FORRESTER®

Why You're Wrong About Operationalizing AI

Debunk Common Myths About AI
To Turn Insights Into Actions

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Executive Summary

Artificial intelligence (AI) technologies are no longer just a "nice-to-have" — they are now a core capability for enterprise-wide digital transformations. Using AI technologies to inform digital decisions allows firms to deliver better customer experience and become stronger competitors. However, damaging myths about operationalizing AI prevent enterprises from implementing AI solutions.

InRule commissioned Forrester Consulting to evaluate what AI operationalization myths have permeated the market and how firms can change their perception of these myths to operationalize AI faster. Forrester conducted three interviews and an online survey with 302 US-based application development and delivery decision-makers with knowledge of decision management platforms to explore this topic.

We found that AI decision-makers see operationalizing AI as critical to gaining essential insights about customers and markets to improve business outcomes. However, silos, data challenges, and a lack of resources stand in the way.

"Insights are worth a dime. Actions are worth a dollar. Operationalizing AI allows us to drive system behavior based on insights coming out of our AI model."

A CIO at a US-based insurance company

Key Findings ⟶

Key Findings

Proving the efficacy of digital decisions is essential but daunting. As digital decisions become critical and repeatable across all parts of the business, decision-makers recognize that defending and proving the efficacy of their digital decisions is increasingly important. However, 58% of decision-makers report it's challenging to defend and prove the effectiveness of their digital decisions.

Collaboration challenges slow success. AI decision-makers face a range of collaboration challenges, but data is the main culprit that slows their organizations' progress. More than half (51%) of decision-makers say their organizations have too much data to make collaboration efficient. Forty-two percent of decision-makers struggle to identify — and get access to — the right data. Organizational silos exacerbate the inaccessibility of data, hindering collaboration with experts and data scientists.

AI use cases are prevalent across different business functions. At least one-third of decision-makers report identifying too many use cases and application scenarios across various business functions like sales, marketing, and customer experience. Decision-makers explore a range of AI use cases from driving market and customer insights to testing new products, mitigating compliance, and addressing privacy risks.

AI Use Cases Are Abundant Across Businesses

Though AI technologies like machine learning (ML) have been used in business for over twenty years, misinformation and myths surrounding AI are still prevalent. One persistent myth is that AI is going to make human workers irrelevant and take jobs away. In fact, 64% of decision-makers with responsibility for ML, app development, or decision management report concern around job security as their biggest personal challenge with AI technologies. This study serves to debunk AI myths that prevent enterprises from operationalizing AI technologies.

Conducting the three interviews and surveying 302 US-based application development and delivery decision-makers with knowledge of digital-decisioning platforms has allowed us to debunk the following myth:

MYTH: THERE ARE INSUFFICIENT USE CASES THAT ARE GOOD FOR AI TECHNOLOGIES.

- **In fact, many decision-makers are overwhelmed by too many use cases.** Looking across various business functions, at least three-quarters of AI decision-makers have identified either a manageable number or too many AI use cases to manage (see Figure 1). Fifty-three percent of decision-makers report customer experience as the top business function for AI, and they have too many AI use cases or application scenarios in this area. This will continue as 67% of decision-makers said they expect their AI/ML use cases to increase at least slightly over the next 18 to 24 months.

  Interviewed AI decision-makers also shared their abundance of AI technologies use cases. The CISO at a US-based financial company said: "We are overwhelmed with opportunities. Our challenge is that we do not have the capacity to take on all the use cases we would like to. We're focusing on what is most critical." A director of IT security at a healthcare company noted similar capacity challenges. Their organization is focusing on the most critical use cases for now.
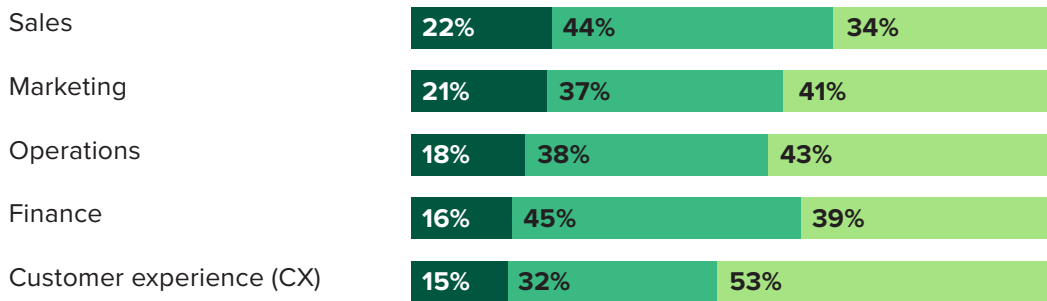
Figure 1

"Which of the following best describes how your organization feels about use cases/application scenarios for AI technologies across the following business functions?"

● We struggle to identify use cases/application scenarios.

● We have identified a manageable amount of use cases/application scenarios.

● We have too many use cases/application scenarios to manage.

	We struggle to identify	We have identified a manageable amount	We have too many to manage
Sales	22%	44%	34%
Marketing	21%	37%	41%
Operations	18%	38%	43%
Finance	16%	45%	39%
Customer experience (CX)	15%	32%	53%

Base: 302 US application development and delivery decision-makers with knowledge of business rule management tools
Note: Percentages may not total 100 because of rounding.
Source: A commissioned study conducted by Forrester Consulting on behalf of InRule, March 2021

- **AI use cases are varied.** There is more than just an abundance of use cases across different business functions — the types of applications decision-makers plan to or currently use AI for also varies greatly. The top use cases are insights driven. Decision-makers want to gain better insight into their competitors, the market, and their customers. Other use cases decision-makers are exploring include innovation, automation, and security (see Figure 2).

The top business priority for operationalizing AI is to improve customer experience.

Figure 2

"For which of the following use cases/application scenarios is your firm planning to use or currently using AI technologies?" (Top 10 shown)

Use case	Percentage
To gain better competitor/market insights	47%
To gain better customer insights	44%
To create and deliver a better customer experience	35%
To improve data, analytics, or insights platforms	30%
To scale and optimize personalization of online customer engagement	28%
To test new products	26%
To innovate product design and development	26%
To improve efficiencies in business operations	26%
To improve business automation	26%
To mitigate compliance risk	25%

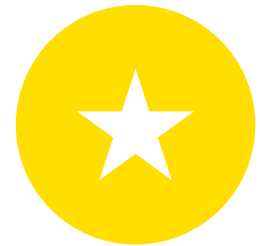Base: 302 US application development and delivery decision-makers with knowledge of business rule management tools
Source: A commissioned study conducted by Forrester Consulting on behalf of InRule, March 2021

Barriers Stall AI Technology Opportunities

Regardless of how ambitious an organization is about using AI technologies, if they can't overcome key barriers, they will not get the most out of the applications they are interested in, potentially losing customers to competitors. While some common myths about AI can be debunked, our study revealed some real barriers that are holding decision-makers back. These myths include:

MYTH: DATA SCIENTISTS ARE UNICORNS WHO HAVE A PHD IN STATISTICS.

- **Finding the perfect data scientist isn't the challenge — connecting them to rest of the ecosystem is.** There are good data scientists in the market with a range of skills that can help at different points of your AI journey. Requiring a PhD in statistics might feel like the right place to start, but the truth is a PhD is not needed to start operationalizing AI. The real challenge lies in breaking down internal silos for data scientists and creating clear communication channels. Internal silos keep data scientists from the rest of the organization, making this one of the top three collaboration challenges firms face. The fact that one in four organizations don't embrace a culture that encourages data democratization only exacerbates these internal silos.

  Communication challenges also stop data scientists from being as effective as possible. Once you find the right data scientists to support your team, they need to clearly communicate their findings. This is often a challenge. The CISO at a US-based financial company said: "Sometimes, when our data science and data insights teams work with other IT teams, there's not always a full understanding of what it is that they're doing. It requires some translation from team to team."

- **You don't need a PhD to work with many of the ML modeling tools used today.** The availability of ML modeling tools has increased over the past few years. This has opened up new and exciting opportunities for data science and IT teams to leverage data without first hunting for the perfect data scientist. Firms that have a clear business strategy and desired outcomes can leverage existing tools and talent to begin

building models. Down the line, once a use case is developed, they can then leverage the PhD to validate or better understand the model as needed.

Only **18%** of decision-makers said a lack of input from data teams is a top collaboration challenge.

MYTH: AI CAN CAUSE UNEXPECTED RESULTS, POTENTIALLY HARMING THE BUSINESS.

- **Being willing and able to prove the efficacy of digital decisions creates trust.** ML models that inform digital decisions often access and use a lot of personal customer data. Sixty-four percent of decision-makers said it is "Important" or "Critical" for their organization to defend or prove the efficacy of its digital decisions.

  The CISO at a US-based financial company said: "Questions of efficacy have been raised more and more frequently. It has come up more because of privacy legislation such as the California Consumer Privacy Act and others. Legislation has different requirements for the data you collect." Despite its importance, 58% of decision-makers find defending or proving the efficacy of their digital decisions challenging. Decision-makers are more willing to share visual representations of their outcomes, the results of each step in the decision, and the inputs used (e.g., explainable AI). They are far less likely to show the code they used or the questions driving the decisions.

- **Firms lack the right tools, technology, process, and culture to identify the right questions for digital decisioning.** Not only is it a challenge to find staff with the right skills, but 57% of decision-makers report not having the tools and technology in place to identify the right questions for their digital decisions. Additionally, 42% don't have the right processes or a culture of collaboration. For decision-makers to feel confident to operationalize AI in production, they need the right resources in place. This is still a murky space with serious potential to harm business for some decision-makers. Before making a

"We are trying to ensure our algorithms are free of personal biases and that the data speaks the truth. Those biases will potentially be much less prominent within our algorithm outcome."

Director of IT security at a healthcare company

significant investment, businesses need to build an infrastructure that supports AI.

MYTH: TEAMS CAN'T DO AI UNLESS THEY HAVE LOTS OF DATA; BIG DATA MANAGEMENT IS A PRE-REQUISITE.

- **Regardless of the volume of data, the quality matters more.** The CIO at a US insurance company said: "Getting access to the right data is the biggest challenge to adoption, the struggle with the availability of good data to be able to train the model. You can't just go out there and find it. You either have it or you don't. If you don't have it, then you have to build it by design. It's actually a really serious problem." Data quality is a top challenge across all firms (see Figure 3). Poor quality data means poor quality decisions that can negatively impact customer experience and the bottom line.

Figure 3

Top Challenges When Using AI Technologies

1 Technology is not mature enough yet

2 Poor quality of data

3 Lack of in-house skills to implement and operate such systems

4 Lack of transparency of how AI/ML systems build models

5 Lack of trust of AI-based systems among employees

Base: 302 US application development and delivery decision-makers with knowledge of business rule management tools
Source: A commissioned study conducted by Forrester Consulting on behalf of InRule, March 2021

Workforce and organizational data have been dripping on companies for decades, but as more jobs interface directly with technology, the data has swelled to a heavy downpour. Most companies erect thin, umbrella-like policies to protect themselves from potentially misuse of data, though a small fraction recognizes that this deluge is contributing to a new operating environment in which they can boldly seek new growth. Organizations must create the right practices and programs to take advantage of the growing volume of workforce data. The trust dividend they earn for doing this correctly can grow revenue by 6%.[1]

"Data quality is always a very challenging aspect of managing decisions. Security is another very challenging aspect. We have so many different data sources collecting data. We're challenged by how we cohesively intake data into certain applications or certain use cases so that the data is meaningful and consistent across all sources."
Director of IT security at a healthcare company

Leverage The Best Of Humans And Technology To Enhance Digital Decisioning

Digital decisioning can create the greatest value when humans are allowed to prove decision logic and fine-tune recommendations based on empirical data analysis and machine learning (ML). An example of this is a financial institution that makes loans. It may be comfortable making frequent loans under $1 million, but it wants to review any loans exceeding that threshold. If an AI model determines that a loan for more than $1 million is safe, the organization still doesn't have to make the loan if they don't want to. The decisioning logic informing the model is critical to help firms make the best decisions but, ultimately, humans are in charge of the final actions. This is a critical element to the final myth in this study:

MYTH: AI LEARNS BY ITSELF.

- **Models are imperfect and need monitoring and retraining.** AI models leverage data from the past to make predictions about the future. As the world, the market, and customers change, the model must be retrained to be as accurate as possible to continue to maximize its business value. ML models decline over time, requiring humans to retrain them to learn and improve. Seventy-one percent of AI decision-makers report routinely monitoring and retraining their models to ensure peak performance, while 28% build and train models, then leave them (see Figure 4). The CIO at a US-based insurance company stated: "Our models are built with a feedback loop. That's the only way they could be continuously trained. I don't think you can build an AI model without training it first, and so then you get that optimization basically for free."
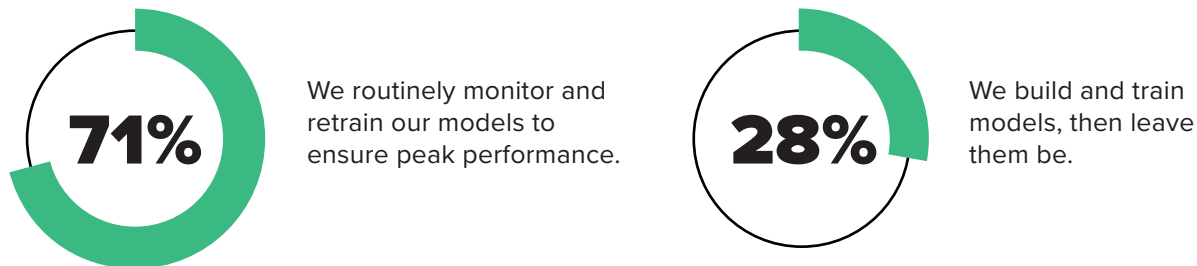
> "Ideally, we routinely monitor. We want to continue to train a model and improve the model accuracy. In reality, we didn't have a great chance to follow through or follow up to continue to improve on some of the projects we initially set up."
>
> **Director of IT security at a healthcare company**

Figure 4

"How strongly do you agree that the following statements reflect your organization's attitude about your ML models?"

● Strongly agree/Agree

71% We routinely monitor and retrain our models to ensure peak performance.

28% We build and train models, then leave them be.

Base: 302 US application development and delivery decision-makers with knowledge of business rule management tools
Note: Percentages may not total 100 because of rounding.
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- **The initial investment in AI might feel daunting, but the results are worth it.** Once the key people, process, and technology barriers are addressed, decision-makers can start delighting customers with better experiences, new products, and better security. Our study found that decision-makers' confidence in their ability to successfully operationalize their AI in production is directly linked to having a mature infrastructure and skilled staff (see Figure 5). Firms can then scale and personalize experiences, improve business automation, and drive profits, while gaining a competitive edge.

Figure 5

"How confident are you in your organization's ability to successfully operationalize your AI in production?"

Very confident/Confident	Somewhat/Not confident
"We have right skills, matured infrastructure, and clear vision for successful AI implementation."	"It's a huge investment and we don't have much experience on our team."
"There is good collaboration between our data scientists and data engineers for automating and productizing."	First, we need to build AI-supporting "infrastructure and leverage the latest technology."
"We are closely monitoring monthly data updates to maintain accuracy thresholds as market conditions change."	"AI is the future of new world, so we have to implement AI and are expecting better efficiency."
"Because our AI-based analytical insights are quite strong."	"AI's advantages are not very clear to us as of now."
"Because our data scientists and data engineers have done a great job."	"Our resources are still getting trained."
"I think we can integrate and scale such technologies."	"The future is uncertain."
	"We are overly dependent on external partners."

Base: 302 US application development and delivery decision-makers with knowledge of business rule management tools
Source: A commissioned study conducted by Forrester Consulting on behalf of InRule, March 2021

Key Recommendations ⟶

Key Recommendations

AI is a critical source of industry competitiveness. The fastest path to AI solutions is to formulate and execute a strategy to scale AI use cases based on reality unencumbered by myths. Forrester's in-depth survey of 302 US-based application development and delivery decision-makers and research on AI and digital decisioning yielded several important recommendations:

Don't hesitate.

Recent Forrester data reveals that 68% of enterprises report that their organization is implementing AI. Forrester forecasts that nearly 100% of enterprises will be implementing some form of AI by 2025.[2] AI has use cases in all industries and will become a staple of all business application software. Organizations must overcome misunderstandings of AI, hire and/or grow AI talent, and implement critical use cases that are on par with other organizations in their industry.

Get the board on board.

Ultimately, executives and boards will remain responsible for the actions and inactions of an enterprise. Most understand the transformative necessity of AI in their industry — but they might not understand the scope and investment required to do AI at scale. Educate the board on the success of initial use cases, but lay out the fuller technology and organizational requirements to implement AI use cases at scale.

Build a pipeline of consequential AI use cases.

Scaling AI means having use cases that are real and ready to implement. Create AI trailblazer teams populated with business, technology, and AI professionals to examine critical business processes and customer interactions for AI opportunities. Prioritize use cases based on technical feasibility and impact on your enterprise's industry leadership. Using an industry leadership impact lens will ensure that the AI use cases you

implement are relevant to digital transformation relative to the competition rather than simply improving upon your existing business processes.

Analyze AI-impact personas.

AI influences the future of work. Like all technology, it will automate some processes, augment employee capabilities, and lead to the creation of entirely new roles for workers. For each AI use case, create personas to represent existing employees and customers AI solutions are likely to impact. Analyze how the AI solution will impact the role from each persona's point of view. Use this analysis to help people understand how technology will improve the company, customer experience, and their role.

Operationalize AI using digital-decisioning platforms.

The cleverest machine learning algorithms are ineffectual without use case-relevant context and decision logic. To scale AI, you must have comprehensive digital-decisioning capabilities that can incorporate ML, human decision logic, and other decisioning technologies and techniques. Choose digital-decisioning platforms that empower business experts to develop solutions that can incorporate these technologies.

As amazing and transformative as AI can be, it is only as good as the data used to train ML models. That data may not fully represent the business use case because there may also be industry regulatory rules, company best practices, and even plain-old common sense simultaneously make AI better while protecting against negative outcomes.

Appendix A: Methodology

In this study, Forrester conducted three interviews and an online survey of 302 manager+ decision-makers at US-based organizations from financial services, insurance, technology/technology services, healthcare, and government industries to evaluate AI myths in the market and how firms can overcome barriers to better operationalize AI for digital decisioning. Questions provided to the participants asked about their confidence level, challenges, and need to operationalize AI. Respondents were offered a small incentive as a thank-you for time spent on the survey. The study began in March 2021 and was completed in March 2021.

Appendix B: Demographics/Data

COUNTRY	
US	**100%**

ANNUAL REVENUE	
>$5B	**8%**
$1B to $5B	**28%**
$500M to $999M	**64%**

DEPARTMENT	
IT	**53%**
Marketing	**25%**
Operations	**22%**

INDUSTRY	
Financial services and/or banking	**29%**
Insurance	**27%**
Tech and/or tech services	**16%**
Healthcare	**15%**
Government	**14%**

LENGTH USING BUSINESS RULES/DECISIONING PLATFORMS	
Less than a year	**6%**
One to two years	**17%**
Three to five years	**37%**
Six to 10 years	**30%**
10+ years	**10%**

TITLE	
Senior-most business leader	**12%**
Executive in line of business or function	**15%**
Senior-most IT decision-maker in the firm	**11%**
VP in IT	**12%**
Director in IT	**14%**
Manager in IT	**19%**
Manager in line of business or function	**17%**

RESPONSIBILITY	
Machine learning	**43%**
Applications development	**36%**
Decision management	**34%**
Cloud development	**32%**
Artificial intelligence innovation	**30%**
Digital transformations that include artificial intelligence/machine learning	**25%**
Business intelligence	**18%**

Note: Percentages may not total 100 because of rounding.

Appendix C: Supplemental Material

"Shatter The Seven Myths Of Machine Learning," Forrester Research, Inc., January 2, 2020.

Appendix D: Endnotes

[1] "Experience The Promise, Not The Peril, In The Workforce Data Downpour," Forrester Research, Inc., September 1, 2020.

[2] "The Forrester Wave™: AI Consultancies, Q1 2021," Forrester Research, Inc., March 25, 2021.