

Shopping for AI

How retailers are putting AI-powered technologies to use

OXFORD ECONOMICS

Prepared for

synchrony

Executive summary

A new era is dawning across the retail sector, powered by artificial intelligence. Technologies like predictive analytics, chatbots, and robotic process automation—all enabled by AI—are creating fresh opportunities for growth, efficiency, and customer engagement. Many retailers are already realizing meaningful value from AI investments, and others expect to in the near future.

66% of retailers expect AI investments to increase profitability within three years.

But many are struggling to keep up with the wave of transformation remaking the industry. The ability to adapt to an AI economy will separate the winners from the losers in the years ahead. This paper, built on original research by Oxford Economics and Synchrony, provides an overview of progress to date toward AI implementation, key challenges faced by retailers of all sizes, and next steps on the road ahead.

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Introduction

Retailers are rightly cautious about the immense hype around AI-enabled technologies, but strongly believe these technologies will power the critical next phase of digital transformation.

Retailers embrace artificial intelligence

Few industries have experienced more digital disruption than the retail sector. Now a fresh wave of technologies powered by artificial intelligence—including machine learning, predictive analytics, chatbots, and robotic process automation (RPA)—is further transforming retail operations and customer experiences.

Companies across the industry must find ways to use these tools to their advantage—or fall behind competitors.

Oxford Economics, in partnership with Synchrony, surveyed 324 executives across seven US retail sub-sectors in late 2018. We found that most retailers are in the early stages of AI adoption, but momentum is building rapidly. Retailers are rightly cautious about the immense hype around AI-enabled technologies, but strongly believe these technologies will power the critical next phase of digital transformation.

We identified a group of 41 respondents, or about 13% of our survey sample—all among the larger companies in the group—who are further ahead in AI investment and deployment.

These Early Adopters:

- Focus more than others on the strategic value of AI
- Take a systematic approach to technology development
- Already realize business results from AI investments

We also looked at retailers at the other end of the adoption curve. These Late Adopters—mostly companies with $500 million to $999 million in annual revenue—make up about 19% of the survey sample. They face serious budget constraints and have invested less in the foundational technologies (e.g., cloud) that support AI tools, yet still see AI as critical to competitiveness in the near future. (See “Meet the Early Adopters—and the Late Adopters” on page 5 of this report for details on selection criteria.)

55%

of all retailers surveyed—not just Early Adopters—report a substantial increase in revenue growth as a result of AI investments



Definitions

For the purposes of this survey, we defined each aspect of artificial intelligence as follows:

Artificial intelligence (AI) is a broad category of software that uses algorithms to learn from its experiences and interact with its environment. The software is used to automate tasks and, increasingly, make complex decisions. This survey focuses on four forms of artificial intelligence:

- **Machine learning** describes computer programs that can teach themselves to learn, understand, reason, plan, and act as fresh data is processed.
- **Predictive analytics** applies data mining, statistics, modeling, machine learning, and AI to vast quantities of data, with the goal of making predictions about future events.
- **Chatbots/virtual agents** are computer programs that can communicate by mimicking human speech patterns.
- **Robotic process automation (RPA)** is the use of AI and machine learning to automate rules-based office tasks in place of humans.

Looking beyond the AI hype

Most successful technologies progress over time along the famous Gartner Hype Cycle,[1] from exaggerated expectations through inevitable challenges to sustained value.

Retailers have seen this movie before and have a sense of what to expect: just 13% agree or strongly agree that current AI applications live up to the hype, with our Early Adopter leader group even less likely to say reality matches marketing.

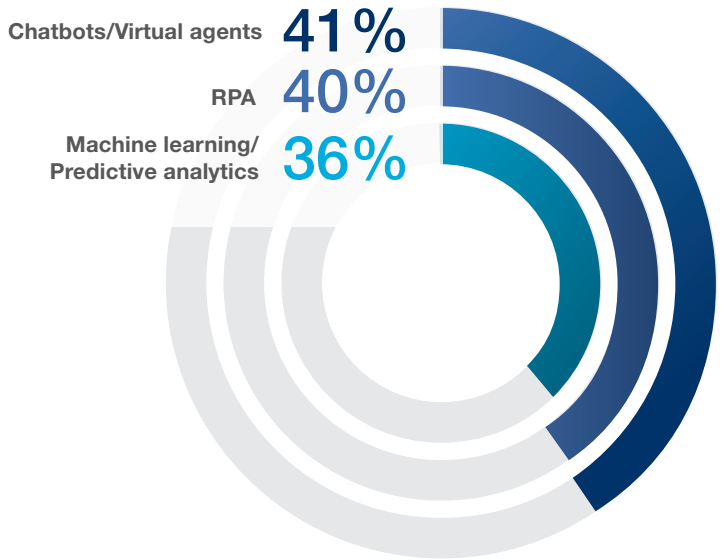
13% say current applications of AI live up to the hype

72% say artificial intelligence will be a competitive necessity for their company in the next five years

Yet retailers believe strongly in an AI-powered future. Nearly three-quarters of all respondents say artificial intelligence will be a competitive necessity for their company in the next five years, a figure that rises to 90% of Early Adopters. Nearly half of respondents say that the application of AI will have a transformative impact on their business.

Fig. 1: Retailers are investing where it matters most

Please indicate your company's level of maturity in implementing the following subsets of artificial intelligence. "Implemented in some parts of the business" and "Implemented broadly; well integrated into operations" responses.



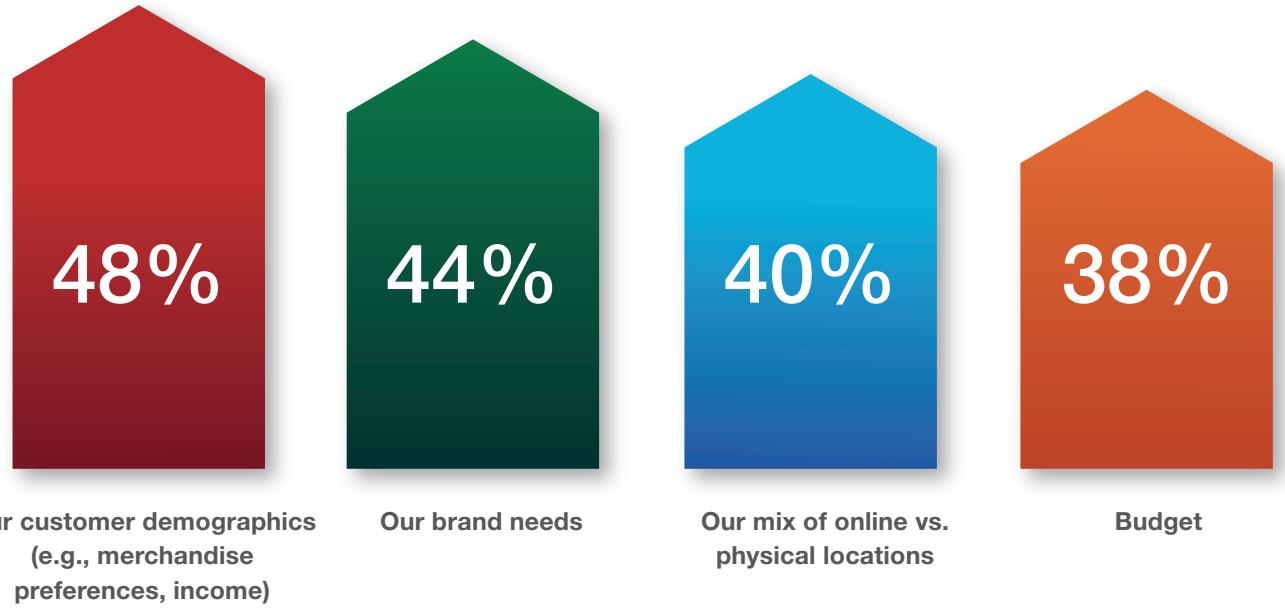
AI adoption is still in its early days, but the process is underway for most retailers; just one-fifth of respondents say they have no plans to adopt it, with twice that number already in the planning or piloting phases of implementation. As specific AI-enabled applications come into focus, retailers are investing in particular capabilities: chatbots/virtual agents are the most common AI-powered technologies implemented today, with RPA and machine learning/predictive analytics close behind.

1. https://www.gartner.com/en/research/methodologies/gartner-hype-cycle

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Fig. 2: Marketplace realities dictate AI purchases

What factors are most important in shaping your AI investments?
Select up to three responses



Smart AI adoption starts with a plan and fits into a larger strategic vision. Our respondents are making investment decisions based on the benefits expected for particular functions or defined business purposes. Most machine learning investments, for example, are focused in the accounting and marketing departments. Chatbot and RPA investments are similarly targeted, with customer service and IT attracting chatbot purchases, and IT, accounting, and inventory management receiving the most RPA investment. These priorities are often market-driven, with half of respondents saying their AI investments are shaped by their customer demographics and nearly as many citing brand needs as a driver of adoption.

AI investment is best understood in the context of overall digital transformation and technology strategy. An overwhelming majority of retailers surveyed agree that digital technologies are an important part of their strategic plan, and most are building their AI efforts upon the foundation of more mature technologies including cloud (implemented by three-quarters of respondents) and mobile (deployed by two-thirds of respondents).

92%

say digital technologies are an important part of their organization's strategic plans

Follow the Early Adopters

Investments in AI-enabled technologies are starting to pay off for many retailers, with about one-third of all respondents saying that they have received meaningful value from AI already.

Each of the specific AI applications we focused on is delivering positive outcomes for retailers.

We identified a small group of retailers—about 13% of our total sample—that are ahead of the game in terms of their investment in AI-powered technologies.

To qualify as an Early Adopter, respondents must have implemented machine learning/predictive analytics, chatbots/virtual agents, and robotic process automation in at least some parts of the business; they also must report transformative value from at least one of these AI-driven technologies.

Results are evident across a broad spectrum of business metrics, with Early Adopters benefitting most of all. More than half of all retailers surveyed say AI has provided substantial or transformative value on speed of customer complaint resolution, a number that jumps to nearly 100% of Early Adopters. This elite group is also more likely to cite value from AI in other areas covered in our survey, from inventory turnover and higher average sales to increased customer conversion rates and improved employee productivity.

One critical area of AI-driven value is increased revenue. Over half of all respondents have seen value from their AI initiatives in the form of revenue growth, with nearly one-quarter reporting very high value. Again, the Early Adopters are seeing these gains to a significantly greater degree than other respondents, with nearly all reporting meaningful value in terms of revenue growth from AI investments.

90%

of Early Adopters see AI as a competitive necessity for their company

AI maturity takes time, and so far the impact on profitability at our respondent companies is low. Only 13% of all retailers in our survey report a meaningful AI-driven rise in profitability—and three-quarters say they have received no value yet on the bottom line. This is true for even the Early Adopters, with fewer than one in five reporting a meaningful impact on profitability.

Hopes are high for the next three years. Retailers expect AI-powered improvements across the business, from higher average sales to improved customer conversion rates and optimized inventory turnover. The most dramatic change is expected in profitability: two-thirds of all retailers in our survey expect AI to make their organization more profitable in three years. Our Early Adopters see a bright near future: in three years, two-thirds expect increased profitability, higher average sales, optimized inventory turnover, and higher customer conversion rates from their investments.

These Early Adopters understand the impact that AI will have on the retail sector—and organizations looking to launch their own AI programs can follow their lead in their search for value.

Putting AI to work in retail

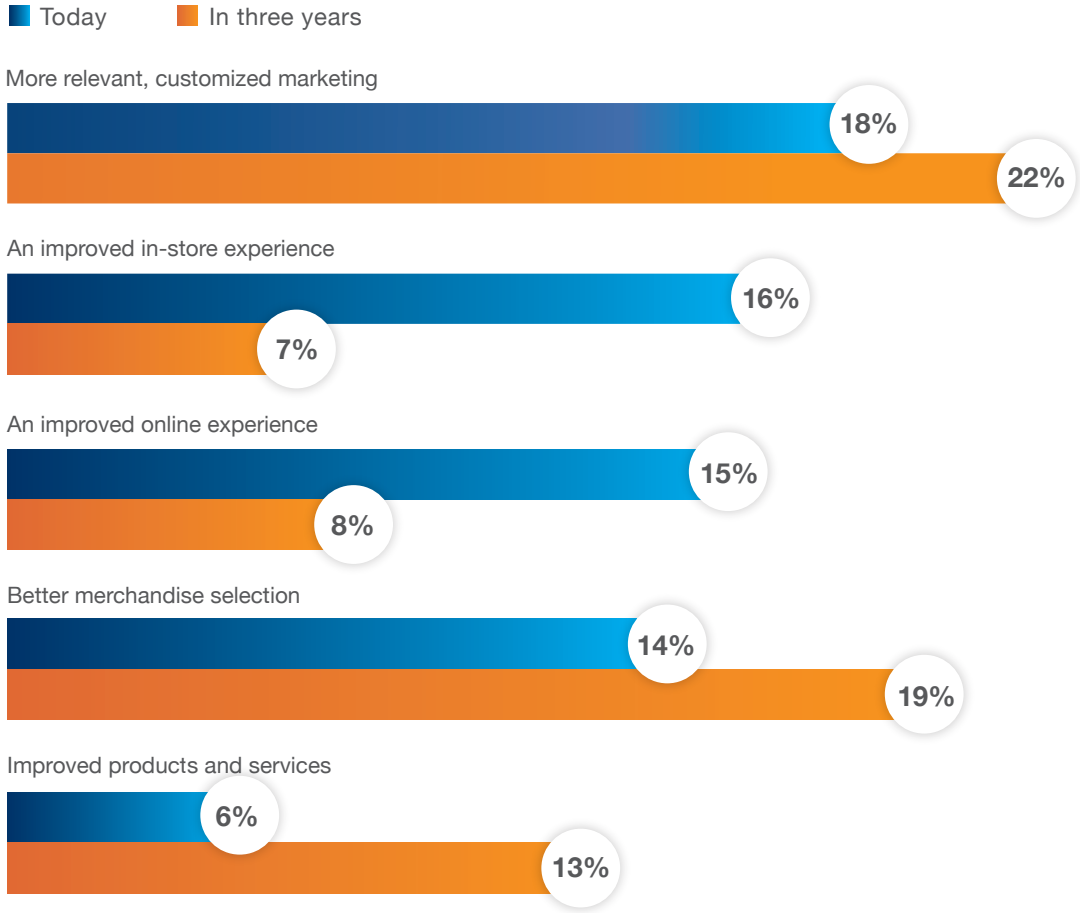
Customer satisfaction has always been a goal for retailers, and their vision for AI investments advances that aspiration. Nearly two-thirds of retailers surveyed say they are using AI to capture data from customers to a meaningful extent today, and three-quarters will do so in the next three years. Company size plays a significant role in how AI is deployed for data collection, with larger retailers 50% more likely than small ones to report meaningful AI use in customer data capture.

AI investments are starting to provide value to retailers and consumers. When asked about the primary benefit of AI for their customers, respondents pointed to more relevant, customized marketing, improved in-store experiences, and improved online experiences as the top payoffs. Our Early Adopters rate AI's impact on in-store and online experiences slightly higher.

This customer-value equation will likely shift over time. While more relevant and customized marketing is expected to remain the main customer benefit in three years, many respondents plan to take the customer relationship further, with substantial improvements in merchandise selection and products and services. Again, our Early Adopters are slightly ahead of the curve: more than one-fifth of Early Adopters expect AI's biggest payoff to be the improvement of merchandise selection, with another 20% primarily expecting improvements in their products and services.

Fig. 3: AI to expand merchandise selection, products and services

What is the primary benefit of artificial intelligence to your customers right now, and what do you expect the primary benefit to be in the next three years?



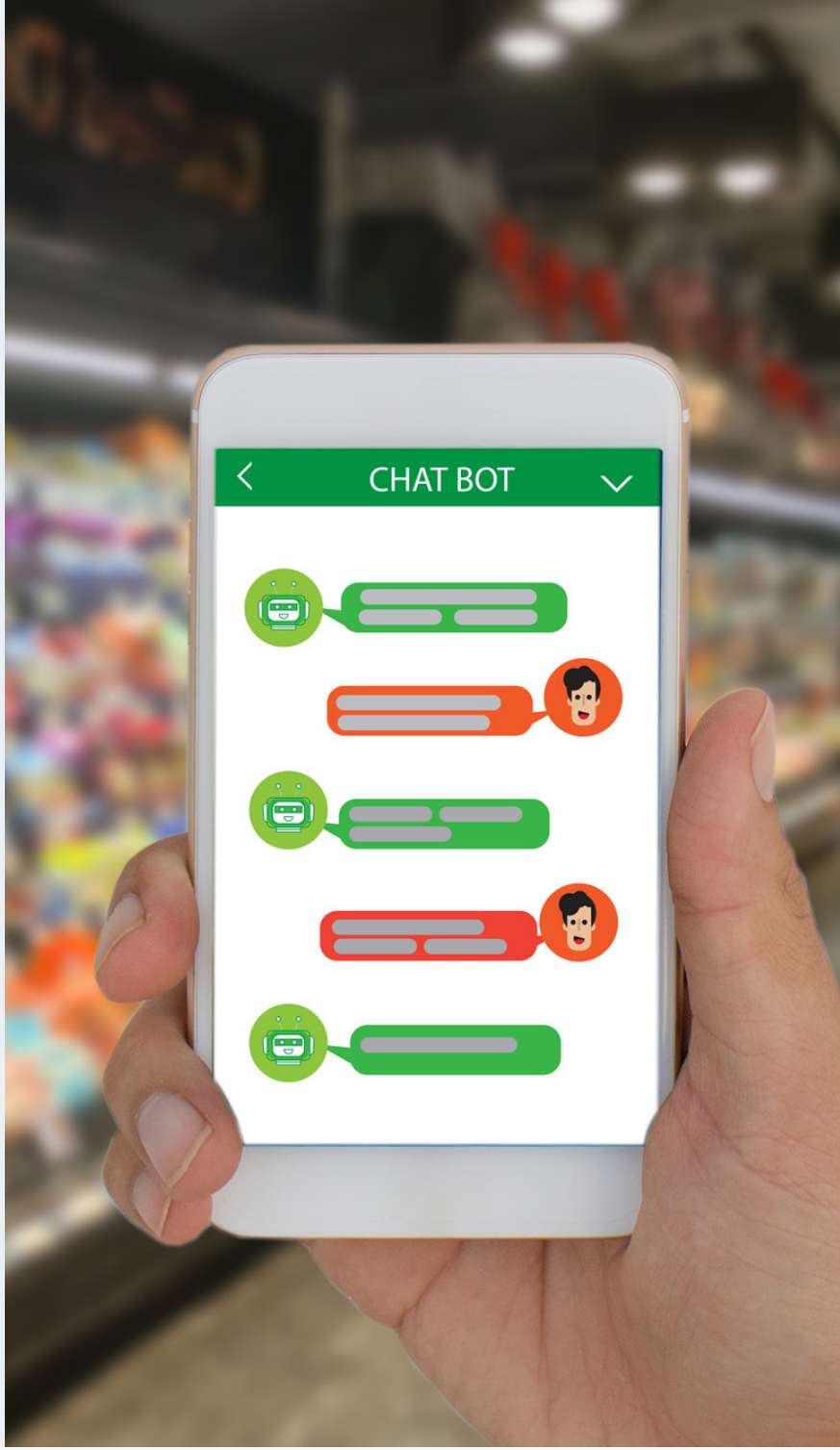
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Unsurprisingly in these early days, there is room for improvement in getting value from customer data. Even though 64% of retailers are using AI to capture data, less than half are using it to predict customer behavior.

64%
use AI to capture customer data

40%
use data to predict customer behavior

Early Adopters are much more likely to use AI to predict customer behavior based on captured data. Early Adopters also are more likely to have found areas beyond the customer experience for meaningful AI use as well, from predictive maintenance to the automation of back- and front- end operations. AI use is expected to increasingly permeate all areas of the business in the next three years for all survey respondents.





Facing challenges posed by AI

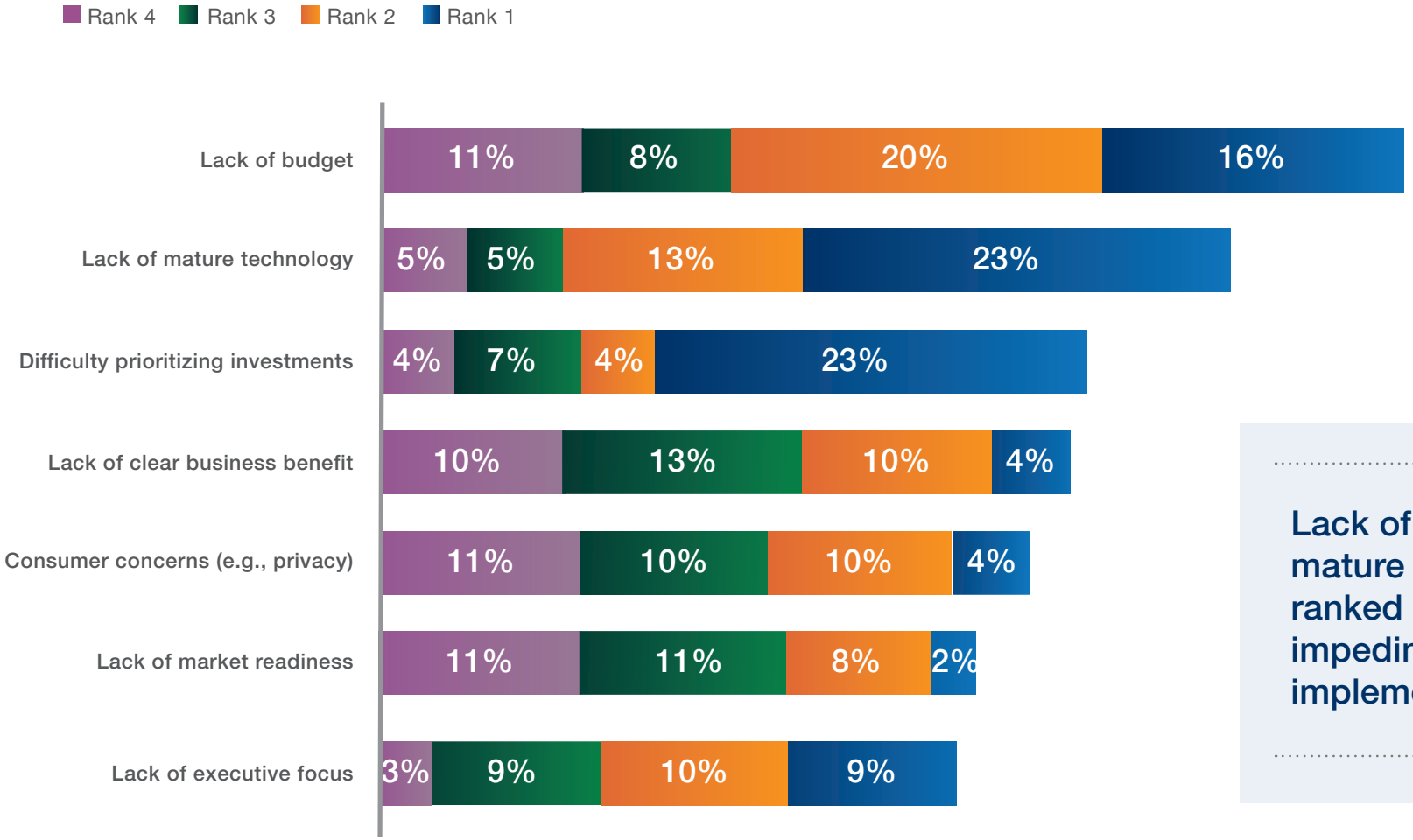
"Difficulty in prioritizing investments is the top impediment to implementation"

All change brings challenges, but the pain points of AI adoption are not evenly distributed across our survey sample.

- **Funding.** While retailers of all sizes say budgets are a top impediment to AI implementation, smaller companies are much more likely to say money is the biggest factor shaping their AI investments.
- **Technology** continues to be a meaningful constraint on adoption across the board, with nearly half of large and mid-sized organizations surveyed citing a lack of mature technology as a top challenge.
- **Strategic focus.** Choosing a strategic focus for AI investments is another issue holding back many retailers; about one-quarter of respondents say difficulty in prioritizing investments is the top impediment to implementation. More than one-third of respondents are hindered by the lack of a clear business benefit from AI investments.

Fig. 4: Money and other headaches

Which of the following are the greatest impediments to implementing AI? *Rank the top 4*

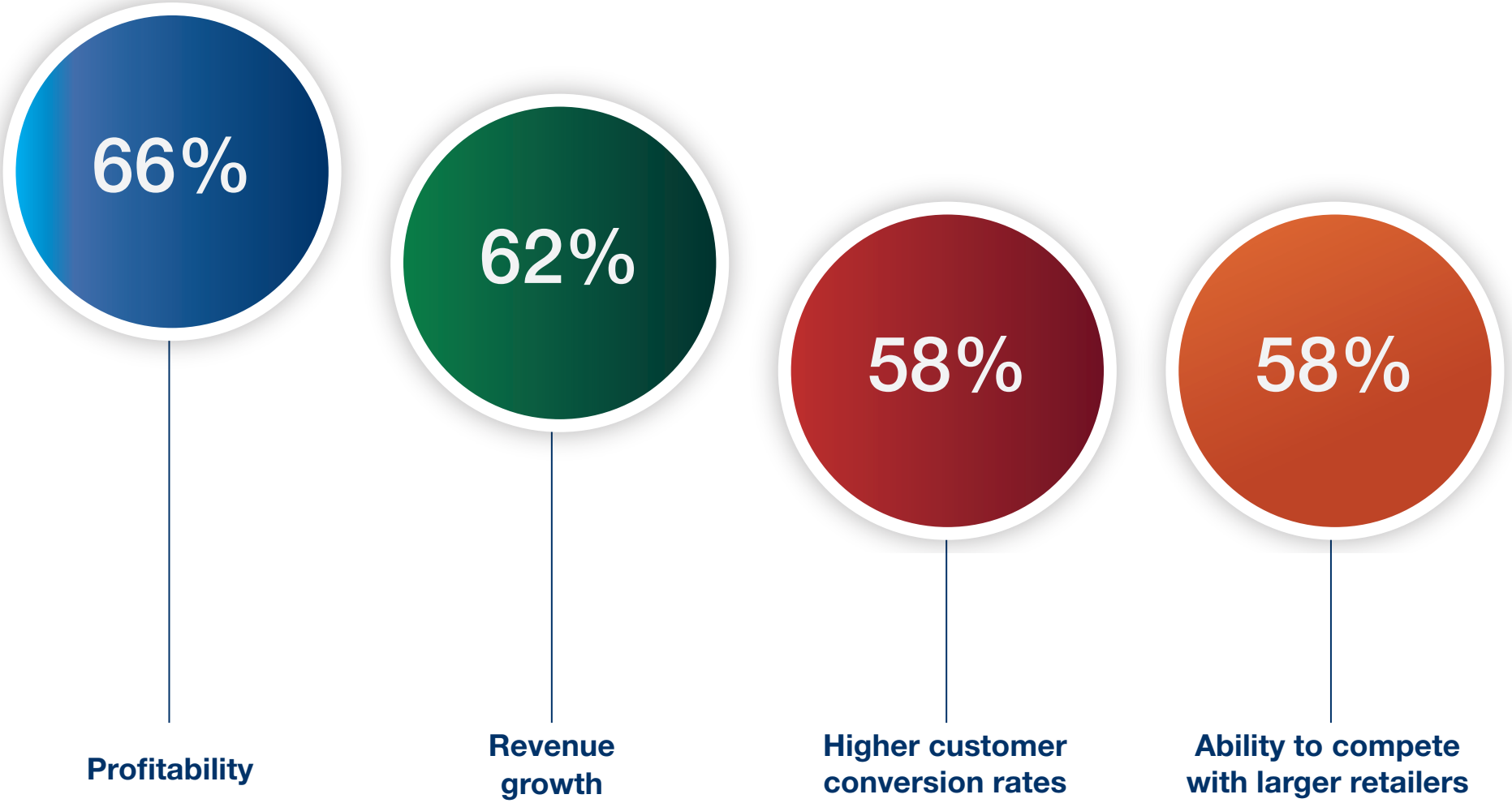


Lack of budget and mature technology are ranked the biggest impediments to AI implementation

Early Adopters face their own challenges. Talent woes exist in both the back office and the front office, and many struggle to gain support from the C-suite: over one-third cite a lack of executive focus as a top challenge.

Fig 5: Profits in the picture

To what extent do you expect your AI investments to deliver value in the following areas over the next three years? "*Substantial value" and "Transformative value" responses*



The path forward

Our survey findings show that retailers are making meaningful strides in their digital transformation efforts, with AI-powered technologies an increasing focus. These technologies are a strategic priority and offer solutions to specific business problems for many respondents. Our Early Adopters set the tone and provide a strong example of how best to prioritize organizational AI decisions. To make AI investments pay off, retail organizations must:

- **Develop a technology foundation.** Invest in cloud and other tools that will support innovation and emerging technologies like AI.
- **Choose the right AI-enabled technology for given business needs.** Chatbots may be the right starting point for one retailer, while RPA may address critical needs at another.
- **Start with the customer.** Understanding customer behavior and needs is a top priority—and customer data is a critical driver of AI performance.
- **Build on innovation in a systematic way.** Improved merchandizing, products, and services are next-level goals once the fundamentals are in place.



Contact us

Global headquarters
Oxford Economics Ltd
Abbey House
121 St Aldates
Oxford, OX1 1HB
UK
Tel +44 (0)1865 268 900

London
Broadwall House
21 Broadwall
London, SE1 9PL
UK
Tel +44 (0)203 910 8000

New York
5 Hanover Square, 8th Floor
New York, NY 10004
USA
Tel +1 (646) 786 1879

Singapore
6 Battery Road
#38-05
Singapore 049909
Tel +65 6850 0110

Email: mailbox@oxfordeconomics.com
Website: www.oxfordeconomics.com

Contact your Synchrony representative or visit us at **synchrony.com** or **synchronybusiness.com** for more information.

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