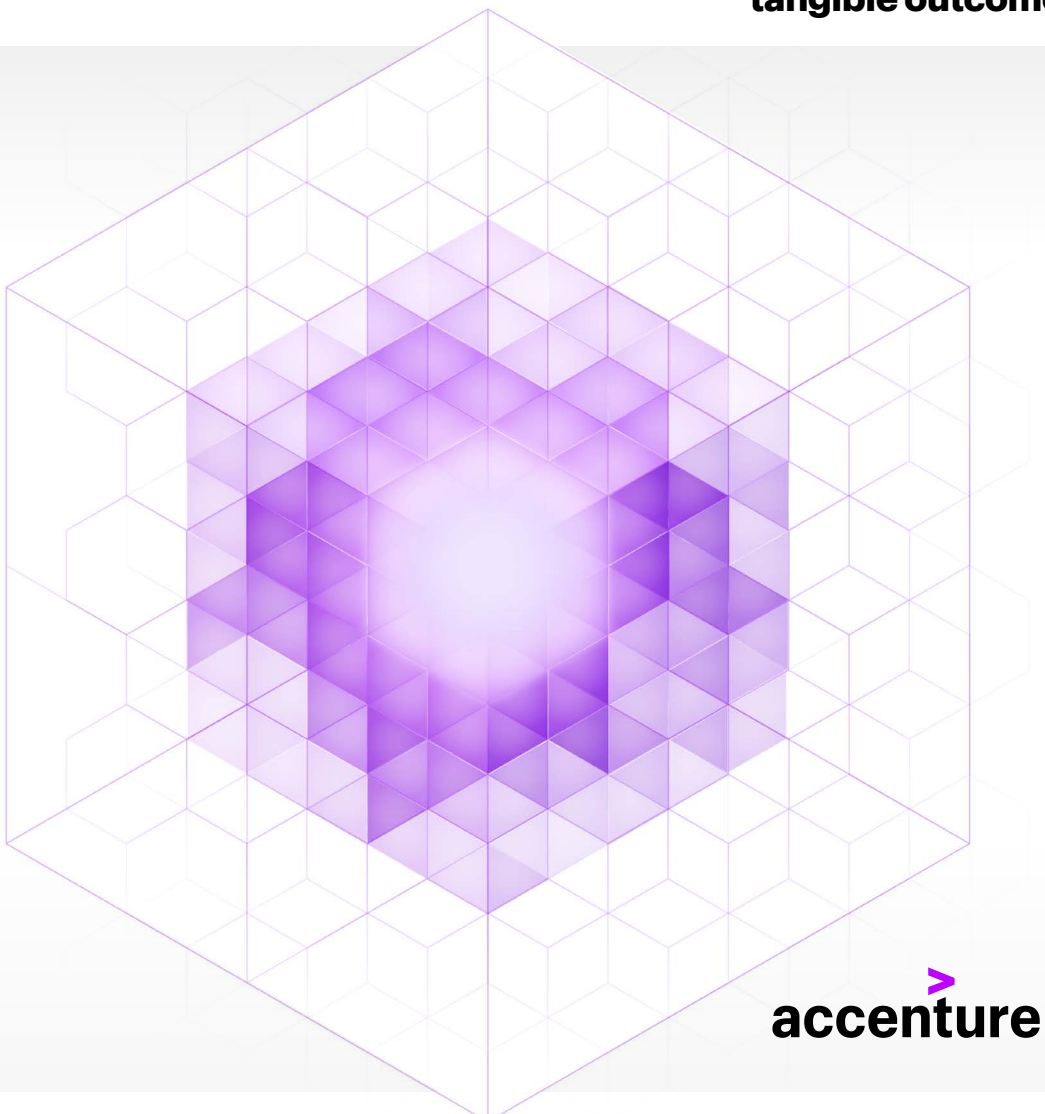
INTO THE NEW

Provocative thinking, transformative insights, tangible outcomes

AI: BUILT TO SCALE

From experimental to exponential



Achieve competitive agility

accenture

About the authors

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Ketan leads Strategy & Consulting across all Accenture Applied Intelligence industry and functional practices. Ketan partners with Fortune 500 C-suite executives and board members to transform their digital and analytics operating models by applying intelligence through design-thinking, AI, data strategy and a cloud-based platform ecosystem.

He teaches AI at both the Kellogg School of Management & McCormick School of Engineering at Northwestern University. Ketan in based in Chicago, Illinois.

Robert Berkey

Managing Director
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Robert has over 20 years of experience shaping and delivering enterprise analytics strategy and transformation programs for Fortune 500 clients, including value targeting, operating model & talent, analytic delivery models, data & technology architecture and employee adoption programs.

He has co-authored several white papers on analytics transformation including "The Insight-Powered Enterprise" and "Preparing for a Data Science Transformation", and co-created Accenture's Analytics Diagnostic (patent pending). Robert is based in Portland, Oregon.

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Greg leads Communications, Media and Technology within Accenture Strategy. His role focuses on helping clients worldwide achieve high performance through profitable growth, accelerated innovation, organizational agility, and operational excellence.

Greg has over 25 years of consulting experience across the telecom, media, technology and retail industries, having focused on new digital business launches, strategic digital planning, business growth strategies and cost transformation. Greg is based in Dallas, Texas.

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Managing Director
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Athena helps C-suite leaders address some of their top challenges, including changing business models, managing data volumes, addressing analytics immaturity and transitioning away from legacy technology.

For 20 years, Athena has guided teams in developing actionable strategies and plans to create more value through analytics and define the optimal technology footprint. A frequent commentator on digital trends in national and global media publications, Athena is based in San Francisco, California.

THE NUMBERS TELL THE STORY

A full 84% of C-suite executives believe they must leverage Artificial Intelligence (AI) to achieve their growth objectives. Nearly all C-suite executives view AI as an enabler of their strategic priorities. And an overwhelming majority believe achieving a positive return on AI investments requires scaling across the organization.

Yet 76% acknowledge they struggle when it comes to scaling it across the business. What's more, three out of four C-suite executives believe that if they don't scale AI in the next five years, they risk going out of business entirely.

With the stakes higher than ever, what can we learn from companies that successfully scale AI, achieving nearly 3x the return on investment and a 30% premium on key financial valuation metrics?

84%

of executives believe they won't achieve their growth objectives unless they scale AI

76%

of executives struggle with how to scale AI across the business

75%

of executives believe they risk going out of business in 5 years if they don't scale AI

Nail it, then scale it

To answer that question, Accenture conducted a landmark global study involving 1,500 C-suite executives from organizations across 16 industries.

The study focused on determining the extent to which AI enables the business strategy, the top characteristics required to scale AI, and the financial results when done successfully. The aim: Help companies progress on their AI journey, from one-off AI experimentation to gaining a robust organization-wide capability that acts as a source of competitive agility and growth. Three distinct groups of companies with increasing levels of capability required to successfully scale AI emerged from the research.

01 Proof of Concept Factory

In our experience, most companies (80-85%) are stuck on this path.They conduct AI experiments and pilots but achieve a low scaling success rate and a low return on their AI investments. Their efforts tend to be siloed within a department or team and are often IT-led. They lack a connection to a business outcome or strategic imperative. The time and investment it takes to scale is underestimated, leaving the full potential of AI untapped.

02 Strategically Scaling

Only 15-20% of companies have made this leap. These companies have journeyed beyond proof of concept to achieve a much higher success rate scaling AI—nearly double. And a much higher return—nearly three times their counterparts. As a C-suite priority, these companies have a clear AI strategy and operating model linked to the company's business objectives, supported by a larger, multi-dimensional team championed by the Chief AI, Data or Analytics Officer. However, the scaled AI is generally across point solutions, e.g., personalization.

03 Industrialized for Growth

Very few (<5%) companies have progressed to this point on their AI journey. These companies have a digital platform mindset and create a culture of AI with data and analytics democratized across the organization. They have scaled thousands of models with a responsible AI framework. They promote product and service innovation and realize benefits from increased visibility into customer and employee expectations. Our research indicates that industrializing AI will enable competitive differentiation which is correlated with significantly higher financial results.

What do we mean?

Artificial Intelligence (AI) encompasses multiple technologies that enable computers to sense, comprehend, act, and learn. AI includes techniques such as machine learning, natural language processing, knowledge representation, computational intelligence, among others.

Pilot: Rolling out a capability with real data, users and processes in a production environment (using a subset of the relevant scope). The purpose is to test how the capability performs with a limited scope and to make any needed modifications before expanding to the full applicable scope.

Scale: Extension of the piloted capability across the full applicable scope with all relevant data, end users, customers, and processes. Purpose is to maximize the application's value to the organization.

Paying dividends: Proven premium value

The C-suite executives surveyed reported positive ROI on their AI investments. We dug deeper.

Was there any relationship between successfully scaling AI across the enterprise and key market valuation metrics? What was the "premium" for being a leader?

Using survey data combined with publicly available financial data, our team of data scientists created a model to identify the premium for companies in our sample that successfully scale AI, controlling for various characteristics of the companies.

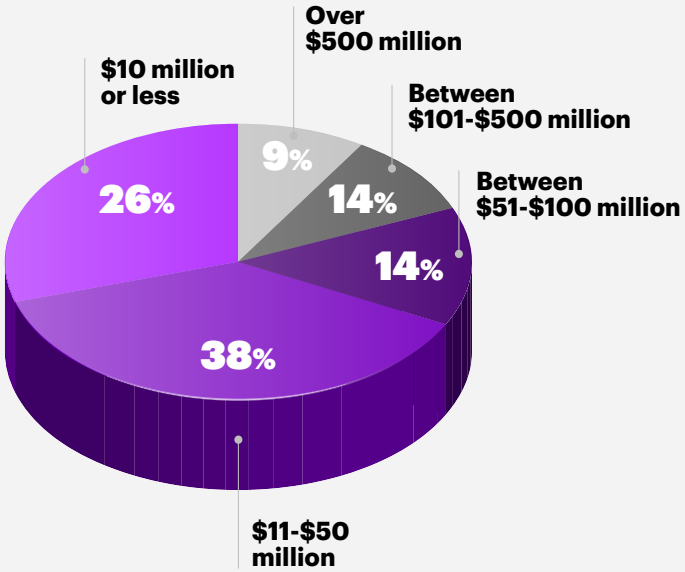
We discovered a positive correlation between successfully scaling AI and three key measures of financial valuation: Enterprise Value/ Revenue Ratio, Price/Earnings Ratio, Price/Sales Ratio.

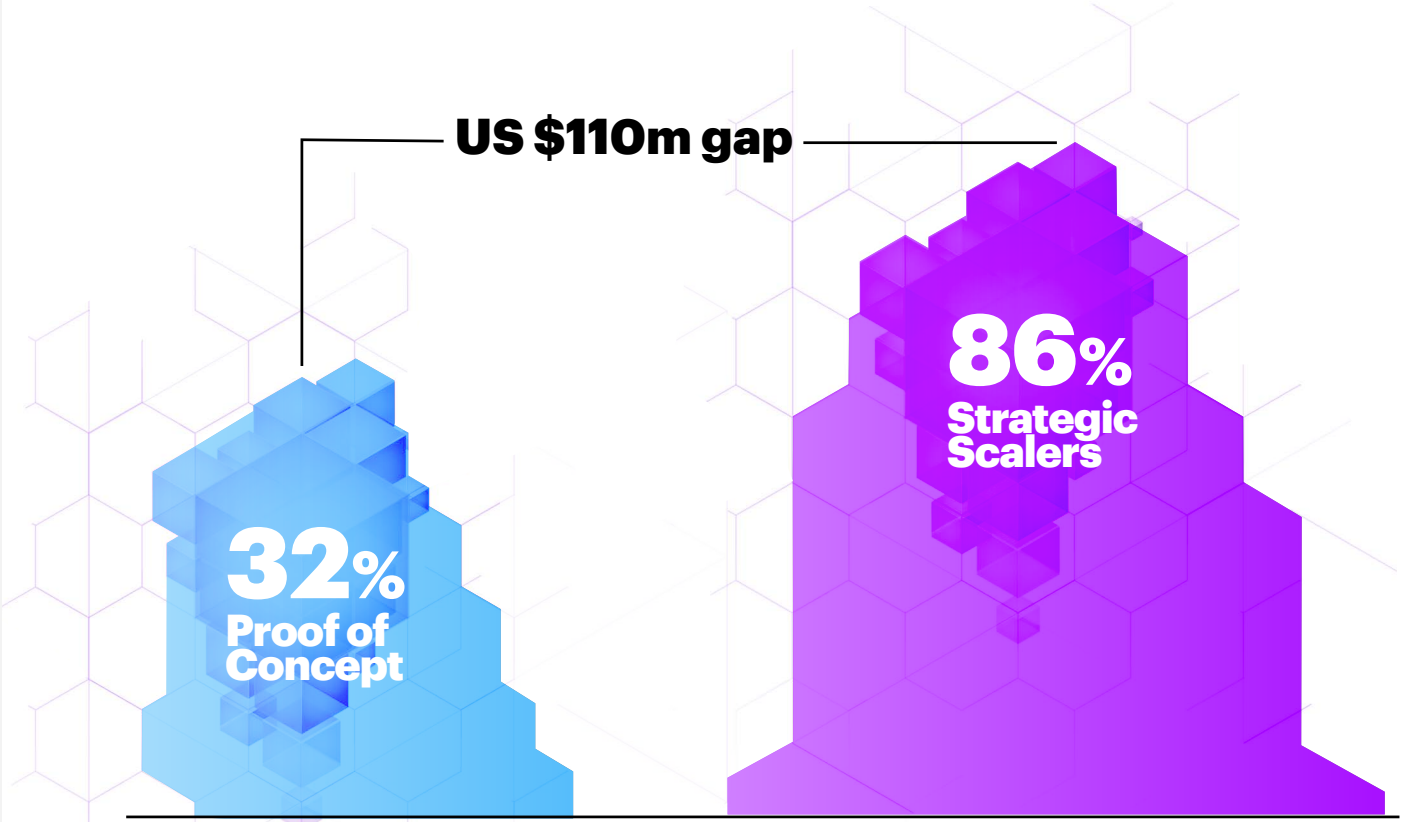
Companies that were identified as Strategic Scalers realize a success rate of 70% or more in their AI scaling initiatives and a return on their AI investment of 70% or higher.

The great divide

When the 1,500 companies in our research were analyzed collectively, US$306 billion was spent on AI applications in the past three years. The ROI gap amongst them was significant. On average, it spanned US$110 million between companies stuck in Proof of Concept and those who have progressed to becoming Strategic Scalers.[1]

Overall reported spend on Artificial Intelligence initiatives over the past three years





The difference in return on AI investments between companies in the Proof of Concept stage and Strategic Scalers equates to an average of US$110 million.

Companies strategically scaling AI have nearly

2x the success rate and 3x the return

from AI investments vs. companies pursuing siloed proof of concepts

AI's evolutionary paths to growth

01 Proof of Concept Factory

- Analytics buried deep and not a CEO focus
- Siloed operating model typically IT-led
- Unable to extract value from their data
- Struggle to scale as unrealistic expectations on time required
- Significant under investment, yielding low returns

02 Strategically Scaling

- CEO focus with advanced analytics and data team solving big rock problems
- Multi-disciplinary teams of 200+ specialists championed by Chief AI, Data or Analytics Officer
- Able to tune out data noise and focus on essentials
- Intelligent automation and predictive reporting
- Catch up on digital/AI/data asset debt
- Experimental mindset achieving scale and returns

03 Industrialized for Growth

- Digital platform mindset and enterprise culture of AI democratizing real-time insights to drive business decisions
- Clear enterprise vision, accountability, metrics, and governance breaking down silos
- 'What if' analysis enabling improved acquisition, service and satisfaction
- Responsible business practices enhancing brand perception and trust
- Competitive differentiator and value creator driving higher P/E multiples

The research revealed three critical success factors that separate those that have progressed to Strategically Scaling and those still in Proof of Concept.

Strategic Scalers:

01 **Drive "intentional" AI**

02 **Tune out data noise**

03 **Treat AI as a team sport**

Roadblocks to scaling

When executives ranked their top challenges for scaling AI, they placed "lack of budget" at the bottom of the list. A possible explanation: AI is a C-suite priority. So, while it may be challenging to decide which initiatives to fund first, the monetary resources, overall, aren't a problem.

Among the top challenges? The inability to set up a supportive organizational structure, the absence of foundational data capabilities, and the lack of employee adoption. As the study shows, it's exactly these aspects where Strategic Scalers outperform their counterparts in Proof of Concept.

01 Drive "intentional" AI

Creating value from AI requires leaders to anchor AI in C-suite objectives.

Strategic Scalers pilot and successfully scale more initiatives than their Proof of Concept counterparts—at a rate of 2:1—and set longer timelines. They are 65% more likely to report a timeline of one to two years to move from pilot to scale. And even though they achieve more, Strategic Scalers spend less. At first glance it may seem paradoxical. But the data indicate that these leaders are more intentional, with a more realistic expectation in terms of time to scale—and what it takes to do so responsibly.

To successfully scale, companies need structure and governance in place. And the Strategic Scalers have both. Nearly three-quarters of them (71%) say they have a clearly-defined strategy and operating model for scaling AI in place, while only half of the companies in Proof of Concept report the same.

Strategic Scalers are also far more likely to have defined processes and owners with clear accountability and established leadership support with dedicated AI champions. Initiatives not firmly grounded in business strategy and lacking a governance construct to oversee and manage are slower to progress. Turf wars break out over who "owns" AI and data. And, regardless of the AI platforms used, or the know-how recruited, misaligned efforts fall flat.

For Strategic Scalers, 8 of 10 scaling initiatives are successful

To all intents and purposes

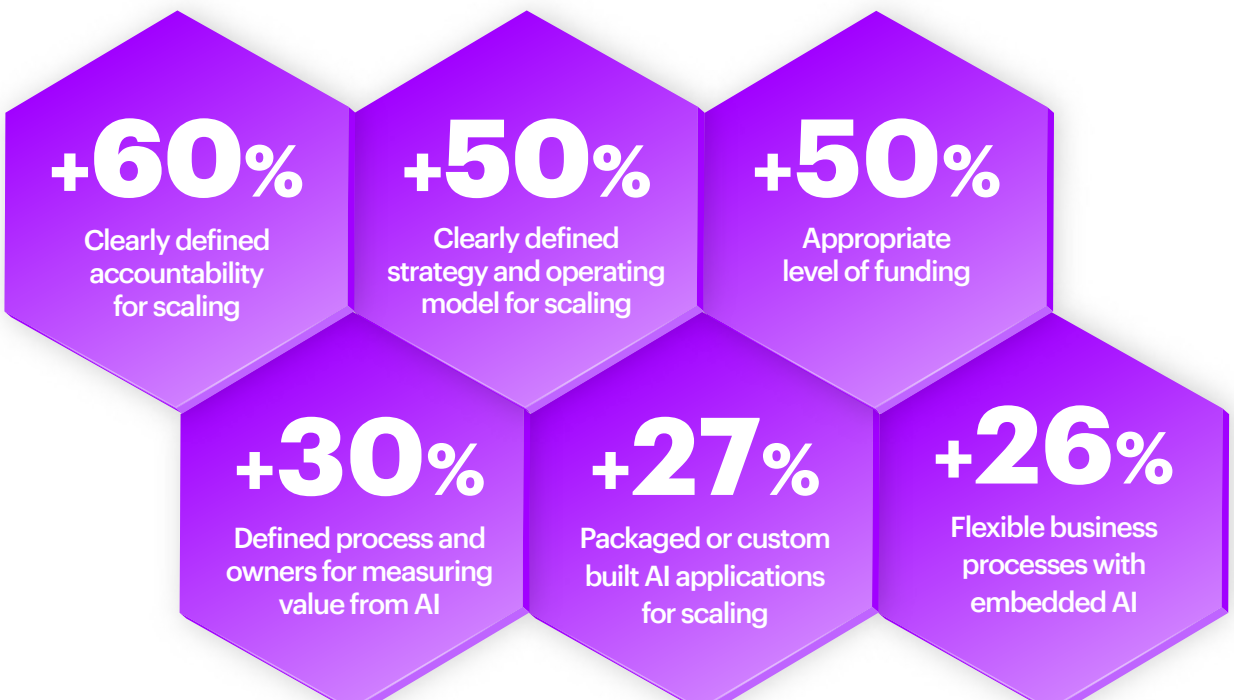
Most global organizations today believe passionately in the value of data and analytics. But one life sciences company had been struggling to move from theory to execution in implementing data and insights capabilities across all its business divisions. And they had a vision to scale a collaborative data-powered service delivery model to create an internal marketplace for FAIR (findable, available, interoperable, reusable) data.

Working with data and digital leadership, the multi-functional team designed and delivered a holistic data and analytics strategy while achieving immediate value through targeted use-cases in each of the key areas of the business. In addition to architecting and standing up the new scalable data and analytics delivery model, they created a model to make data search easier and more intuitive and embedded a new data-driven culture within the organization.

The result? The company's digital transformation is speeding ahead, powered by data analytics insights across its business.

Do the basics brilliantly

When it comes to scaling AI, Strategic Scalers do the basics brilliantly. Compared to companies in Proof of Concept, they have a clearly defined strategy and operating model for AI, defined process and owners for measuring value from AI, clearly defined accountability, appropriate levels of funding, and flexible business processes with embedded AI. They also scale through reusable assets on platforms, so successive AI programs are 3-5X faster to market at lower spend.



Sizing up the situation

The “smaller” companies in our study generated revenues between US$1 and 5 billion a year. The largest had revenues of more than US$30 billion. When it comes to scaling AI, are there any major differences between these two groups of companies? Do the largest companies face lower scaling success rates due to their organizational complexity? Or, quite the opposite, do they achieve higher returns as they untap greater value potential?

When we grouped the surveyed companies by size, we found no significant differences in scaling success rate or return on AI investments. So, size is not a factor. It’s all about instilling the right AI capabilities and mindset in the organization.

Benefits across the business

Companies from around the world and across industries are using AI to change the fabric of what they do and how they do it. Strategic Scalers are more likely to achieve a range of benefits including:

Optimization in action

With a continuously evolving competitor and customer landscape, a major North American technology company with global reach needed a dynamic integrated approach for its vast and complex supply chain. A mix of open source machine learning tools was used to analyze a range of factors including demand uncertainty, cost drivers, customer relationships, and rate of technological change. Personalized supply chain strategies for four key segments were created with synergies pinpointed to reduce complexity and maintain economies of scale.

The result? A personalized supply chain transformation with AI at the core driving new efficiency and effectiveness: 30% faster speed to delivery with 2X more accurate forecasting. Operating income up 45% with a reduction in manufacturing and freight costs of over 25%. Product availability improved over 35%, while overall supply chain was streamlined with over 90% fewer product configurations.

2x more accurate forecasting

45% increase in operating income

02 Tune out data noise

Strategic Scalers recognize the importance of managing data.

Ninety percent of the data in the world was created in just the past 10 years. One-hundred and seventy-five zettabytes of data will be created by 2025. Yet after years of collecting, storing, analyzing, and reconfiguring troves of information, most organizations struggle with the sheer volume of data and how to cleanse, manage, maintain, and consume it.

Strategic Scalers tune out "the noise" surrounding data. They recognize the importance of business-critical data— identifying financial, marketing, consumer, and master data as priority domains. And Strategic Scalers are more adept at structuring and managing data. They have invested heavily in data quality, data management, and data governance frameworks on the cloud. And they have clear operating models for generation versus consumption of data. The research shows they are much more likely to wield a larger, more accurate data set (61% versus 38% of respondents in Proof of Concept). And 67% of Strategic Scalers integrate both internal and external data sets as a standard practice compared to 56% of their Proof of Concept counterparts.

What's more, they use the right AI tools—things like cloud-based data lakes, data engineering/data science workbenches with model management and governance, data and analytics marketplaces and search—to manage the data for their applications. From creation to custodianship to consumption. Strategic Scalers understand the importance of using more diverse datasets to support initiatives.

Strategic Scalers strongly agree:

"My organization recognizes the importance of our core data as the foundation to scaling AI."

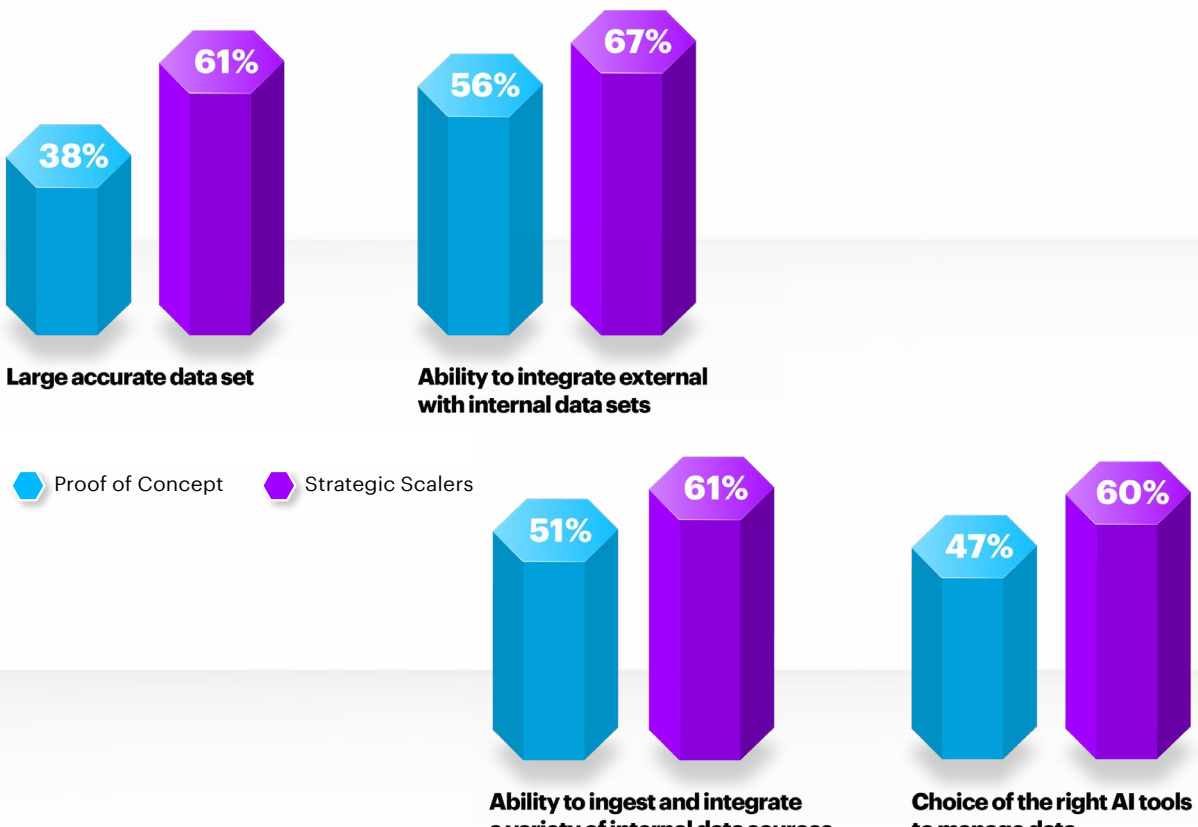
54% vs **37%**

Strategic Scalers

Companies in the Proof of Concept stage

Masters of their data

Strategic Scalers invest in a data foundation that enables them to scale AI.



Tapping into data

With beer sales declining and competitors drinking up market share on all sides, brewers are under increasing pressure to find new growth. One global brewer found a solution by tapping into new intelligence. The latest machine learning techniques helped overcome data veracity issues and develop more accurate forecasting models, improved consumer and customer segmentations, and enhanced sales incrementality.

Their new advanced analytics capabilities are scaled to over 100+ global datasets, including sales and forecast data, social media, trade spend, customer and product master data, even weather data. They get actionable data-driven insights in front of their key business decision makers, from commercial intelligence to sales and marketing, at unprecedented speed and scale.

The result: A return of four times the investment in the first year alone.

03 Treat AI as a team sport

The effort of scaling calls for embedding multi-disciplinary teams throughout the organization in addition to having sponsorship from the top.

The effort of scaling calls for embedding multi-disciplinary teams throughout the organization—teams with clear sponsorship from the top ensuring alignment with the C-suite vision. For Strategic Scalers, these teams are most often headed by the Chief AI, Data or Analytics Officer. They're comprised of data scientists; data modelers; machine learning, data and AI engineers; visualization experts; data quality, training and communications specialists.

It's a lesson Strategic Scalers have learned well. In fact, a full 92% of them leverage multi-disciplinary teams. Embedding them across the organization is not only a powerful signal about the strategic intent of the scaling effort, it also enables faster culture and behavior changes. In contrast, those still in Proof of Concept are more likely to rely on a lone champion within the technology organization to drive AI efforts.

92%

of Strategic Scalers leverage multi-disciplinary teams

The "A" and "I" in team

A leading global convenience store chain with $60B in revenue and 16,000 locations sought to gain a more competitive position to stave off more agile rivals.

They leveraged data science to price their products more competitively to better match customer demand across global markets. Leveraged machine learning and automation to increase pricing frequency. And established virtual agents to interact with their global category management teams to drive adoption of the new pricing approach. All of these changes were made possible thanks to multi-disciplinary teams with skills in areas like data engineering, visualization, data quality, and human-centered design.

The initiative is expected to deliver an expected US$300 million in gross profit uplift annually once fully scaled.

All hands on deck

As companies journey toward maturity in scaling AI, new skill sets emerge as critical to success. Things like human-centric design and social and behavioral sciences to drive responsible business practices. The better the blend of skills, the more sustainable the end result. Those leading the pack ensure employees have ongoing formal training, an understanding of how AI applies to their role, and understand and implement responsible AI. Because AI teams are embedded throughout the organization, and not cordoned off in special projects, the wider employee base has an opportunity to work side-by-side with them and appreciate how AI accelerates organizational goals.

Experience is another differentiator when it comes to success. Nearly half of all Strategic Scalers compared with just a third of respondents in Proof of Concept report having the necessary experience. The sheer volume speaks for itself: Strategic Scalers have successfully scaled 114 initiatives on average, compared with just 53 for those in Proof of Concept.

Companies achieving success scaling AI initiatives are more likely than their Proof of Concept counterparts to ensure their employees are prepared for the journey:

Formal training:

1.5x

Fully understand how AI applies to role:

2x

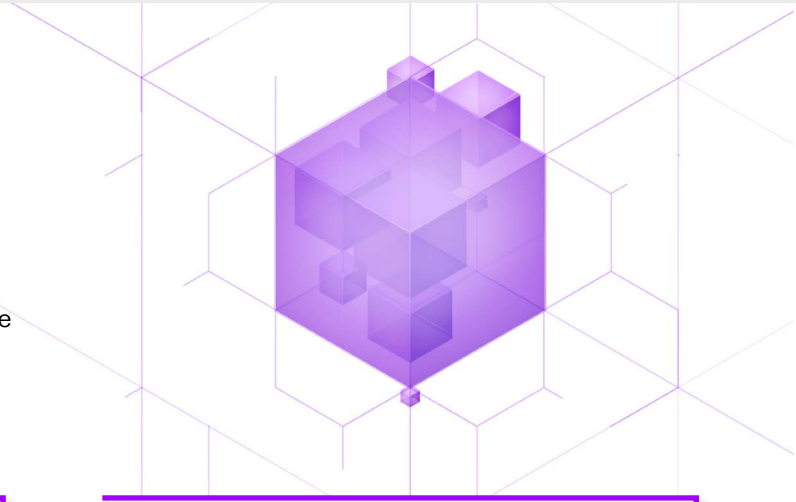
Understand & implement responsible AI:

1.7x

Realizing the potential

Industrializing for Growth is a dynamic destination.

It's important to note that Industrializing for Growth is a dynamic destination that changes as technology evolves. From our experience, we know of three additional variables that speed companies along their journey to the ultimate destination: A data-driven culture where AI is driving exponential returns.



Focus on the 'I' in ROI

The C-suite views AI investment as the cost of doing business. They earmark budget for AI recognizing its criticality for future growth and spend without the need to prove ROI in advance to justify the investment.

Adopt a digital platform mindset to scale

The two main objectives of platforms are acceleration and extended value. Publishing data on a platform once for products to consume through APIs and microservices is more cost effective. It also drives scale by breaking down silos and democratizing data and insights enabling greater collaboration and innovation across the enterprise and broader ecosystem of partners.

Build trust through Responsible AI

Responsible AI entails creating a framework that ensures the ethical, transparent and accountable use of technologies in a manner consistent with user expectations, organizational values and societal laws and norms. Responsible AI can guard against the use of biased data or algorithms, ensure that automated decisions are justified and explainable, and help maintain user trust and individual privacy.

Scaling to new heights of competitiveness

There are reams of information on the **"what"** of AI.

But scaling new heights of competitiveness with AI requires understanding the **"how."** And at times eschewing conventional wisdom that continues to emerge as AI evolves.

It's not just about SPEED
It's about moving deliberately, in the right direction.

It's not just about MONEY
It's about aligning your investments to the right places with the intention of driving large-scale change.

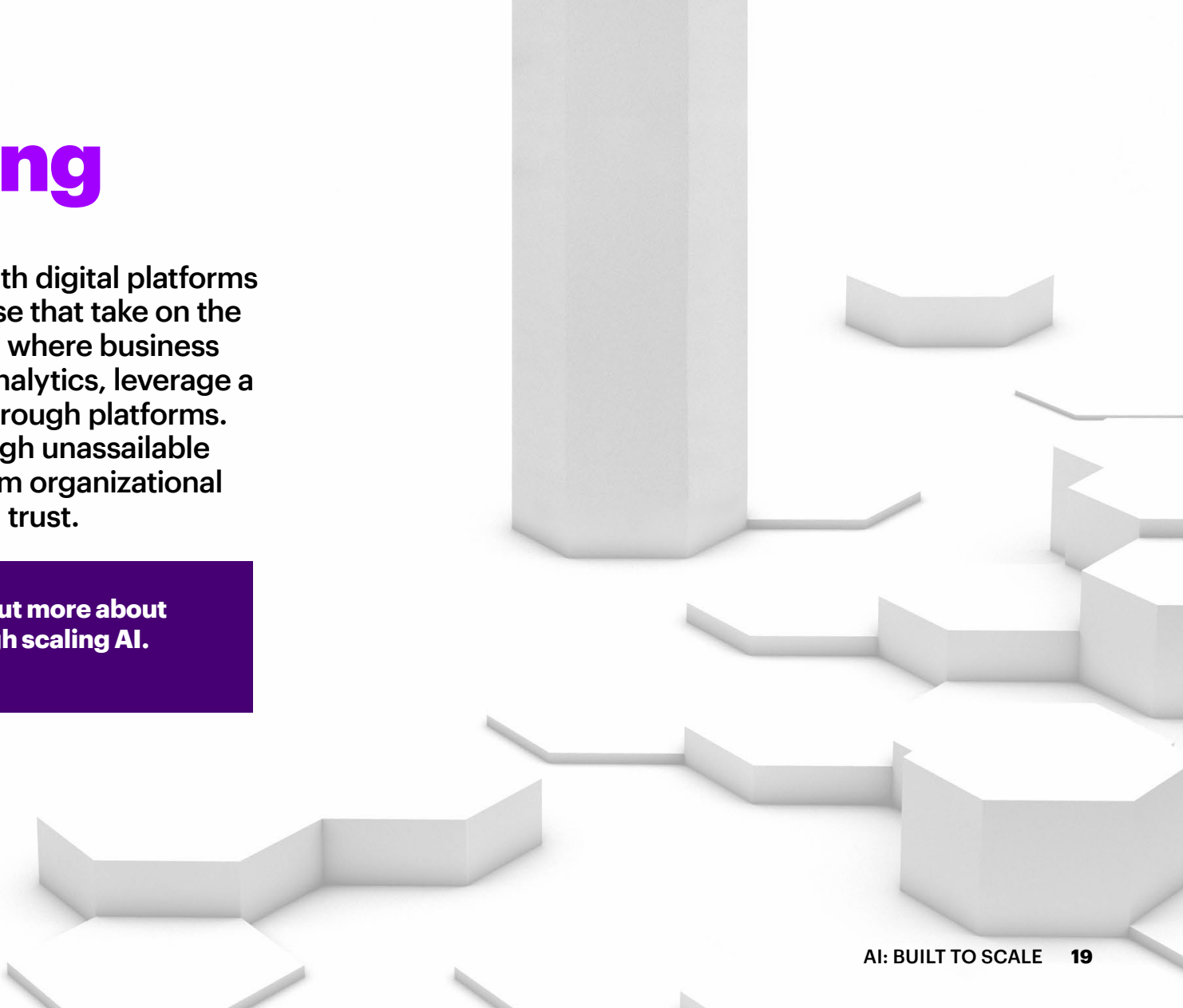
It's not just about MORE DATA
It's about investing in your data, deliberately yet pragmatically, to drive the right insights.

It's not just about a SINGLE LEADER
It's about building multi-disciplinary teams that bring the right capabilities.

Smooth scaling

Scaling the exponential power of AI with digital platforms across the enterprise is a journey. Those that take on the lessons of each path will reach a place where business strategies are seamlessly fused with analytics, leverage a reusable data foundation, and scale through platforms. The result: Industrialized growth through unassailable competitive strength in everything from organizational effectiveness to brand perception and trust.

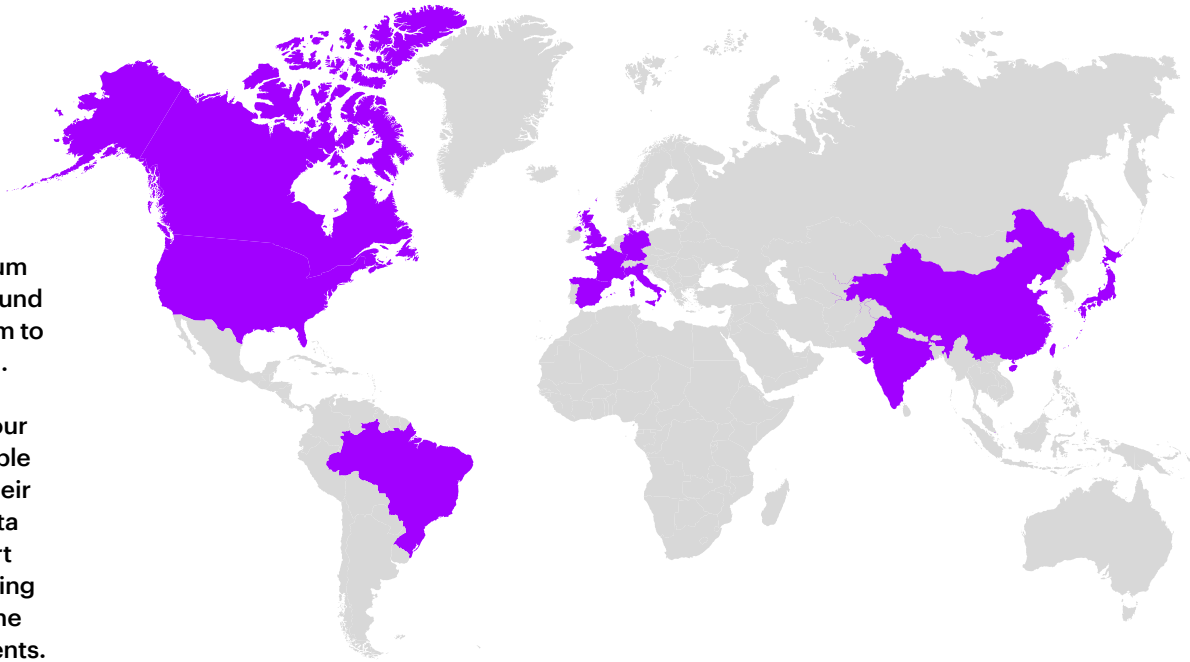
Contact the authors to find out more about how to increase value through scaling AI.

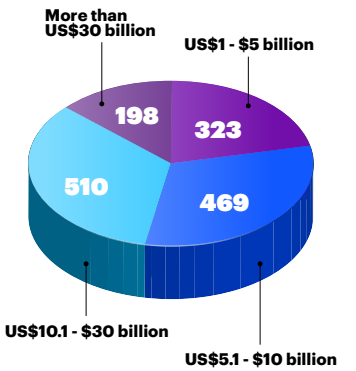


About the research

Our research involved 1,500 C-suite executives from companies with a minimum revenue of US$1 billion in 12 countries around the world across 16 industries, with the aim to uncover the success factors for scaling AI.

Our research, and that of our partners in our ecosystem, employs ethical and responsible research methods. Respondents reveal their identities voluntarily, we anonymize all data from companies in our data set, and report results in aggregate. We commit to not using the data collected to personally identify the respondents and/or contact the respondents.





Revenue (n=1,500)

Titles

Chief Information Officer (CIO) **(441)**
Chief Financial Officer (CFO) **(231)**
Chief Operating Officer (COO) **(215)**
Chief Digital Officer **(136)**
Chief Innovation Officer **(114)**
Chief Data and/or Analytics Officer **(113)**
Chief AI Officer **(93)**
Chief Strategy Officer **(59)**
VP/SVP of AI/ Data/Analytics **(98)**

12 Countries

Brazil **(115)**
Canada **(113)**
China **(139)**
France **(105)**
Germany **(116)**
India **(126)**
Italy **(113)**
Japan **(117)**
Singapore **(101)**
Spain **(106)**
United Kingdom **(116)**
United States **(233)**

16 industries

Banking & Capital Markets **(100)**
Chemicals **(100)**
Communications **(100)**
Consumer Goods & Services **(100)**
Energy (Oil & Gas) **(100)**
Healthcare (Payers) **(100)**
High Tech **(100)**
Industrial Equipment **(100)**
Insurance **(100)**
Life Sciences (Pharma & Biotech) **(100)**
Metals and Mining **(100)**
Retail **(100)**
Software & Platforms **(100)**
Travel & Transport (Hotels & Passenger) **(100)**
Utilities **(100)**

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Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Combining unmatched experience and specialized skills across more than 40 industries and all business functions — underpinned by the world's largest delivery network — Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders. With 482,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives.

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About Accenture Strategy

Accenture Strategy combines deep industry expertise, advanced analytics capabilities and human-led design methodologies that enable clients to act with speed and confidence. By identifying clear, actionable paths to accelerate competitive agility, Accenture Strategy helps leaders in the C-suite envision and execute strategies that drive growth in the face of digital transformation.

For more information, follow **@AccentureStrat** or visit **www.accenture.com/strategy**

About Accenture Applied Intelligence

Applied Intelligence is Accenture's approach to scaling AI for our clients. We embed AI-powered data, analytics and automation capabilities into business workflows to accelerate time to value. Our expertise in defining end-to-end strategy, combined with deep data infrastructure capabilities, cognitive services and industrialized accelerators help smooth clients' path to AI adoption, extending human capabilities and supporting clients in scaling AI responsibly. Recognized as a leader by industry analysts, we collaborate with a powerful global alliance, innovation and delivery network to help clients deploy and scale AI within any market and industry.

Follow **@AccentureAI** and visit **accenture.com/appliedintelligence**

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Accenture Research shapes trends and creates data-driven insights about the most pressing issues global organizations face. Combining the power of innovative research techniques with a deep understanding of our clients' industries, our team of 300 researchers and analysts spans 20 countries and publishes hundreds of reports, articles and points of view every year. Our thought-provoking research—supported by proprietary data and partnerships with leading organizations, such as MIT and Harvard— guides our innovations and allows us to transform theories and fresh ideas into real-world solutions for our clients.

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