Microsoft

hypothesis

IoT Signals
Retail Spotlight

SUMMARY OF RESEARCH LEARNINGS
2019

AKA.MS/IOT-SIGNALS

BACKGROUND

As the Internet of Things (IoT) continues to revolutionize the way companies do business, Microsoft wanted to give the industry a full view of IoT. Just as Microsoft has been at the forefront of IoT, the goal of this IoT Signals report is to help business leaders, customers, and partners become trailblazers in the IoT ecosystem.

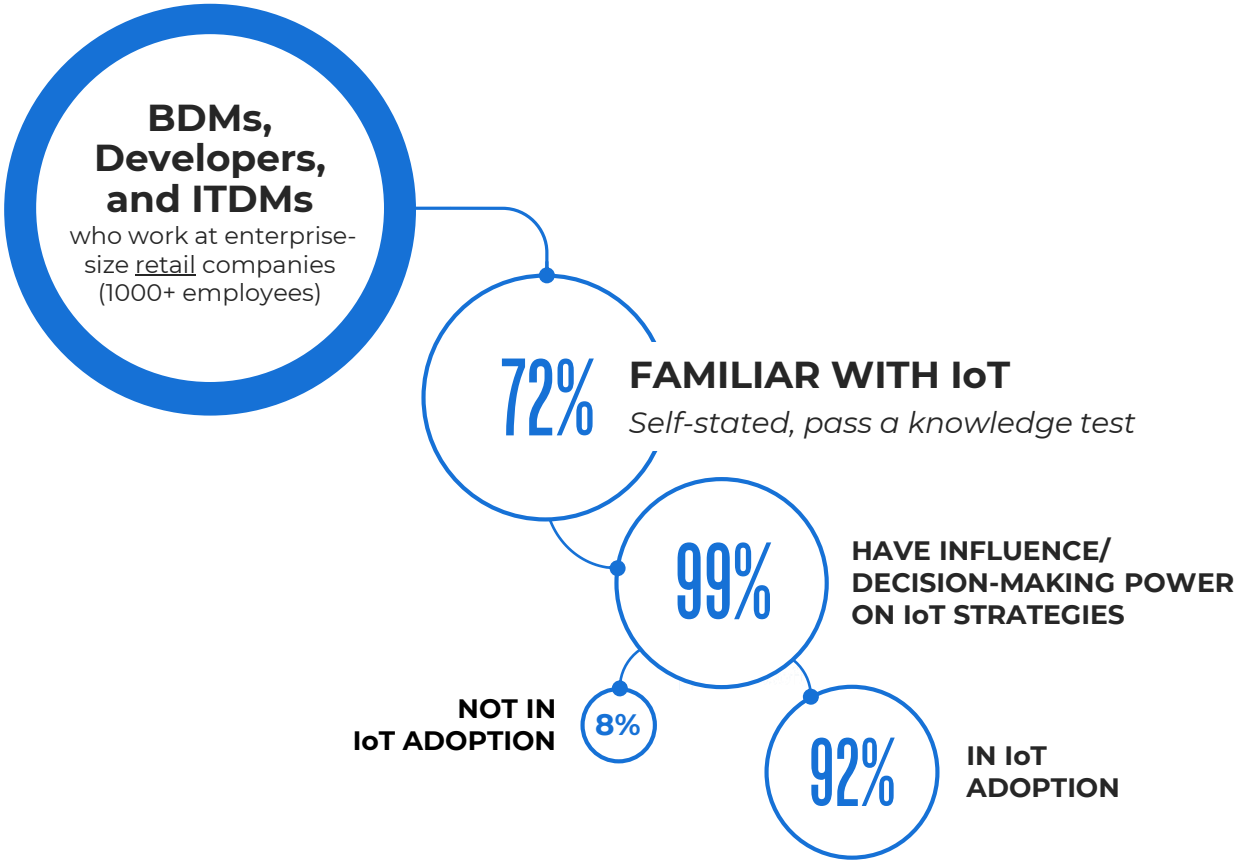
For this spotlight, Microsoft IoT Signals builds off the success of the IoT research conducted earlier in 2019 and takes a deeper look into the retail industry across different markets. The objectives of this retail-specific report are to explore the benefits and challenges of IoT, as well as the challenges of IoT adoption; to project the future adoption and uses of IoT; and to understand the value retailers see IoT as bringing to their business.

METHODOLOGY

Microsoft commissioned Hypothesis Group, an insights, design, and strategy agency, to execute the IoT Signals retail research.

A 10-minute online survey was conducted with 168 business decision makers (BDMs), IT decision makers (ITDMs), and developers at enterprise-size retail companies in the U.S., U.K., and France who are currently involved with IoT. Survey participants are full-time employees between 18 and 65 years of age who are familiar with IoT and have at least some authority over IoT decisions at their organizations.

WHO WE TALKED TO



IoT SIGNALS BOOST WAVE RETAIL SPOTLIGHT EXECUTIVE SUMMARY

THINGS TO KNOW ABOUT RETAIL IoT

01

THE RETAIL INDUSTRY HAS WHOLEHEARTEDLY EMBRACED IoT TECHNOLOGY

Among the retail IoT decision-makers we spoke to, almost all are using or looking to use IoT solutions and the majority say IoT is critical to their company's continued success. Retailers are using IoT for a variety of use cases and actualizing many benefits, though having more resources, knowledge and budget could help them achieve even greater success.

02

RETAILERS AROUND THE GLOBE ARE COMMITTED TO IoT

Globally, IoT is being widely adopted in retail – in the US it is often utilized for security, while supply chain/store optimization are more popular uses in Europe. Despite a variety of adoption barriers across regions, retailers are dedicated to overcoming challenges and leveraging IoT even more in the future.

03

AI IS INTEGRAL TO IoT AND HELPS RETAILERS ACHIEVE GREATER IoT SUCCESS

For many retail IoT decision-makers, AI is a core component of their IoT solution. Those retailers view IoT as even more critical to their company's success and they also plan to use IoT more in the future than those not integrating AI.

04

IMPROVING CUSTOMER EXPERIENCE IS A GROWTH OPPORTUNITY FOR IoT IN THE FUTURE

Retailers' future planning focuses on IoT projects that help customers get in and out quickly, which increases revenue. Areas like automated checkout and optimizing inventory and layout are key.

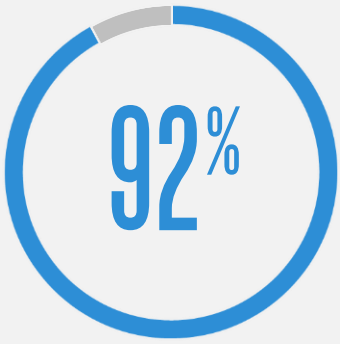
IoT SIGNALS BOOST WAVE RETAIL SPOTLIGHT DETAILED LEARNINGS

THE RETAIL INDUSTRY HAS WHOLEHEARTEDLY EMBRACED IoT TECHNOLOGY

The retail industry has wholeheartedly embraced IoT technology. Among the retailers we surveyed, 92% say they have at least one project in either the learning, proof of concept (POC), purchase, or use (i.e., fully implemented) phase. A vast majority of these adopters believe it is critical to success – 87% perceive IoT as crucial to their company's continued growth. (See Exhibit 1.) 86% of adopters have reached the use phase and they state that over a quarter of projects they've developed are currently being implemented (with the remainder in different stages of ramping up). On average, it typically takes a retail project 12 months to get to the use phase.

EXHIBIT 1

% IoT ADOPTERS



% IoT IS CRITICAL TO OVERALL SUCCESS

87%

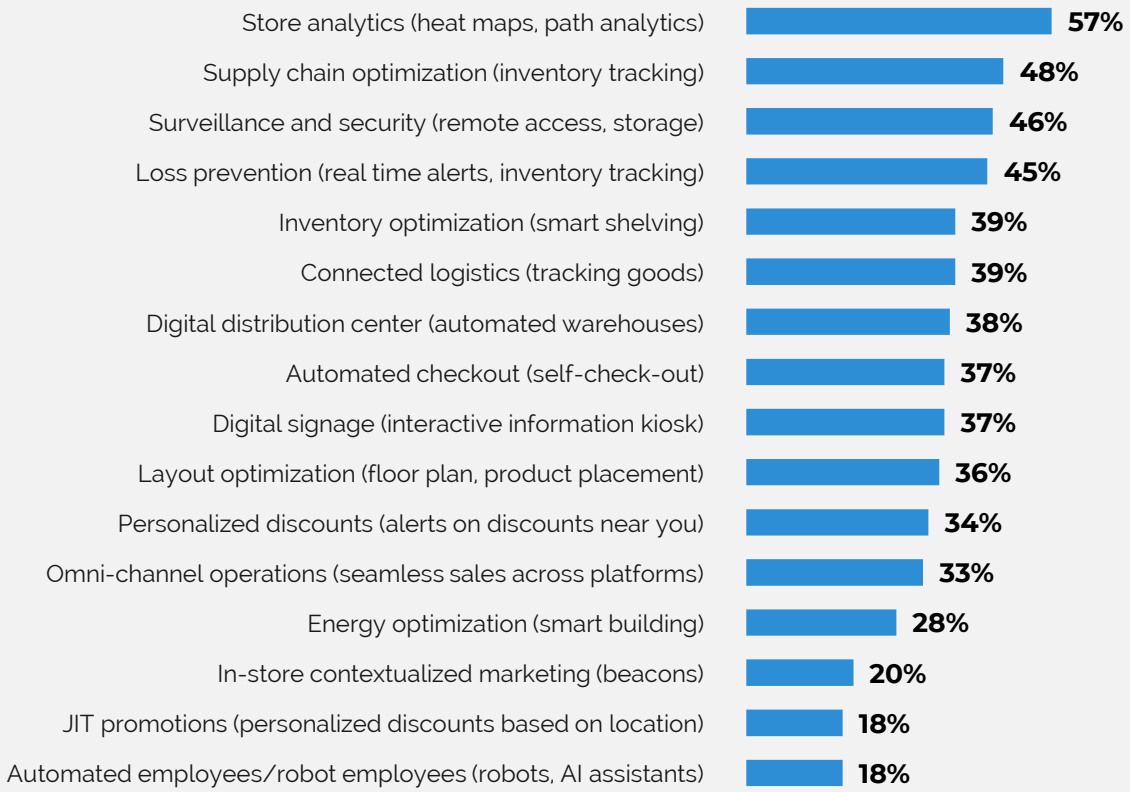
Very + Somewhat

- 50% Very
- 37% Somewhat

In the retail industry, IoT use is widespread and diverse. According to adopters, frequent uses include store analytics (57%), supply chain optimization (48%), security (46%), loss prevention (45%), inventory optimization (39%), and connected logistics (39%). Other common uses of IoT include digital distribution, automated checkout, digital signage, and layout optimization. (See Exhibit 2.)

EXHIBIT 2

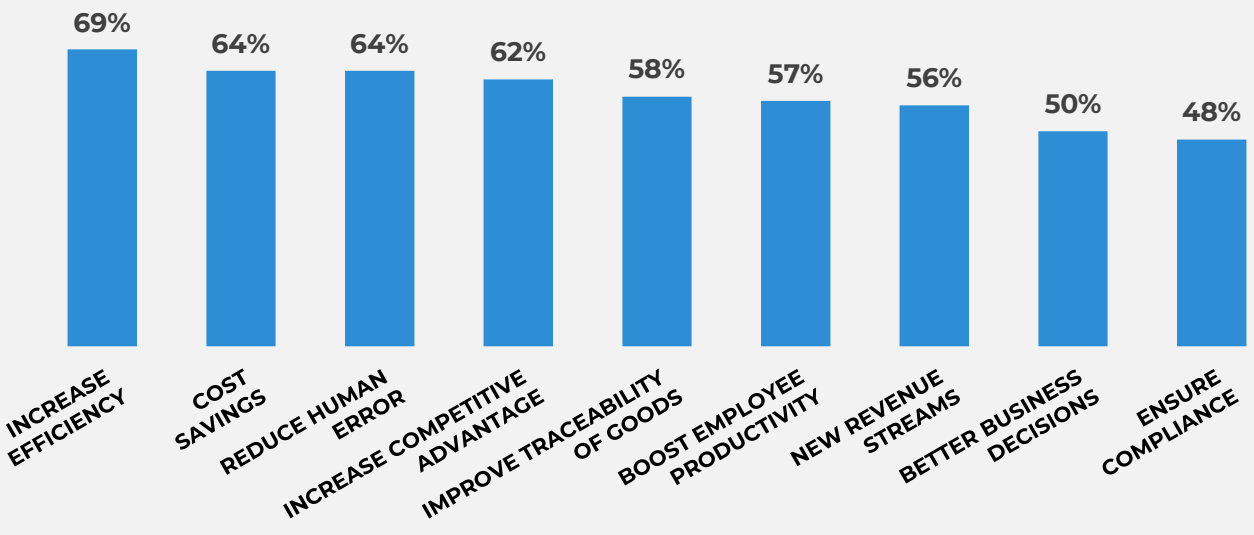
RETAIL IoT USE CASES



Retail companies are seeing many advantages to using IoT. Almost three quarters report that IoT increases operational efficiency. 64% of adopters also cite cost savings as a significant benefit, and 62% say IoT helps increase their company's competitive edge. For more than half of adopters, IoT also opens up new revenue streams. Additional benefits of IoT adoption include reduced chance for human error, improved traceability of goods, and increased employee productivity. (See Exhibit 3.)

EXHIBIT 3

BENEFITS OF IoT



It's clear that retailers are already using IoT extensively. However, many adopters (67%) state they want to implement IoT even more, but face barriers. Typical barriers companies face when adopting IoT more widely include a scarcity of resources, knowledge, and budget. Security, privacy, and regulatory challenges also exist. And despite the widespread success of IoT, many endeavors still fail in proof of concept – 88% of the IoT adopters surveyed have experienced the failure of a project at this stage, often due to high cost of scaling and unclear business value or impact. (See Exhibit 4.)

EXHIBIT 4

FURTHER IoT IMPLEMENTATION – % WITH BARRIERS

67%
want to implement IoT even more, but face barriers

6%
working out their current solutions

27%
satisfied with current level of implementation

TRIAL/POC CHALLENGES

RETAILERS AROUND THE GLOBE ARE COMMITTED TO IoT

Retailers in the U.S. and Europe are equally dedicated to IoT, though they experience unique benefits and challenges. 92% of decision makers we surveyed in the U.S., U.K., and France are currently in IoT adoption. In addition, both regions have roughly one in four IoT projects in the use phase. Their most common uses for IoT are similar: almost two thirds of U.S. retailers name store analytics as one of the primary ways they utilize IoT, and nearly half of European companies say the same. Then they diverge, with the U.S. citing surveillance and security as another top use case, while Europe prioritizes supply chain optimization. (See Exhibit 5.)

EXHIBIT 5

% IN IoT ADOPTION

92% US

92% UK FR

USE CASES

	US		UK FR
Surveillance and security	65%	Store analytics	49%
Store analytics	65%	Supply chain optimization	43%
Loss prevention	60%	Automated checkout	39%
Supply chain optimization	53%	Digital distribution center	37%
Inventory optimization	51%	Connected logistics	35%

All in all, IoT decision makers in the U.S. and Europe recognize increased efficiency and cost savings as top benefits. U.S. retail businesses also say IoT reduces their chance for human error, while European retailers cite IoT as giving them a competitive advantage and enabling new revenue streams. When it comes to barriers, retailers in the U.S. mention budget and privacy as top concerns, while those in Europe face challenges around compliance and lack of resources/timing.

Ultimately, the majority of U.S. and European retailers plan to implement IoT even more in the future. (See Exhibit 6.)

EXHIBIT 6

% IMPLEMENT MORE IoT IN THE FUTURE

82% US

73% UK FR

BENEFITS of IoT

	US
Increases the efficiency of operations	79%
Reduces chance for human error	76%
Provides my business with cost savings	75%
Increases my company's competitive advantage	71%
Allows my employees to be more productive	69%

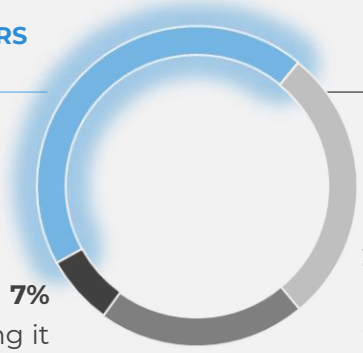
	UK FR
Increases the efficiency of operations	60%
Provides my business with cost savings	54%
Increases my company's competitive advantage	54%
Enables new revenue streams	54%
Reduces chance for human error	53%

AI IS INTEGRAL TO IoT AND HELPS RETAILERS ACHIEVE GREATER IoT SUCCESS

Artificial Intelligence (AI) is becoming an important part of retailer IoT solutions. Among IoT adopters in retail, 44% say AI is a core component of their IoT solution. For the other 56%, though it's not central yet, most say it's either a secondary component (28%) or something they are considering (21%). (See Exhibit 7.)

EXHIBIT 7

ROLE OF AI AMONG IoT ADOPTERS



44%

AI IS A CORE COMPONENT

7%
Not considering it

28%
Secondary component

21%
Not a component, but considering it

56%

AI IS NOT A CORE COMPONENT

Retailers who do integrate AI as a core component of their IoT solutions report a higher level of success with IoT overall. Almost all of these retailers believe that IoT is critical to overall company success, compared to 82% among retailers who don't incorporate AI as a core component. Since more than three-quarters of AI core integrators are planning to use IoT more in the next two years, it's safe to conclude that AI integration is connected to successful use of IoT. (See Exhibit 8.)

EXHIBIT 8

IoT PERCEPTIONS

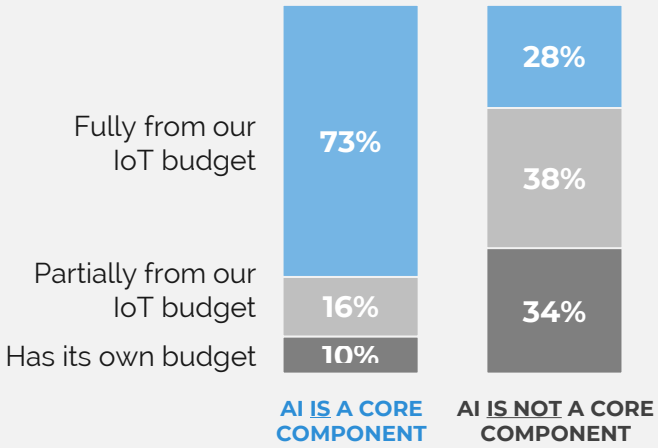
	AI IS A CORE COMPONENT	AI IS NOT A CORE COMPONENT
% IoT IS CRITICAL TO OVERALL COMPANY SUCCESS	96%	82%
% PLANNING TO USE IoT MORE IN TWO YEARS	84%	72%

Adopters who consider AI a core component are more likely to use IoT to improve customer experience and marketing, focusing their use of the technology on layout and inventory optimization such as smart shelving, and in-store marketing tools like digital signage and beacons.

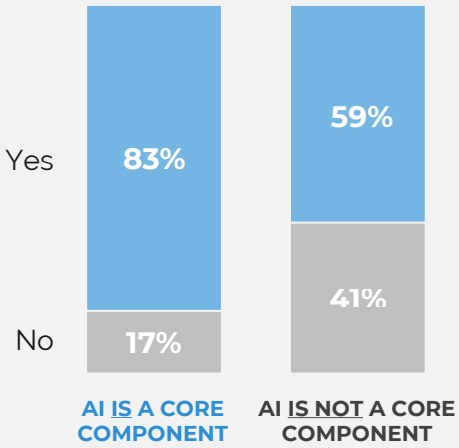
Those who prioritize AI are more likely to treat it as an essential and inseparable part of their IoT solution. Almost 90% of companies who use AI as a core component also use the same providers for both AI and IoT, compared to 59% of companies for whom AI is not essential yet. In addition, retailers who integrate AI are also more likely to pay for it using their IoT budget, rather than budgeting for it separately. (See Exhibit 9.)

EXHIBIT 9

AI BUDGETING



SAME VENDORS USED FOR AI AND IoT



IMPROVING CUSTOMER EXPERIENCE IS A GROWTH OPPORTUNITY FOR IoT IN THE FUTURE

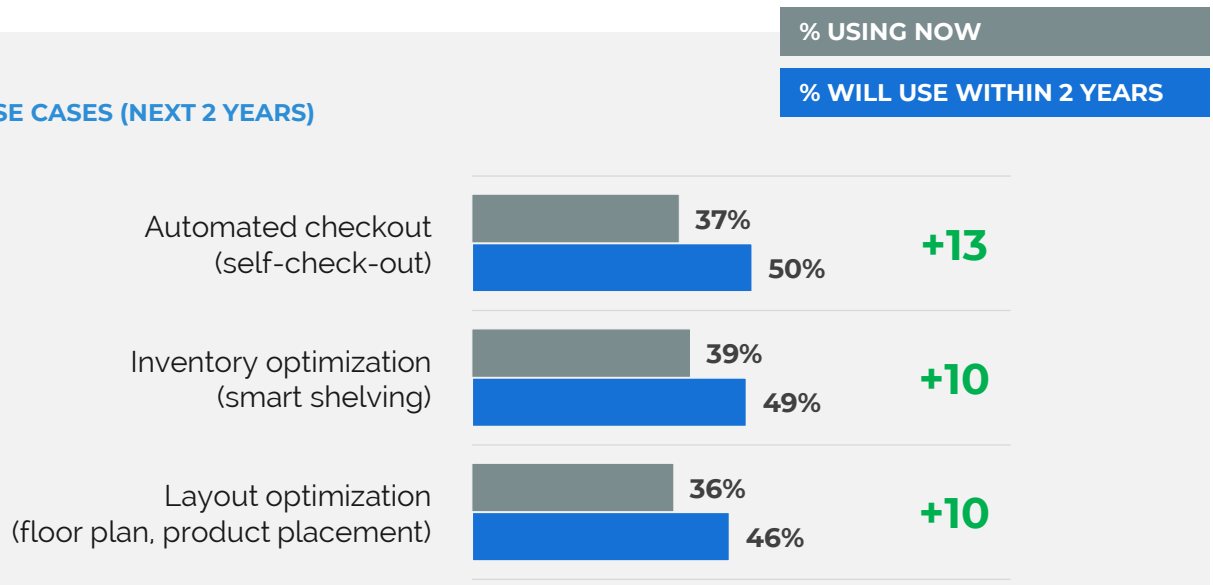
The future is promising for IoT use in the retail industry. Looking ahead, retailers predict near universal adoption of IoT two years from now. 97% are committed to adopting the technology in the next two years. Additionally, more than three in four say that their use of IoT will grow in the next two years.

Retailers see themselves increasing future adoption of IoT because they view the technology as key to company success. 85% of the decision makers we surveyed say IoT will be critical to their organization's overall success in the next two years.

Among retailers who intend to use IoT in the next two years, the use cases projected to grow the most are those that can enhance the customer experience. These include automated checkout, inventory optimization, and layout optimization. Automated checkout will see the most growth, from 37% to 50% in two years time, a 13 point gain. (See Exhibit 10.)

EXHIBIT 10

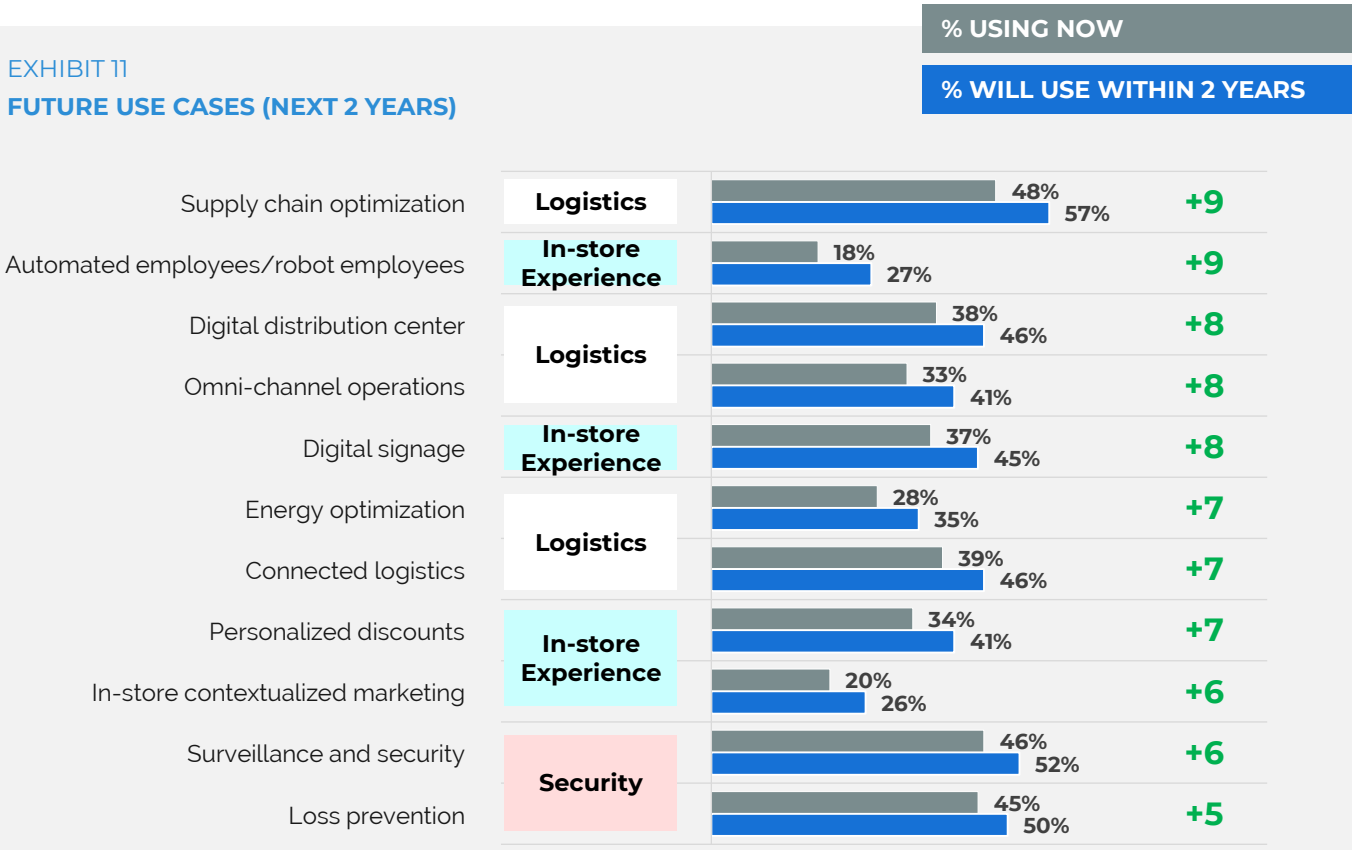
FUTURE USE CASES (NEXT 2 YEARS)



Retailers also envision more moderate growth of IoT implementation in logistics optimization, security, and targeted in-store experiences. Growing logistics use cases include digital distribution, energy optimization, and connected logistics. Businesses also expect they will increase the use of IoT for in-store experiences like digital signage, automated employees, and contextualized marketing. Surveillance and security as well as loss prevention are also expected to experience growth. (See Exhibit 11.)

EXHIBIT 11

FUTURE USE CASES (NEXT 2 YEARS)



FINAL THOUGHTS

IoT helps retailers in the U.S. and Europe work more efficiently, automate processes, and optimize many facets of business, from improving the customers experience to energy conservation to store layout. However, the technology is not without its challenges, such as lack of resources or knowledge. Still, U.S. and European retailers anticipate adopting IoT even more widely in the years to come, expanding its use in processes including automated checkout and inventory optimization. It's also clear that retail businesses who tightly integrate AI see greater success of their IoT endeavors. Examining the research as a whole, we can conclude that retailers view IoT as indispensable to business success, and that their use of the technology will continue to grow in the coming years.

DETAILED RESEARCH OBJECTIVES & METHODOLOGY

The objectives of the research included:

1. **Explore the benefits and challenges of adopting IoT**
2. **Project future adoption and uses of IoT**
3. **Understand perceived value of IoT**

A 10-minute online survey was conducted with 168 business decision makers (BDMs), IT decision makers (ITDMs), and developers at enterprise-size retail companies in the U.S., U.K., and France who are currently involved with IoT. They answered questions about IoT adoption and usage, as well benefits and barriers.

To meet the screening criteria, IoT professionals needed to be:

Age 18-65

Full-time employed at Enterprise-level company (1,000+ employees)

Work in Retail

Familiar with IoT

Decision making authority over IoT

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