

NO BULL, NO HYPE:



The State of AI in the Food & Animal Nutrition Industries

Research conducted by

Tech-Clarity





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Research conducted by **Tech-Clarity**



THE BUSINESS CASE FOR AI

AI Has Arrived

Artificial Intelligence (AI) has matured beyond specialized applications. In its many forms, AI is changing how companies operate, helping them generate new insights, predict outcomes, streamline work, optimize decisions, and manage by exception. It also frees employees from repetitive, low-value tasks, such as manually producing documents like batch records, quality reports, and certificates of analysis, allowing companies to reinvest employees' time to drive innovation and offer white-glove customer service.

Food and Animal Nutrition Companies Don't Do Hype

Food and animal nutrition companies approach AI the way they approach any technology: practically. They aren't enamored with technology for its own sake; rather, they need to understand the business value before they invest. And for now, they're still figuring AI out. A CIO at a mid-sized agricultural cooperative shares, "I understand the value, but our industry – except for bigger players – doesn't really understand AI and its capabilities."

The Opportunity is Broad

The opportunity spans the entire business: plant operations, R&D, distribution, supply chain, quality, compliance, and sales and marketing. AI's value extends beyond food and nutrition-specific capabilities, reaching both front and back-office functions across the business.

What the Data Shows

Tech-Clarity spoke with Datacor customers and surveyed over 250 companies with under \$300 million in revenue to understand how food and animal nutrition companies are approaching AI, where they're finding success, and what's holding others back.

The findings tell a clear story: food, pet food, animal feed manufacturers, and distributors are making meaningful progress with AI and doing so more quickly than many might expect.

- Those that have started are finding ways to scale their AI advantage.
- The barriers are real but addressable: skills gaps, data readiness, security concerns, and knowing where to begin matter more than distrust or fear.
- The companies leaning on existing trusted partners are getting further, faster..

AI won't transform a business overnight, but it is becoming a key differentiator in the food and animal nutrition industries. Companies finding value in AI are already pulling ahead, meaning the cost of waiting is rising.

Food and animal nutrition companies finding value in AI are already pulling ahead. The question isn't whether to start. It's whether you can afford to wait.



GOALS FOR AI

Cost and Efficiency Lead the Way

When asked about their primary AI business goals, over two-thirds of food and animal nutrition companies reported wanting to reduce cost and drive efficiency, and over half specifically said they target lower production cost. These goals are consistent with how these companies approach technology broadly: they operate on thin margins, and cost-consciousness is built into how they run their business.

But cost and efficiency are only part of the picture. 43% are trying to improve product and service quality. Over one-third target increased business resilience to disruption. None of the companies reported having no business goals for AI at all.

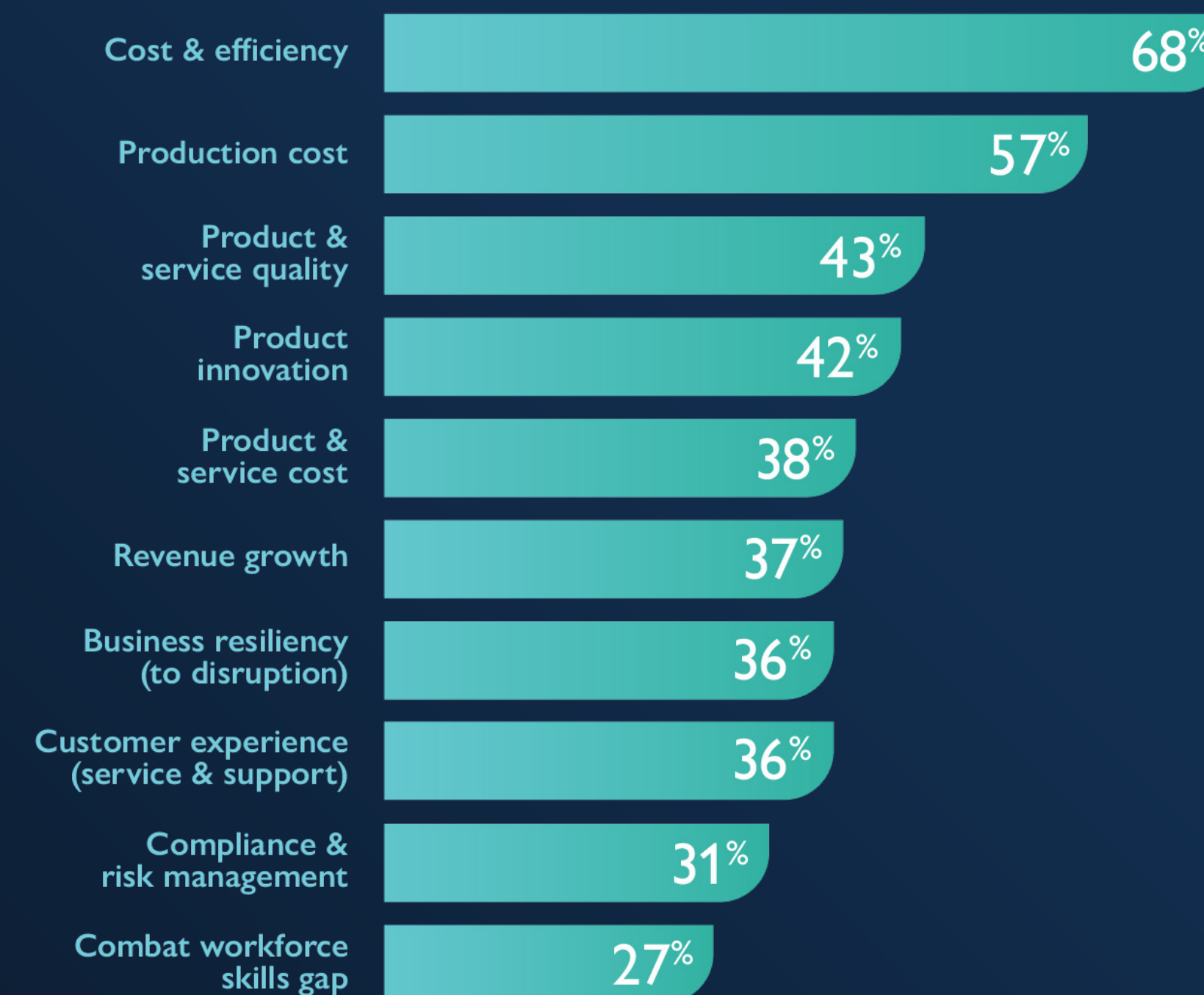
Top-Line Goals Complement Operational Ones

Food and animal nutrition companies report goals for improving the top line in addition to the bottom line. 42% indicate they are looking to AI to increase innovation, which is not surprising given the increased specialization in both food and nutrition industries. Over one-third report leveraging AI to drive revenue. Two other commonly reported goals directly impact the customer: improving service quality and enhancing the customer experience. Investing in efficiency isn't just about reducing costs and headcount — it's about serving customers better.

AI Opportunities Span Every Corner of the Business

Perhaps the most telling finding isn't any of the individual goals, but the sheer breadth of them. Companies reported goals spanning nearly every corner of the business. AI is not being treated as a point solution — it's being pursued as a broad operational capability. As one company put it, "We're adopting AI to reduce costs, optimize processes, and improve productivity without compromising quality or employee wellbeing."

PRIMARY BUSINESS GOALS FOR AI



AI FOCUS AREAS

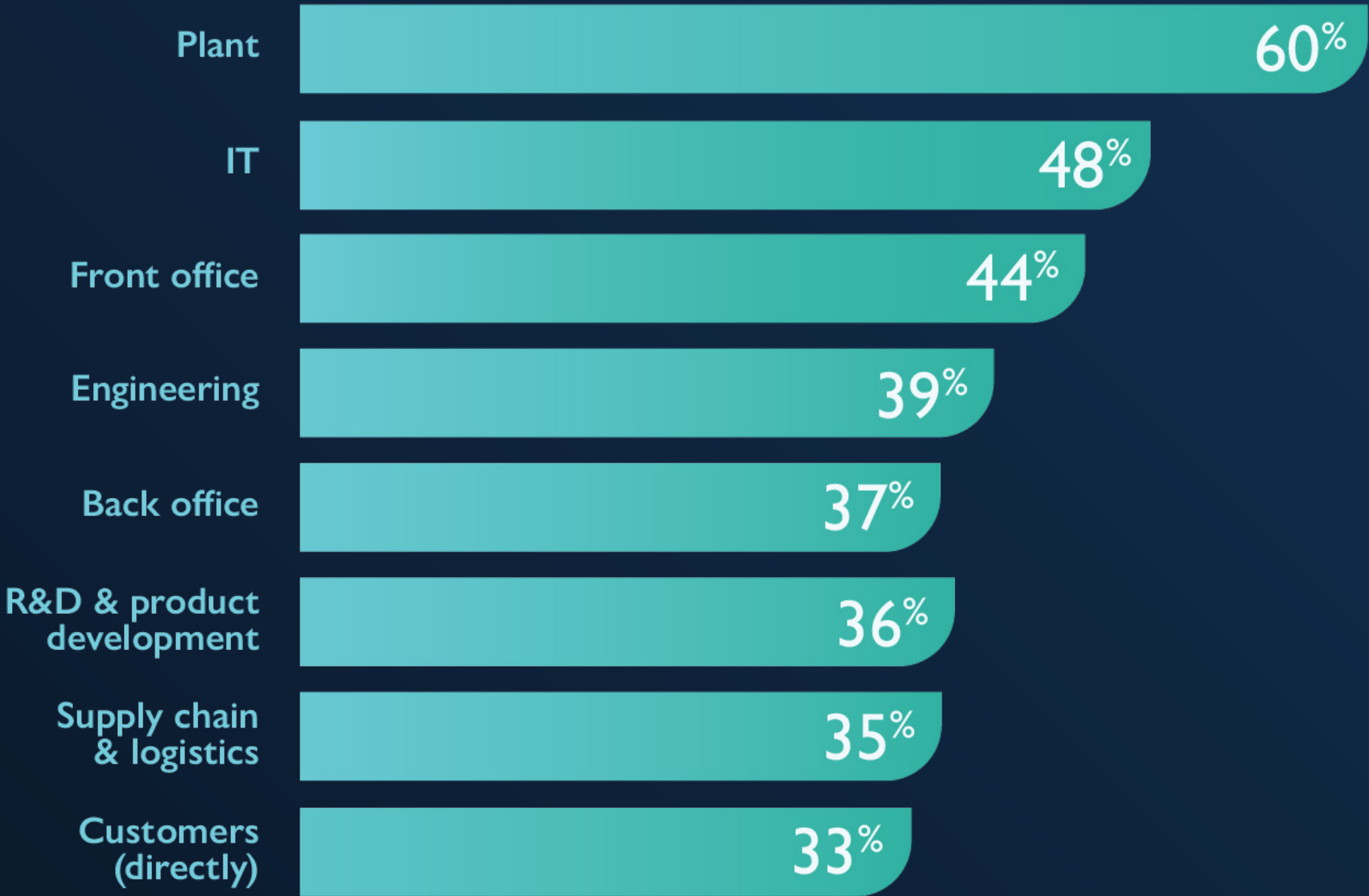
Start Inside the Business

Food and animal nutrition companies are starting their AI journey with an internal improvement focus. The most common target is the plant (60%), where quality, consistency, and efficiency are constant operational priorities. Another common goal is improving IT, including cybersecurity and efficiency, capabilities that support and protect the entire business. Companies are also focusing on both the front office (44%) and the back office (37%), including functions such as accounting, HR, admin, and regulatory compliance. Focusing on internal functions is a practical approach that creates a direct path to cost savings and efficiency through initiatives like automating manual data entry, streamlining workflows, and improving production scheduling.

Internal Improvements that Serve Customers

Even when the goal is improving customer experience, most food and animal nutrition companies are taking an indirect approach. Although one respondent shared they are implementing AI “to enhance customer experiences through personalization, faster responses, and more accurate service delivery,” only about one-third are targeting AI for direct customer-facing applications; instead, they are enhancing internal capabilities that ultimately serve customers better. Over one-third of respondents report efforts to improve R&D and product development and engineering. Efforts to improve the front office capabilities, including sales, marketing, and support, also reflect indirect customer improvements. As food and animal nutrition companies gain more confidence in AI, direct customer-facing applications will likely follow.

PRIMARY FUNCTIONAL AREAS TARGETED FOR IMPROVEMENT



IMPROVING PRODUCTION WITH AI

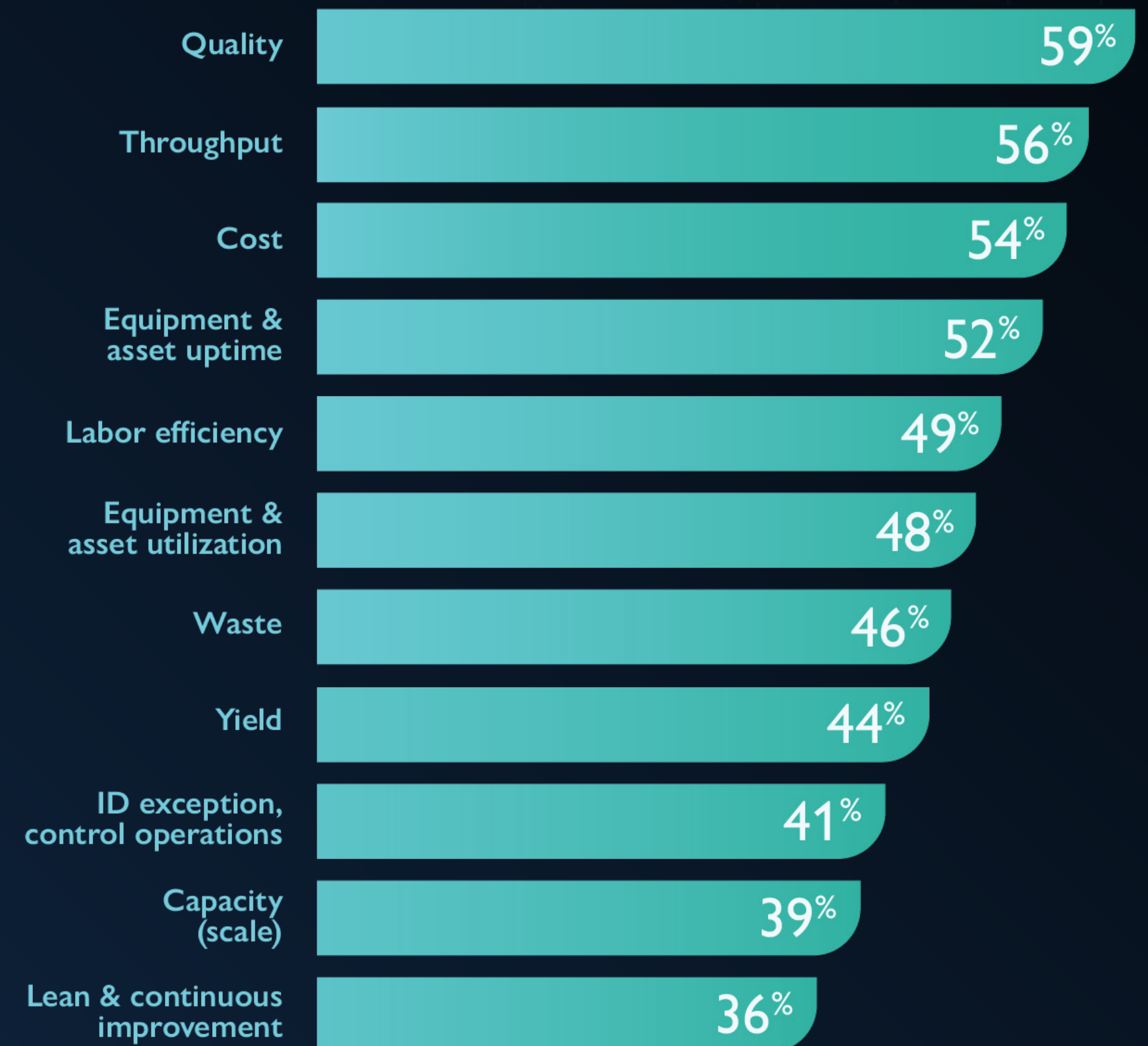
Quality is the Top Focus in the Plant

Among AI plans for production, processing, and manufacturing, one goal stands out: quality. 59% of those familiar with their company's plans to improve production with AI report quality as a primary improvement target. Further, over one-third report identifying and controlling exceptions and supporting lean and continuous improvement initiatives that drive higher quality. Respondents shared numerous examples including "improving food safety checks and catching issues earlier" and "automating quality checks to ensure consistent product standards."

Throughput, Cost, and Uptime Follow Closely Behind

The next most common targets align with the broader cost and efficiency goals reported earlier, specifically those that improve OEE (operational equipment effectiveness). Companies report turning to AI to improve throughput, costs, uptime, labor efficiency, equipment utilization, waste, and yield. Production scheduling, for example, is an area where AI can reduce changeover times and improve throughput. As one participant shared, "Our goal is to shrink production costs to gain price advantage." It's a compelling opportunity for this margin-conscious industry.

PRIMARY AI IMPROVEMENT TARGETS FOR THE PLANT



IMPROVING R&D WITH AI

Optimize Recipes and Predict Outcomes

R&D is another area where food and animal nutrition companies see significant AI opportunity. Enhancing R&D capabilities directly supports two of the most reported business goals: improving product quality and reducing cost, with recipes as the most common application. Over half of the surveyed companies aim to use AI to help formulate recipes to specification or to order. Others report objectives to identify recipes for reuse and optimize recipes, including optimizing based on variable ingredients — a fundamental challenge in this industry where agricultural inputs shift in composition, availability, and cost.

The application looks different across segments. A pet food company optimizing for nutritional compliance faces different constraints than a human food producer balancing taste, texture, and safety, or a feed operation managing cost against commodity input variability. But the underlying need is the same: better, more efficient formulation. Participants shared specific examples including wanting AI to provide “faster validation of ingredient substitutions without affecting taste or texture” and “keep recipes consistent while sourcing ingredients globally.”

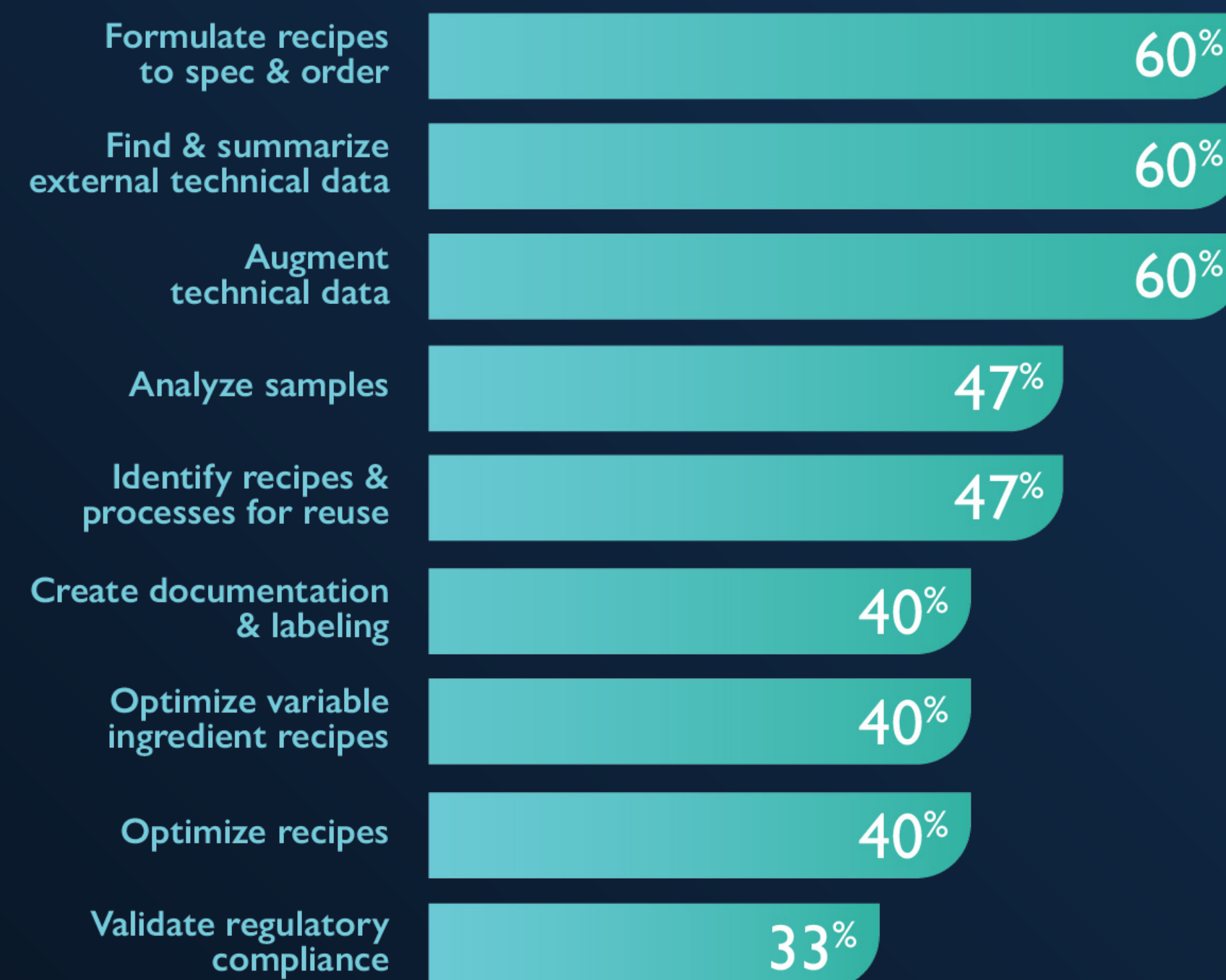
Better Access to Technical Data

Well over half of respondents are looking to AI to find and summarize external technical data, such as standards and specifications. The same percentage wants to augment technical data, which could include supplier specifications, process parameters, or lab results. Having the right data readily available means faster, more informed decisions about formulations, ingredients, and process improvements

Support the Lab

Further, almost half report that they would like AI to help them in the lab. Specifically, 47% say they are looking for AI to help analyze samples. With skilled technicians increasingly hard to find, AI can help teams maintain consistent quality standards in lab environments.

PRIMARY R&D IMPROVEMENT TARGETS FOR THE PLANT



IMPROVING OVERALL BUSINESS PERFORMANCE

Drive Smarter Decision-Making

AI has broad applicability for improving general business performance. Almost two-thirds of food and animal nutrition companies are looking for AI to provide better data to make decisions. Further, over half target AI to eliminate manual data aggregation and reporting and improve their ability to find data to make decisions. As one company put it, they would be satisfied if AI “just made us better at making quicker decisions and eliminating the drudge work.” That is a practical bar, and AI is well suited to clear it, helping teams find, aggregate, and summarize data to support more informed choices across the business.

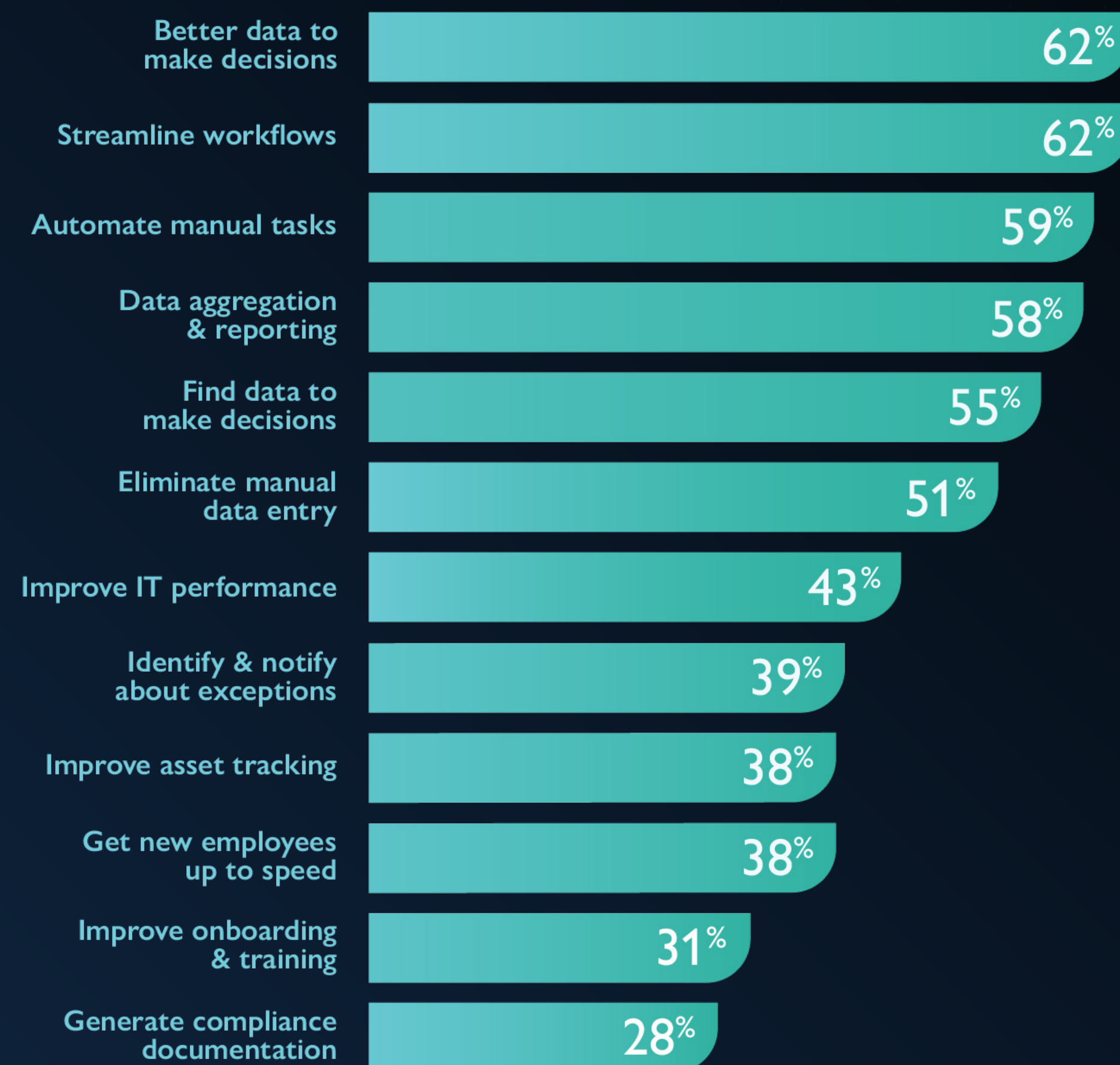
Cut the Manual Work

In addition to gathering data, almost two-thirds of food and animal nutrition companies are turning to AI to streamline workflows across people and departments. Over half report turning to AI to automate manual tasks, eliminate manual data entry, and remove time-consuming aggregation and reporting work — tasks like manually entering customer order specifications or quality results waste valuable time. These are practical, high-impact applications that map directly to the cost and efficiency goal that tops the list. This also frees up staff to work on meaningful projects.

Achieve Broad Objectives

Companies see AI opportunity in nearly every corner of their business, from freeing up people for high-value work to helping onboard new employees. The breadth of AI’s reach is perhaps best captured by a single data point: not a single food and animal nutrition company reported having no general plans for AI, a figure that reflects just how broadly the industry has embraced the question of where to apply it.

BUSINESS IMPROVEMENT TARGETS IN THE CHEMICAL INDUSTRY



ENABLING AI IMPROVEMENTS

Start with Getting Data in Order AI to Improve Data Use

With goals established, the focus shifts to how food and animal nutrition companies are putting AI to work. These companies are adopting a wide variety of AI techniques and tools. The most common, reported by about half of companies, involves finding, gathering, aggregating, summarizing, and documenting data. While the survey focused on capabilities rather than technologies, these likely include generative AI, retrieval-augmented generation (RAG), and large language models (LLMs). Over one-third of companies report exploring technologies that enhance how humans interface with information, including natural language prompts and virtual assistants.

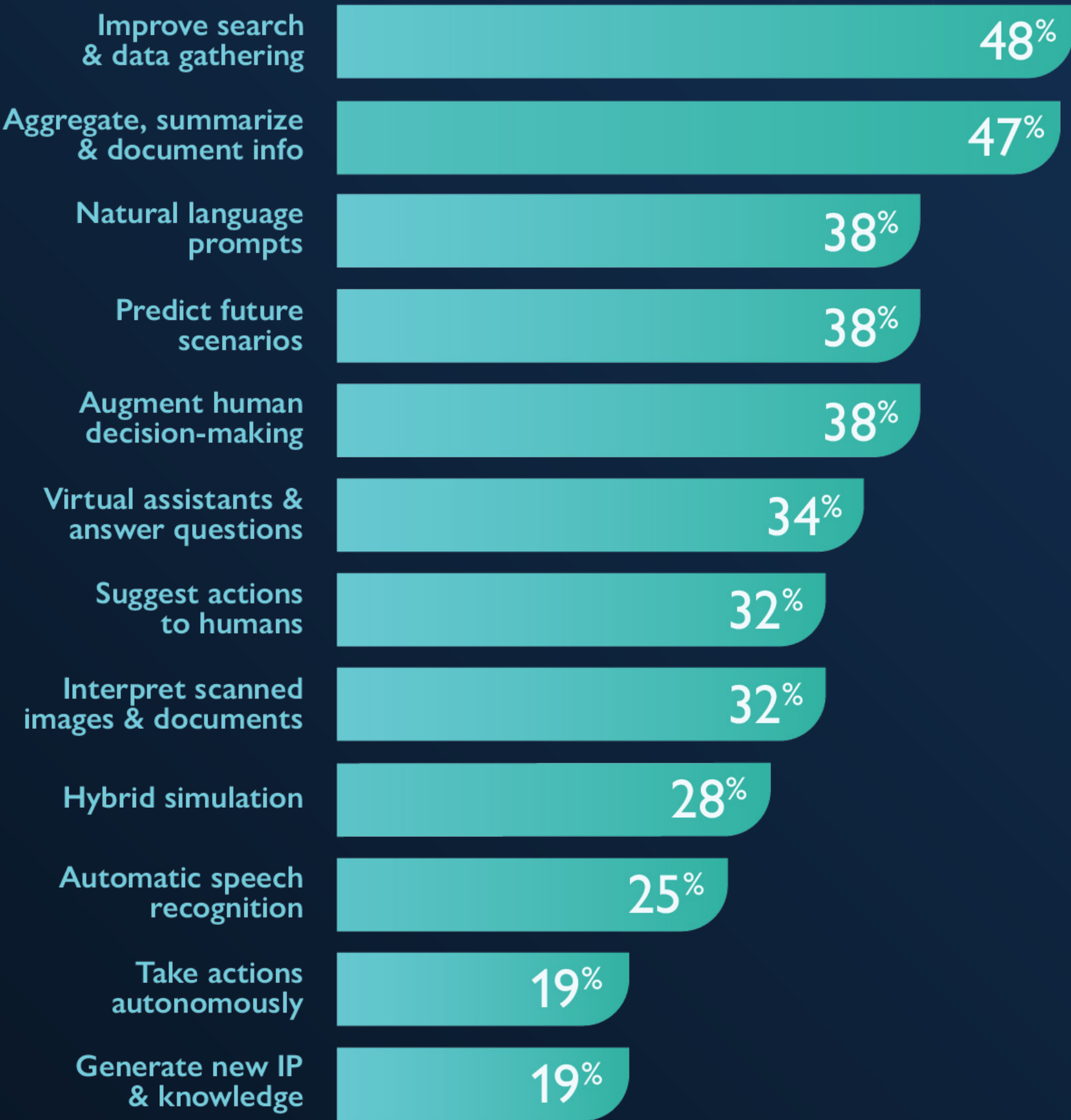
Augment Human Judgment, Don't Replace It

Over one-third of respondents are focused on helping humans work more effectively: predicting future scenarios and augmenting decision-making. Over one-quarter are planning to improve simulations through hybrid techniques incorporating AI. These capabilities amplify human judgment by allowing AI to interpret and predict outcomes of current and potential plans, enabling people to choose the best path forward. As one company put it, their goal is to “increase efficiency and allow employees to focus on higher-value, creative work.”

Trust Takes Time

Even as AI helps surface insights and inform decisions, only about one in five food and animal nutrition companies are looking to AI to generate new IP or make autonomous decisions. Only about one-third are targeting AI to suggest actions to people. Their caution reflects a strong preference for keeping a “human in the loop,” and that’s not surprising given the safety-critical decisions these companies routinely make. One cooperative technology leader cautions, “There is risk around AI making decisions without human involvement.” As AI becomes more understood and trusted across the industry, that posture will likely shift.

AI APPROACHES PURSUED



PROGRESS WITH AI

The Industry is at Different Stages

Progress with AI varies widely across the food and animal nutrition industry. Some companies are still exploring, others are well into pilots, and a small group is pulling ahead of the pack. Understanding where the industry stands helps clarify both the opportunity and the urgency.

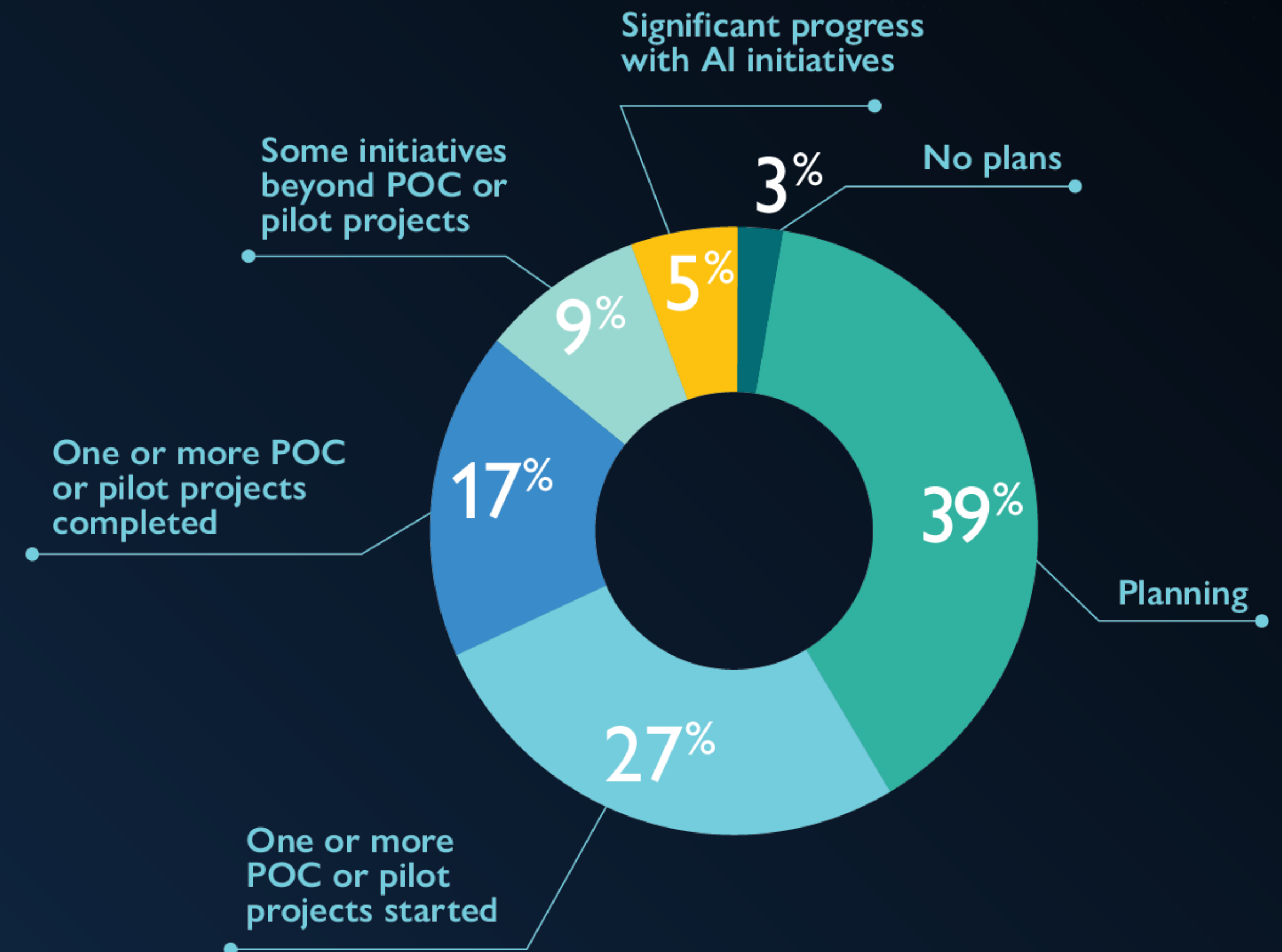
The Early Adopters

Over half, 58%, have at least some pilots or proofs of concept (POCs) underway, actively exploring the value AI can deliver for their business. While some are still in progress, 31% have completed at least one POC. This means about one-third of food and animal nutrition companies have finished at least one AI initiative.

The Early Leaders

A small but distinct group is already past the question of whether AI delivers results. Only 5% of food and animal nutrition companies have made significant progress with their AI initiatives — far enough down the learning curve to be capturing measurable value.

PROGRESS ADOPTING AI



EARLY LEADERS GAINING VALUE

Early Efforts Driving Cost and Efficiency

Despite some industry reports suggesting that AI pilots don't always deliver value, food and animal nutrition companies that have completed pilots and POCs are achieving real results. Cost and efficiency, including production cost, top the list of achievements, just as they top the list of goals. Over one-third of companies that targeted cost and efficiency from AI have already delivered on that goal, and vast majority (80%) of those who are still in progress say they expect to achieve the same outcome as well.

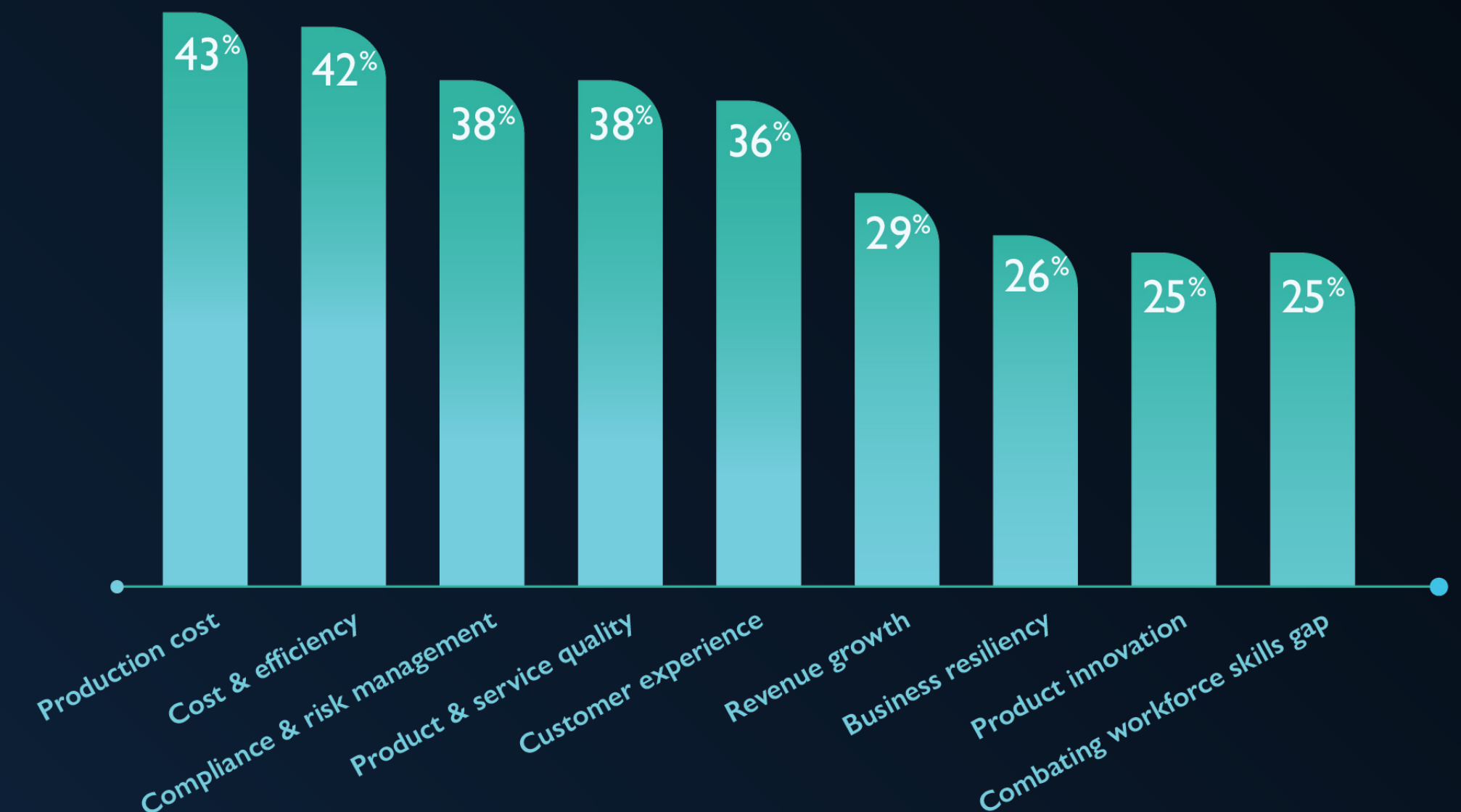
Improving Quality and Customer Experience

Companies focused on quality and customer experience are achieving results at similar or higher rates to those targeting cost and efficiency: of those that targeted quality improvements, 38% have already hit their mark. Additionally, while customer experience is less commonly pursued, 36% of companies targeting it have already seen results.

Less Common but Valuable Achievements

The gains extend beyond the most common goals. Of the one-quarter of companies targeting compliance and risk management with AI, 38% have already made progress. Over one-quarter of companies pursuing business growth with AI have achieved measurable gains, with another 63% confident they will. Food and animal nutrition companies are making progress in achieving their goals for both bottom-line savings and top-line results. Although top-line improvements may lag faster cost reduction achievements, many still believe they are coming.

PROGRESS WITH STATED AI IMPROVEMENT OBJECTIVES



EARLY LEADERS SCALING BENEFITS

Scaling Early Wins

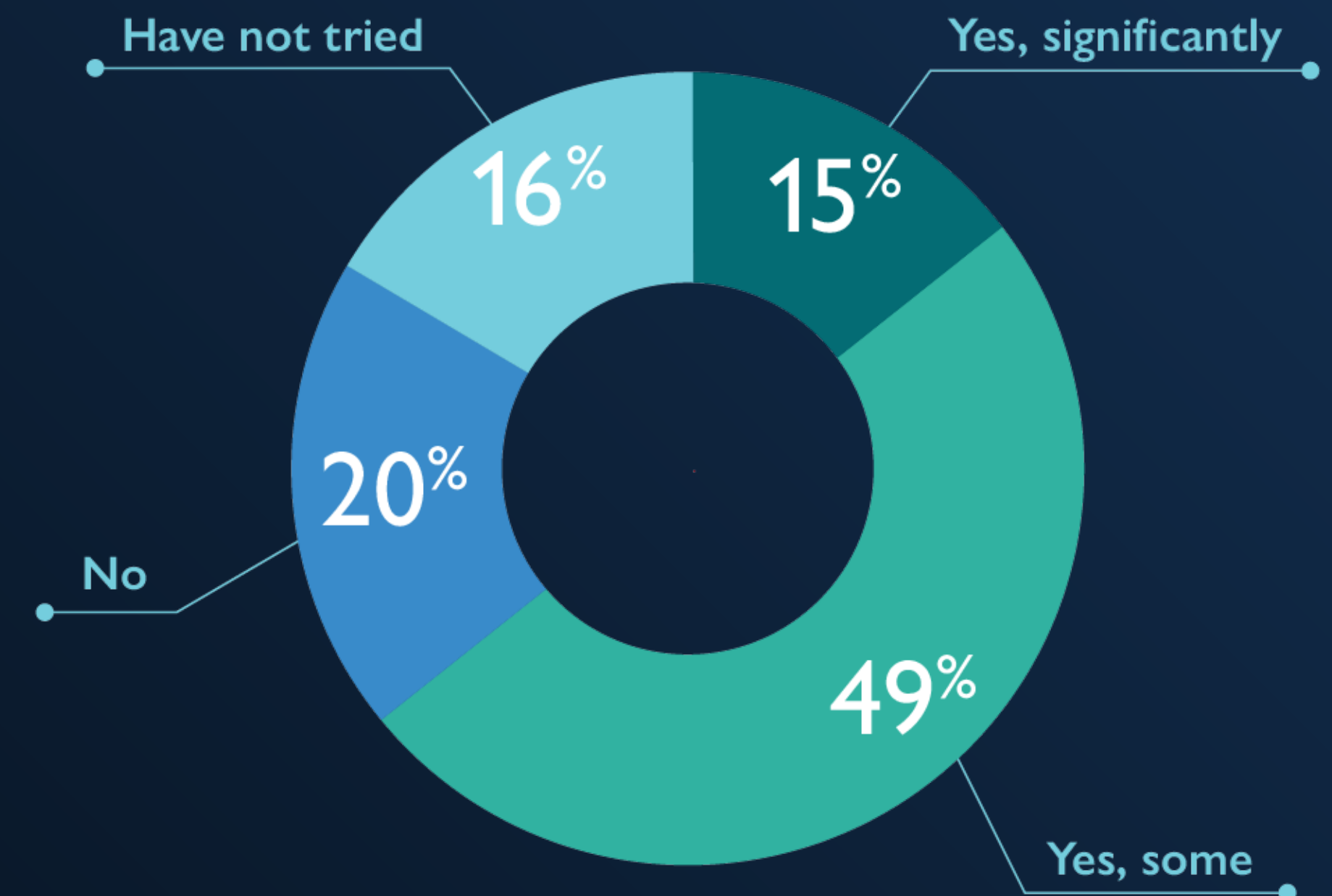
Widespread reports suggest companies struggle to scale AI value from small projects, but food and animal nutrition companies tell a different story. Those that have made progress are successfully extending their gains to new areas, whether by applying the same solution to a different problem, expanding the scope of a solution to another plant, or opening the solution to a broader audience.

Early Movers Are Extending Their Lead

Almost two-thirds of companies that have made progress on their AI initiatives have been able to scale the benefits, with 15% saying they have scaled them significantly.

The ability to scale benefits from small projects means early movers are not just learning; they're pulling further ahead with every initiative.

ABILITY TO SCALE EARLY VALUE



HOW QUICKLY CAN AI DELIVER?

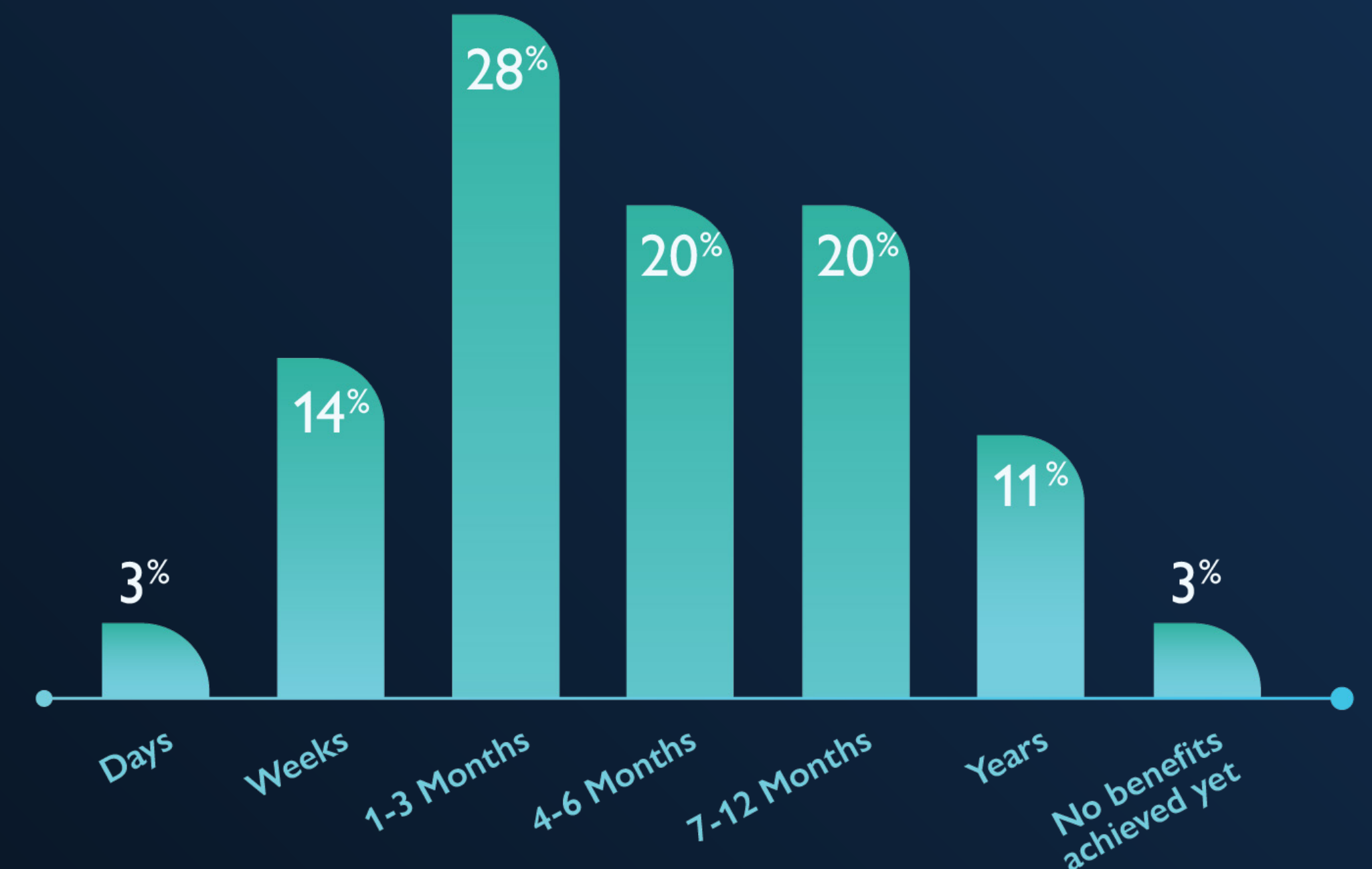
Existing Systems Give AI a Head Start

This research shows that companies can gain value from AI initiatives more quickly than expected. The foundation is often already in place; in many cases, companies are building on data that already exists in their enterprise applications. Data that was previously difficult to access is now within reach, accelerating the path to results.

Time to Value in Days, Weeks, and Months

While some IT investments take years to drive value, 95% of food and animal nutrition companies that completed at least one POC report gaining value in less than one year. Just under half (45%) gained value within a single business quarter (three months or less). However, success isn't universal: 20% of companies that have completed at least one pilot or POC say they have yet to achieve value.

AVERAGE TIME TO BENEFIT



ORGANIZATIONAL READINESS AND AI CHALLENGES

Progress Isn't Without Friction

Food and animal nutrition companies are making progress with AI, but they're doing so against a backdrop of real barriers that remain. The survey examined readiness across three dimensions: organizational, data, and adoption.

People Readiness is the Biggest Gap

Organizational readiness is one of the most significant hurdles. Interest is high, but readiness isn't: although 54% of food and animal nutrition companies say their workforce is at least somewhat prepared for AI, just 17% say they are significantly prepared.

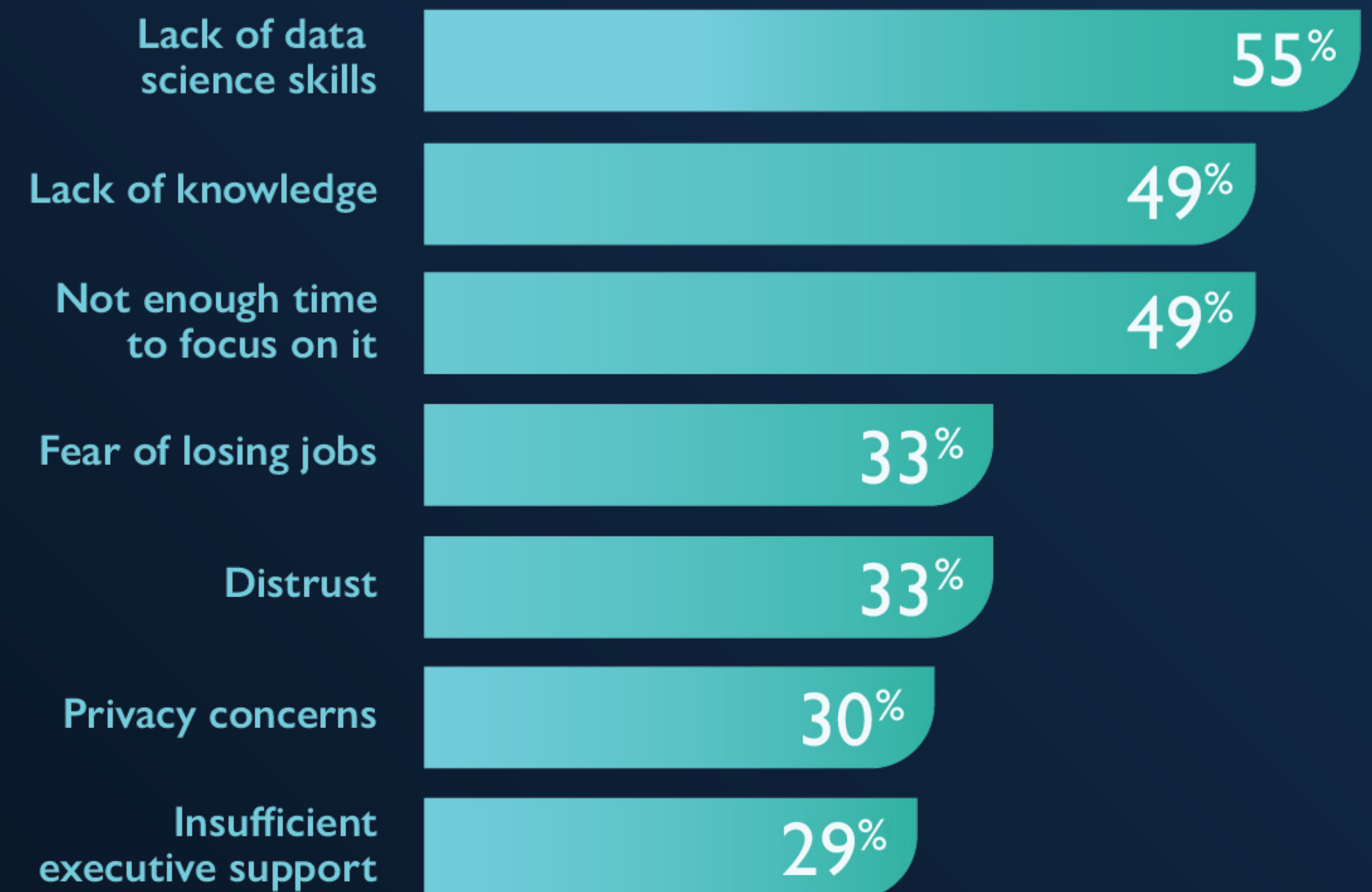
Food and Animal Nutrition Companies Don't Fear AI

Contrary to popular narrative, distrust of AI isn't the primary barrier. These concerns exist, but they don't indicate the broad organizational resistance some might expect. In fact, only one-third of companies report distrust or say they fear losing their jobs.

Knowledge and Capability Are the Real Barriers

Food and animal nutrition companies report they don't have the skills needed to act on the AI opportunity: 55% report a lack of data science skills, 49% cite a lack of knowledge, and the same percentage say they don't have enough time to focus on it. Notably, less than one-third report a lack of executive support — suggesting leadership is aligned even when the workforce is not yet ready. The gap is a capability problem, not a commitment problem.

ORGANIZATIONAL CHALLENGES FOR AI ADOPTION



DATA READINESS AND AI CHALLENGES

Data Readiness Lags

Data readiness tells a similar story to organizational readiness. While almost two-thirds of food and animal nutrition companies say they are at least somewhat prepared to meet their AI objectives from a data perspective, only 22% say they are significantly prepared. Data readiness for AI is somewhat higher in food and animal nutrition than the other process industries researched. Confidence in data readiness is wide but shallow.

Quality and Accessibility Hold Companies Back

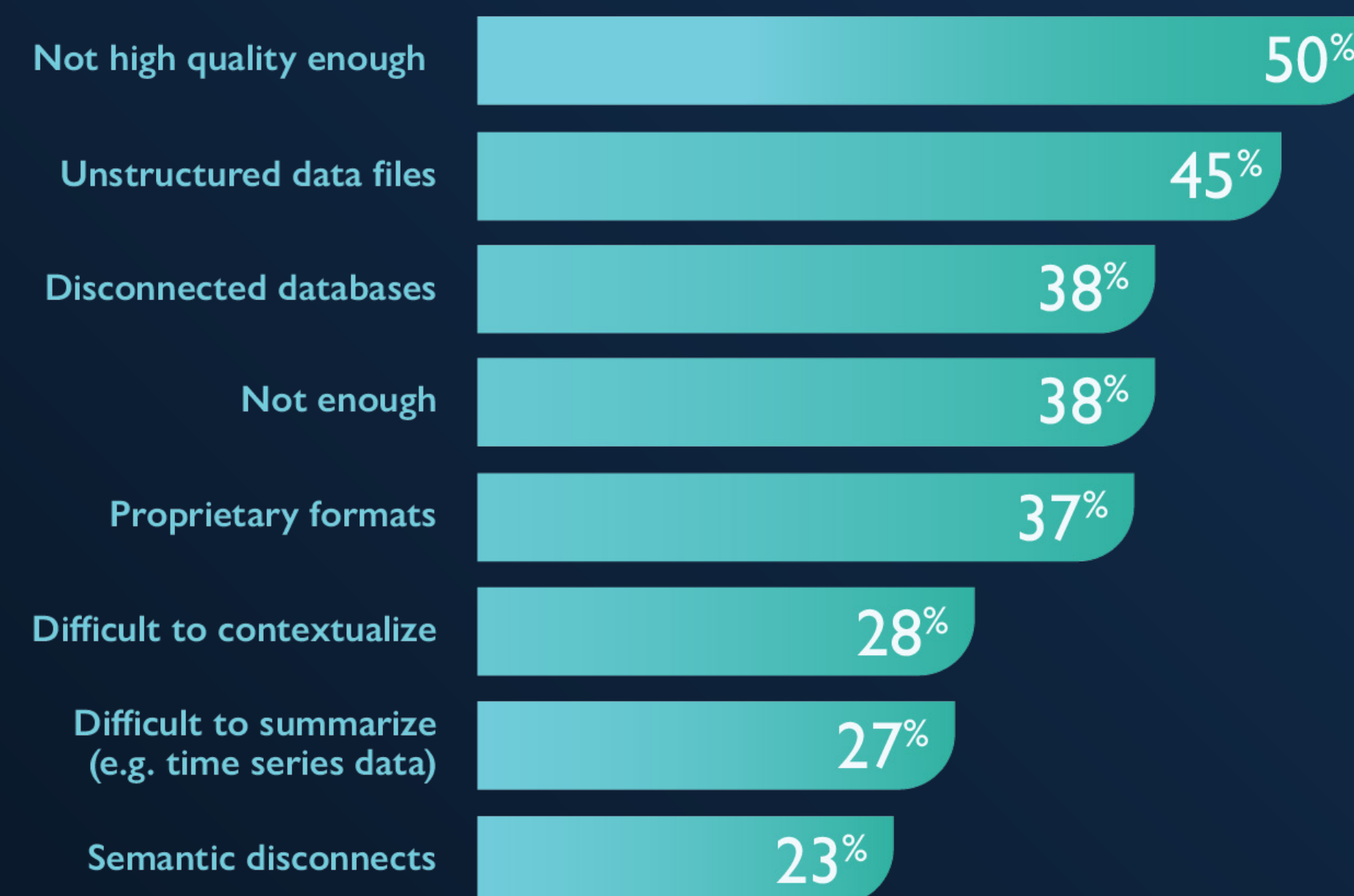
The issue is not data volume — only 38% report a lack of data as a concern. The challenge is data quality and accessibility. Half report data quality challenges, with data that cannot be trusted for AI to interpret. According to the CIO of a mid-sized agricultural cooperative, “You need a high level of data quality. If AI is running on older data, the results may not make sense.” For companies managing complex regulatory documentation and traceability requirements, the stakes of poor data quality extend beyond operations.

Data accessibility compounds the problem: 45% say information resides in unstructured files, 38% report data is spread across different databases, and 37% say their data is held in proprietary formats.

Data Alone Isn’t Enough

Having high-quality, accessible data is only part of the challenge; companies also need to make sense of it. About one-quarter of respondents report that their data is hard to contextualize or has semantic disconnects, making it less useful to AI. Interpreting that data requires a deep understanding of the business and the nuances of the food and animal nutrition industry — which is why companies are turning to existing solution providers for help.

DATA CHALLENGES FOR AI ADOPTION



AI ADOPTION CHALLENGES

Implementation is Still Maturing

Adopting AI at scale is new to most food and animal nutrition companies, and implementation challenges are common. Early wins don't always scale. The AI solutions available for early pilots vary widely in maturity, and less proven tools often struggle to deliver consistent results at scale. The mismatch between early promise and production-level performance often results in difficulty scaling solutions beyond the initial use case. More than half (58%) report they find AI initiatives hard to scale.

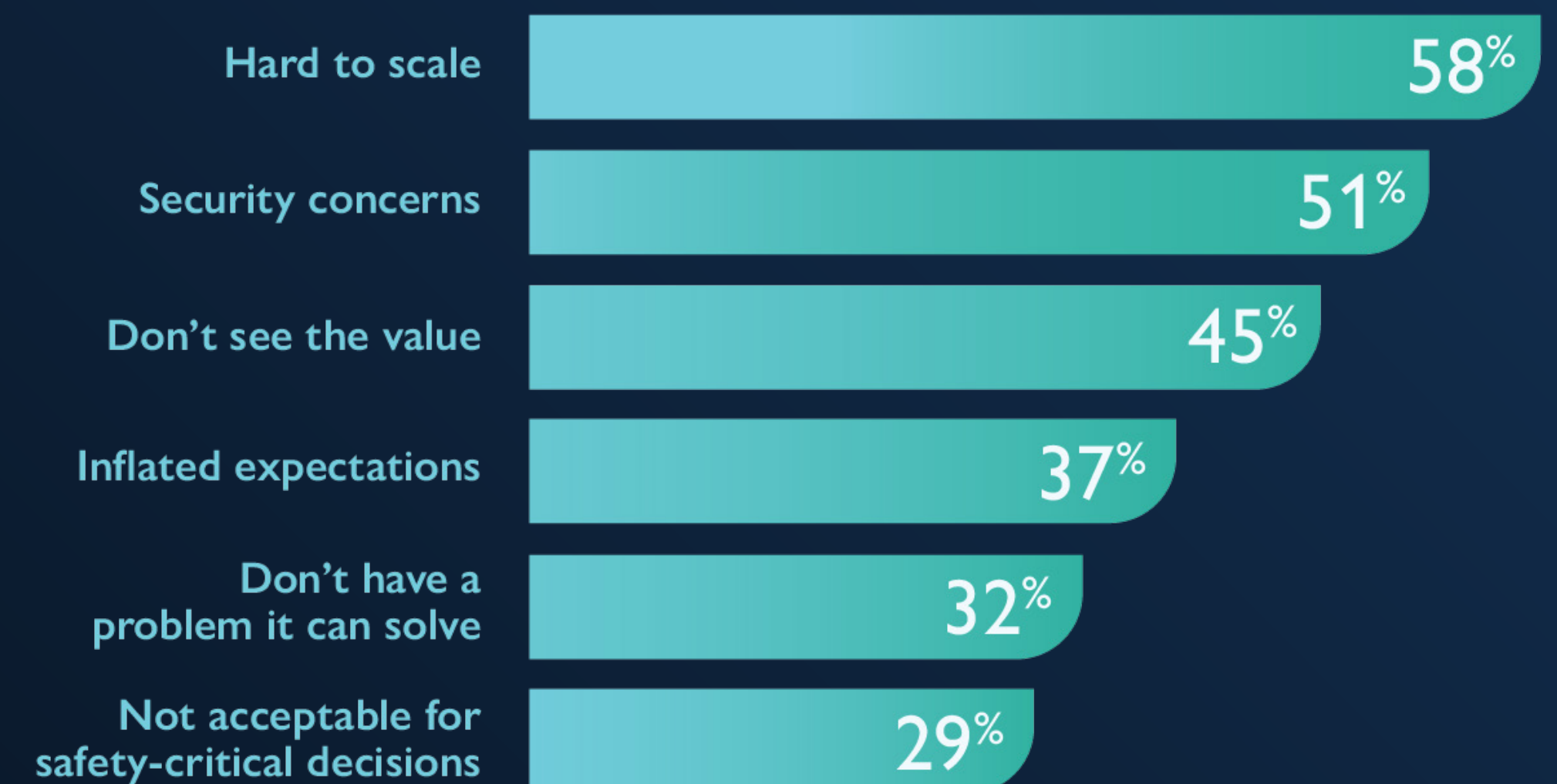
A Culture of Caution

Food and animal nutrition companies are inherently cautious because the consequences of errors in production, formulation, or safety decisions can be severe — from allergen cross-contamination and food-borne illness risk to product recalls that damage both consumers and brand reputation. That caution shows up in the data: 51% report security concerns and 29% say AI is not acceptable for safety-critical decisions such as those in R&D or the plant. These concerns carry more weight here than in most other industries. As Cooperative Farmers Elevator's Kane shares, "There is risk around AI making decisions without human involvement."

The Industry Is Still Finding Its Footing with AI

Several adoption issues reflect the food and animal nutrition industry's still-developing understanding of AI. Over one-third report inflated expectations and about one-third don't recognize a problem AI can solve. Surprisingly, given positive results by many, just under one-half don't see the value in AI, which is higher than the other industries in the study and may reflect the healthy skepticism commonly found in the industry. Closing this gap starts with better education on where AI can realistically deliver business value.

ADDITIONAL ADOPTION CHALLENGES



AI CHALLENGES IMPACT PROGRESS

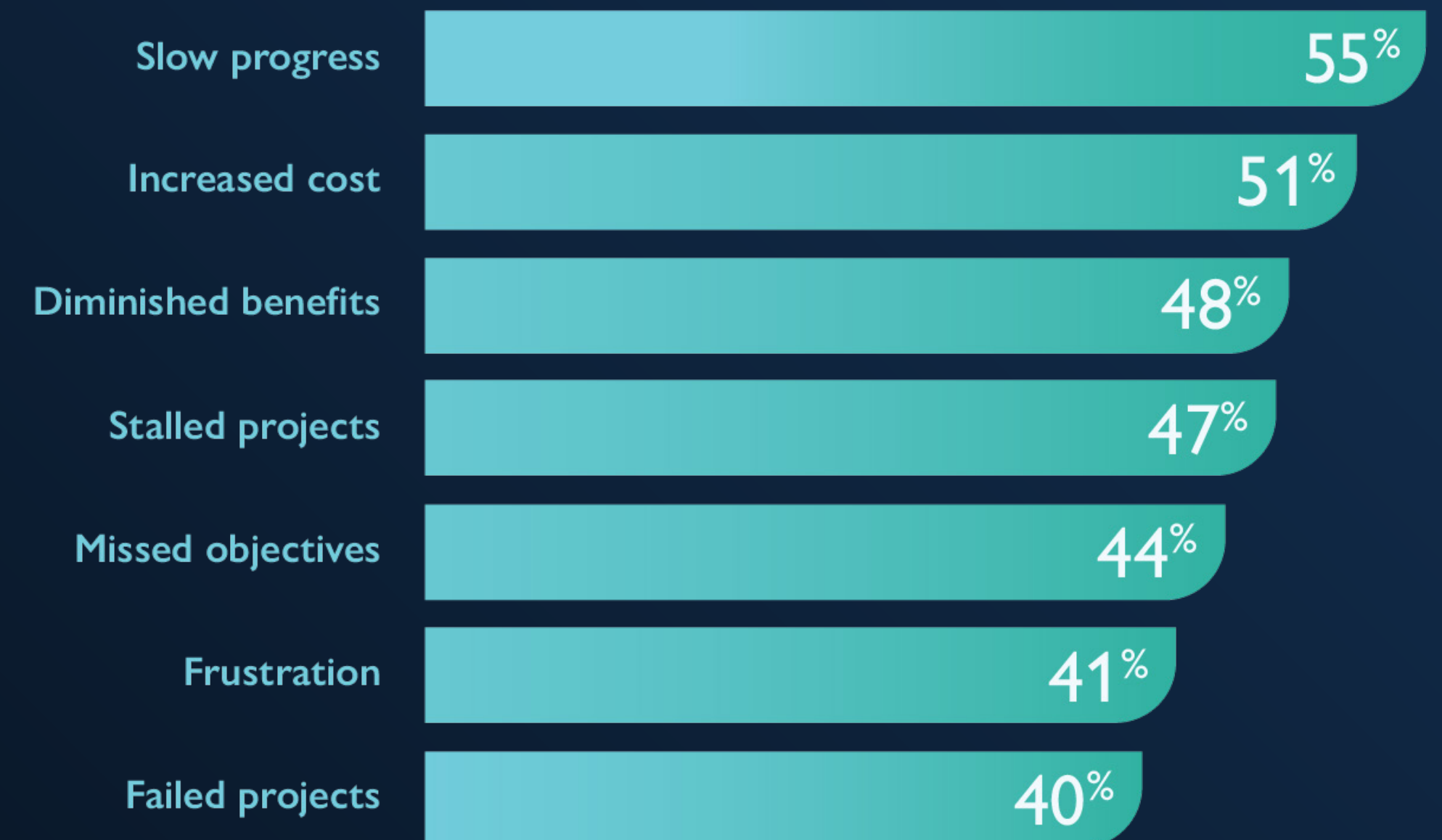
Progress Stalls

The organizational, data, and adoption challenges are having a measurable impact on progress. Ambition is there, but the execution is where companies are getting stuck. About half of food and animal nutrition companies report slow progress in achieving their AI goals, and just under one-half say these challenges have led to stalled projects.

ROI Takes a Hit

The impact extends to ROI directly. On the cost side, 51% report that implementation challenges lead to increased expenses. On the benefits side, almost one-half reported both diminished benefits and missed objectives. As food and animal nutrition companies gain more experience with AI, these impacts should decrease and that maturity should lead to higher benefits with lower costs.

BUSINESS IMPACTS OF AI ADOPTION CHALLENGES



SEEKING SUPPORT WITH AI

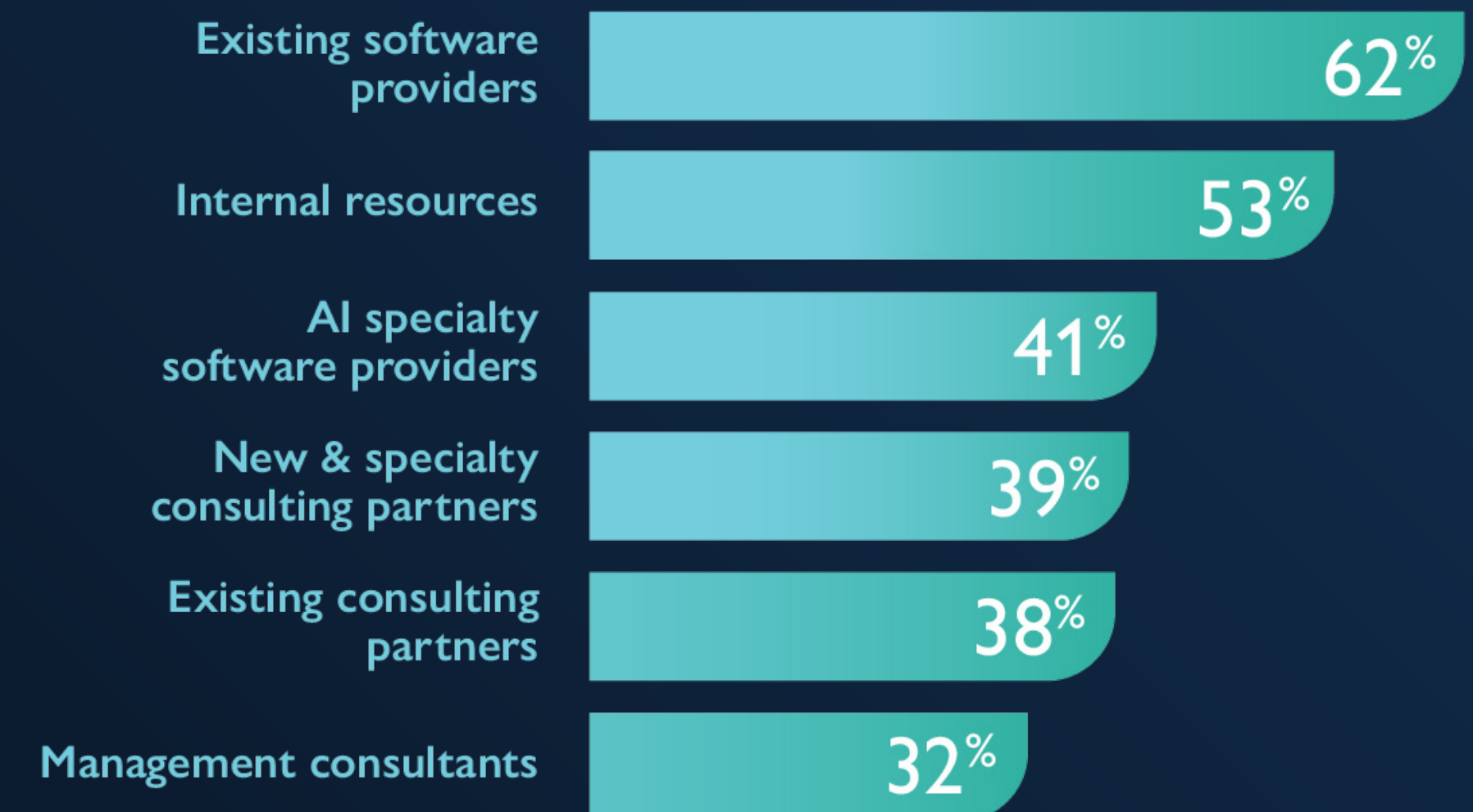
Companies Turn to Trusted Partners

Facing implementation challenges, food and animal nutrition companies are seeking support from multiple sources. The most common are existing solution providers and internal resources, both of which bring something critical: familiarity with the company's industry, processes, and data. That context is essential for AI to deliver meaningful results. Almost two-thirds of food and animal nutrition companies are turning to their existing software providers for help, and 38% are turning to existing consulting partners who know their business well. Given that just over half of food and animal nutrition companies cite security concerns as a top challenge, partners with a proven track record managing confidential data may offer a particular advantage.

Augment with AI Specialists

Over half of food and animal nutrition companies are tapping internal resources who know the business and the industry to help with their AI initiatives. AI adoption also requires capabilities and focused time that existing resources may not fully provide. 41% of companies are turning to AI specialty software partners for their unique expertise, and 39% look to new AI specialty consulting firms. Fewer are turning to management consultants, perhaps because these resources lack the specific food and animal nutrition industry knowledge that makes context-specific AI solutions work. What's clear is that these companies aren't relying on a single source of help: They're assembling a network of partners, combining industry knowledge, technical depth, and AI expertise to move forward effectively.

PREFERRED SOURCES OF AI ADOPTION SUPPORT



THE PATH FORWARD

Start with the Practical, High-Return Applications

Food and animal nutrition companies are pursuing AI for a wide variety of reasons, from reducing cost and driving efficiency in the plant and R&D to improving customer service and growing revenue. As one respondent put it, their goals are to “make more money and provide a better customer experience.”

For most, the practical entry point is the same: free people from repetitive work, streamline how work gets done, and give employees better information to make decisions. AI at this stage is a productivity multiplier for existing resources. The data and process knowledge to get started is, in most cases, already in place. Respondents shared very practical goals, including “let AI handle routine quality checks so our experts can innovate,” “keep recipes consistent while sourcing ingredients globally,” “strengthen food safety by identifying contamination risks earlier in the production cycle,” and “handle initial customer queries to speed up complaint resolution.”

Food and animal nutrition companies that have gained value from AI are finding ways to scale, improving their AI maturity, and widening their advantage over the competition.

“

What we want from AI to support our community better and help them deal with rural workforce shortages.

CIO, Mid-sized Agricultural Cooperative

”

Close the Knowledge Gap

The biggest barrier to AI adoption is not distrust or fear of job loss — it is a lack of knowledge and capability. Food and animal nutrition companies need to invest in training and give employees time to explore what AI can do for their specific operations. Supplementing internal knowledge with expertise from existing vendors and consultants is equally important. The barriers are well understood and addressable; what is required is commitment, not just interest.

The Data Makes the Case for Action

Many food and animal nutrition companies are still in planning mode or early pilot phases, and organizational, data, and implementation challenges are slowing them down. Those challenges must be addressed.

But the data is clear: companies that complete pilots are achieving their stated goals, and almost half do so within a single business quarter. The challenges are real, but they are addressable — and the companies proving that are already pulling ahead.

Early Movers Are Widening Their Lead

Food and animal nutrition companies that have gained value from AI are scaling those gains to new problems and new parts of the business, building organizational capability that competitors cannot quickly replicate. The window to close the gap is open, but early movers are not standing still.

ABOUT THE RESEARCH

Datacor commissioned independent research firm Tech-Clarity to research the current state of AI in the process industries. The research team surveyed 274 process industry companies and further analyzed 113 participants in the food and animal nutrition industries to develop the findings for this report.

Data Gathering

Responses were gathered by a web-based survey distributed through direct e-mail, social media, and online postings from Datacor and Tech-Clarity, in addition to paid survey outreach.

Industries

The respondents for this report represent a cross-section of food and animal nutrition industries. 65% were from food, 29% from pet food, and 12% from feed.*

Company Size

The respondents represent a mix of smaller company sizes, including 12% from less than \$50 million, 48% between \$50 million and \$150 million, 37% between \$151 million and \$300 million, and 3% greater than \$300 million. Company sizes were reported in US dollar equivalent.

Geographies

Responding companies report doing 10% or more of their product volume in the United States (71%), Canada (41%), Australia (14%), Western Europe (12%), Asia (11%), Latin America including Central America (9%), Africa (8%), Mexico (7%), Middle East (7%), and Eastern Europe including Russia (6%).

Job Level

The respondents comprised 11% executives, 43% directors or VP level, 35% manager level, 7% supervisors and team leads, and 4% individual contributors.

Organizational Function

The respondents came from a broad array of functions in the company including Processing and production (34%), Procurement (8%), Supply Chain / Logistics (7%), General Management (6%), Quality (6%), Accounting and Finance (6%), R&D and product development (5%), Information Technology (5%), Plant and Facilities Engineering (5%), and others including Service and Support, Sales, Environmental Health and Safety, Marketing, Industrial / Manufacturing Engineering, Lab , and Project/Program Management.

*Note that the values may total greater than 100% because companies reported doing business in multiple industries and geographies.





ABOUT TECH-CLARITY

Tech-Clarity is an independent research firm dedicated to making the business value of technology clear. We analyze how companies improve innovation, product development, design, engineering, manufacturing, and service performance through the use of digital transformation, best practices, software technology, industrial automation, and IT services.

Tech-Clarity

ABOUT DATACOR

Datacor has been serving food and animal nutrition manufacturers and distributors with software purpose-built for the industry since 1983. We know the data, the workflows, and the challenges — and we're putting that knowledge to work as we embed AI into our solutions, so customers can start capturing value without starting from scratch. If you're ready to explore what AI can do for your business, let's talk.

