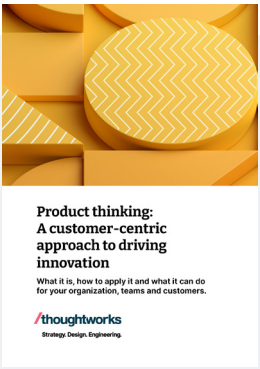
High performers use product thinking to create products that solve the problems of their customers, drive business impact and thrive within real-world constraints — technological, operational and regulatory. The product thinking approach encompasses design thinking, lean product management, agile development and other methodologies to guide organizations throughout the product lifecycle. From defining the right value proposition to designing, building, launching and evolving experiences that deliver results, product thinking keeps organizations aligned and outcome-focused. It also helps teams stay responsive to shifting customer needs and behaviors or an evolving regulatory landscape.

By infusing customer-centricity throughout the organization and empowering cross-disciplinary teams, this approach manages the four product risks and helps ensure investment of budget, time and effort results in products that are valuable to the business, employees and customers:

- **Desirability:** The product addresses the target users' problems, needs, desires and jobs to be done.
- **Viability:** The product capitalizes on nascent, emerging or untapped opportunities to deliver products that are commercially sustainable.
- **Feasibility:** The product is technologically and operationally feasible based on the organization's current and future resources and capabilities.
- **Usability:** The product is easy to use and captures users' attention, interest and imagination.

Learn more about product thinking — and how it can help you create value for your organization, teams and customers.

Get the whitepaper



3. Create a safe space to experiment

High-performing organizations focus on fostering a culture of experimentation and creating a safe environment where teams can comfortably take risks and rapidly learn and iterate.

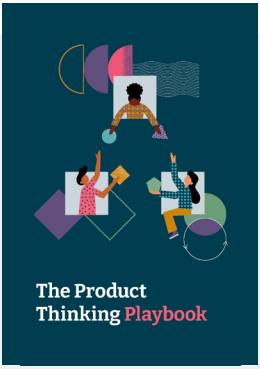
Product thinking is grounded in experimentation and has strong parallels with the scientific method — following an iterative process from defining a hypothesis for achieving a specific outcome, to conducting an experiment to prove or disprove it and making a decision based on data and insights.

Empowering teams to thin-slice products into small, independent pieces enables rapid iterations and more frequent and faster experimentation. Small, focused experiments allow good ideas to move forward quickly and help teams avoid wasting time, money and effort on ideas that won't deliver value for customers or the business.

Creating this safe space is especially important for life sciences organizations that are expanding AI usage beyond internal processes to patient-facing products. Teams need the freedom to conduct experiments and develop POCs or prototypes to validate their hypotheses without putting compliance or patient safety at risk.

Download The Product Thinking Playbook — leverage over 150+ tactics and techniques to map your way to better products.

Get the playbook



4. Build capabilities — grounded in a digital product strategy

Of course, a team's ability to deliver value will depend on having strong product, design and development capabilities, guided by a clear, compelling product strategy and supported by cross-functional resources, such as marketing, sales and customer service. It's also vital to create multidisciplinary digital product teams, with designers, engineers, product experts and data specialists working together at every stage.

These capabilities span individual skills, as well as the technology and data platforms that support them. High-performing organizations are developing these capabilities by investing in training and development in product management, and by implementing data analytics and business intelligence tools for better-informed decision-making.

These investments have heightened urgency as organizations increasingly attempt to accelerate delivery with AI and create AI-powered products. Teams will need in-depth knowledge of the AI market and a thorough understanding of how to apply AI tools. In this fast-changing environment, a mindset of continuous learning and a safe space for experimentation are more important than ever.

5. Balance AI autonomy with human augmentation

The recommendations above have been tried and tested by Thoughtworks and our clients over several decades. More recently, with the rapid advances in AI models and tools, we've been working with organizations to help them take a thoughtful, outcome-led approach to AI-powered products.

While AI may appear to solve every problem, it's essential to judge the appropriate level of AI autonomy for each use case. Some level of human interaction and oversight is essential for all AI digital products, especially in life sciences, where security, privacy and safety are paramount. It's important to ensure responsible and ethical AI development and usage, and understand that, in many use cases, AI should be a companion, not a replacement.

Together, these five recommendations — supported by leadership advocacy and a robust change management plan — can transform the way organizations approach their business and the results they deliver. Product-led organizations, an enterprise shift from a traditional project mindset to a product mindset, consistently deliver value for the business and its customers by being:

- **Customer-centric**, with strategy, operating models, processes and tools all focused on meeting customer needs.
- **Tech-enabled**, viewing technology as a critical differentiator for the business, not just a functional necessity.
- **Outcome-led**, focusing on delivering clearly defined value rather than meeting project milestones.

Become a product-led organization

Learn how to build an organization that creates great products.

Get the ebook

Revolutionizing life sciences with powerful digital products

At Thoughtworks, we work closely with leading life sciences organizations like Pfizer, Gilead Sciences and Bayer to help them harness the power of generative AI and create digital products that deliver meaningful, lasting value.

For example, we worked with Bayer to help it make the most of its preclinical data by creating a chatbot that allows researchers to quickly find information about previous projects, specific compounds or historical records by asking simple questions.

The chatbot is having a huge impact on research productivity and efficiency: "I've been using the chatbot for a few weeks and it's fantastic!" explains Verena Ziegler, Head of Genetic & Computational Toxicology at Bayer.

"It quickly finds studies, summarizes them and extracts the main conclusions. It also allows complex comparisons. For example, I used it to find a study on DNA strand breaks with higher exposure in female rats than in male rats, which greatly aided in planning my current genotoxicity study."

Verena Ziegler
Head of Genetic & Computational Toxicology at Bayer

Introducing the Thoughtworks R&D digital assistant

Learn how our AI research assistant accelerates life sciences R&D.

Get the whitepaper

Learn more

To explore how Thoughtworks can help your organization create digital products that accelerate drug discovery and development, generate real customer value and have a measurable impact on your bottom line, get in touch.

Authors

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Teresa is an accomplished leader with over 20 years experience in operations, marketing, product management, and customer experience. She has advised and partnered with clients across industries, including life sciences, retail, travel & hospitality, health & wellness, and financial Services, to achieve ambitious goals, strengthen customer connection, and deliver measurable, impactful results.

Teresa combines deep understanding of client context - where they strive to be tomorrow and the realities of where they are today - with strategic thinking and a hands-on, collaborative approach to lead large-scale programs powered by multi-disciplinary teams. She works with clients to unify their organization around a compelling vision, articulate a clear path forward, re-imagine products and experiences, and convert strategy into tangible outcomes.

Teresa helps clients solve tough problems and make a meaningful difference, with curiosity, creativity, compassion, and collaboration.

Authors

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Stuart Pyle is a seasoned digital transformation leader with over 30 years of experience guiding healthcare and life sciences organizations across the entire molecule to patient value chain. His expertise spans organizational transformations, operational efficiency, and technology advancements, with a focus on aligning data driven business and IT strategies to deliver measurable outcomes.

His leadership has delivered cutting-edge solutions that leverage AI/ML, cloud technologies, and data governance frameworks to accelerate innovation, improve decision-making, and enhance patient-centric outcomes.

We are a global technology consultancy that delivers extraordinary impact by blending design, engineering and AI expertise.

For over 30 years, our culture of innovation and technological excellence has helped clients strengthen their enterprise systems, scale with agility and create seamless digital experiences.

We're dedicated to solving our clients' most critical challenges, combining AI and human ingenuity to turn their ambitious ideas into reality.

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