RetailWire

E-commerce Boom Ignites Plans for Real-Time Data to Optimize Shopper Experiences

Results of a new RetailWire industry study

Key takeaways from a newly-completed RetailWire shopper experience study reveal retail has experienced a historic omnichannel tipping point and shift to advanced analytics environments.

Underwritten by:

databricks

INTRODUCTION

A big spike in e-commerce has motivated retailers to make optimizing the omnichannel shopper experience a top sales and growth priority for 2022. Just released data from RetailWire's study shows the recent boom in e-commerce was so strong it represents a once-in-a-generation shift by consumers that will have a lasting effect on how retailers operate.

According to study data, the key to maximizing shopper experiences and growing sales is to make smart investments in a data infrastructure that enables real-time information to drive advanced analytics and optimize business solutions. Retailers making these investments aim to achieve sustainable growth in a highly competitive marketplace characterized by rising shopper expectations.

In this exclusive RetailWire study, we examine the ways in which retailers are advancing their data infrastructure goals in order to raise the bar on shopper experiences in light of the accelerating pace of e-commerce activity.
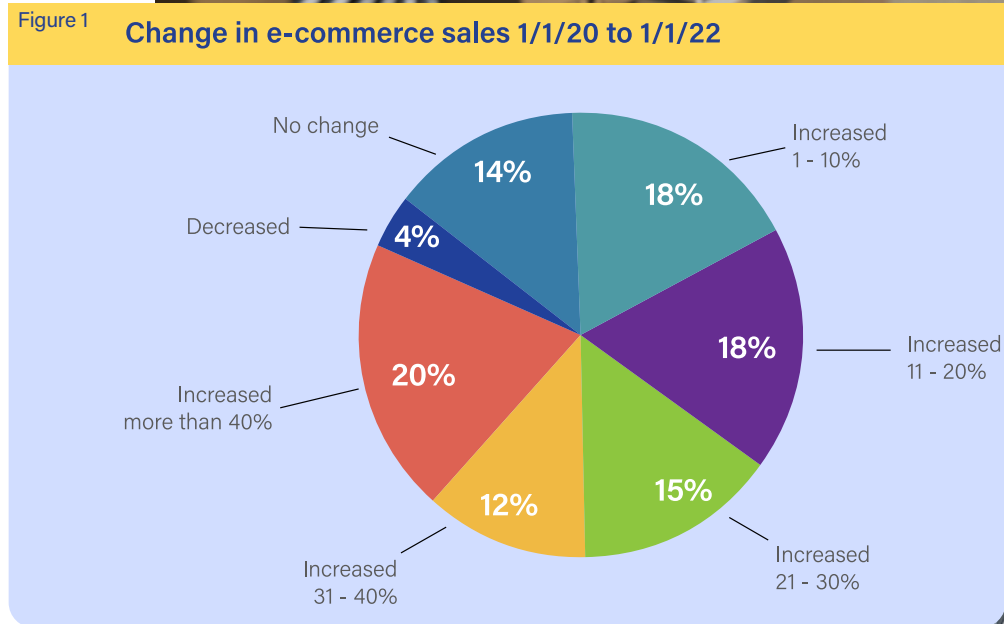
E-commerce Explosion is Shifting Priorities

The growth in e-commerce sales during the two years of the global health crisis — from Jan. 1, 2020 to Jan. 1, 2022 — entered territory not seen since the early days of the dot-com explosion. Nearly half (47 percent) of retailers and brands report greater than 20 percent growth. Nearly a third (32 percent) report more than 30 percent growth. *(See Figure 1.)*

A full fifth (20 percent) of respondents grew sales by 40 percent — quite a notable surge. Even more impressive, when isolating retailers in the respondent pool (by removing brands, consumer goods companies and other related groups) the figure jumps to 26 percent for those with sales growing more than 40 percent.

The last time year-over-year e-commerce growth hit levels like these was in the nascent dot-com period leading into 2001, according to data from Marketplace Pulse.

Faced with an e-commerce boom of historic proportions, retailers have modified their investment priorities for 2022. Jumping to the top of the list is "expanding digital capabilities to improve the customer experience," which was chosen by 63 percent of respondents. This was nearly double the number for the next three priorities: "improving profitability of e-commerce business" (36 percent), "modernizing the supply chain" (34 percent), and "improving employee engagement and retention" (33 percent). *(See Figure 2.)*

Figure 1

Change in e-commerce sales 1/1/20 to 1/1/22

- No change: 14%
- Decreased: 4%
- Increased more than 40%: 20%
- Increased 31 - 40%: 12%
- Increased 21 - 30%: 15%
- Increased 11 - 20%: 18%
- Increased 1 - 10%: 18%

Figure 2

What are your top priorities for investment in 2022?

Priority	Percentage
Expanding digital capabilities to improve the customer experience	63%
Improving profitability of e-commerce business	36%
Modernizing the supply chain	34%
Improving employee engagement and retention	33%
Resetting stores for omnichannel	22%
Enhancing data privacy and security	19%
Incorporating ESG (Environmental, Social and Governance) practices	13%
Other	3%

Real-Time, Advanced Analytics Drive Omnichannel Growth

As retailers and brands make investments to drive growth in 2022, many are focused on the key role played by real-time data and advanced analytics. These are essential tools for optimizing fundamental retail operations, such as merchandise planning, purchasing, pricing, marketing, personalizing the shopper experience and inventory management.
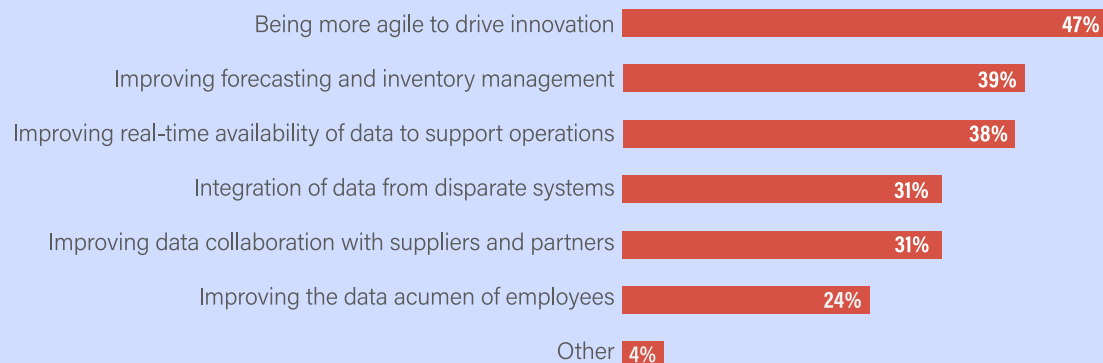
According to study data, to meet revenue and profitability goals, the top data-related challenge is to become more agile to drive innovation. This was chosen by a wide margin (47 percent) over other data-based challenges on the list. The reason is that events (both disruptions and emerging opportunities) move at lightning speed in retail and data-driven innovation is required to keep up with the changes.

Rounding out the top three data-related challenges are "improving forecasting and inventory management," which was chosen by 39 percent, and "improving real-time availability of data to support operations," chosen by 38 percent. Overcoming these two challenges are critical for retailers that want to achieve sales growth in today's uncertain and highly competitive marketplace. They are also essential for retailers that want to maintain momentum in the post-pandemic world. *(See Figure 3.)*

47%

chose "being more agile to drive innovation" as a top data-based challenge, followed by "improving forecasting and inventory management" and "improving real-time availability of data to support operations."

Figure 3

Top data-related challenges that need to be overcome to meet revenue and profitability goals

Challenge	Percentage
Being more agile to drive innovation	47%
Improving forecasting and inventory management	39%
Improving real-time availability of data to support operations	38%
Integration of data from disparate systems	31%
Improving data collaboration with suppliers and partners	31%
Improving the data acumen of employees	24%
Other	4%

Since it only takes a single click for consumers to abandon digital carts and buy from competitors, retailers must deliver a superior shopping experience every time. Does this mean one hundred percent customer satisfaction is a realistic goal? Probably not, however retailers must achieve scores well into the ninety percentile range or they will risk losing sales.

When asked to rate the effectiveness of their current omnichannel shopping experiences in several key areas, study respondents did not score themselves higher than the low eighty percentile. *(See Figure 4.)*

The top two scores of 82 percent (achieved by combining answers for "strongly agree" and "agree") were for:

- "Our recommendations are accurate and relevant to individual shoppers" — 22 percent chose "strongly agree" and 60 percent chose "agree".

- "We have a deep understanding of individual customer needs — 19 percent chose "strongly agree" and 63 percent chose "agree".

Lagging behind are the following:

- "Able to update inventory and orders online" — 16 percent "strongly agree" and 55 percent "agree").

- "Able to incorporate third-party data to help better target shoppers — 19 percent "strongly agree" and 46 percent "agree".

- Showing the least effectiveness in this ranking is a "seamless online and offline shopping experience" — 16 percent "strongly agree" and 46 percent "agree" — which has a combined score of just 62 percent.

As noted, successful retailers should expect to deliver highly effective shopper experiences and score well into the nineties.

62%

Only 16 percent "strongly agree" and 46 percent "agree" that their organizations provide a "seamless online and offline shopping experience."

Figure 4

My organization's current omnichannel shopper experience strategies are effective in the following areas…

Our recommendations are accurate and relevant to individual shoppers

Strongly agree	Agree	Disagree	Strongly disagree
22%	60%	15%	3%

We have a deep understanding of individual customer needs

Strongly agree	Agree	Disagree	Strongly disagree
19%	63%	14%	5%

We are able to incorporate third-party data to help better target shoppers

Strongly agree	Agree	Disagree	Strongly disagree
19%	46%	27%	8%

We have a seamless online and offline shopping experience

Strongly agree	Agree	Disagree	Strongly disagree
16%	46%	26%	12%

We are able to update inventory and orders in real-time

Strongly agree	Agree	Disagree	Strongly disagree
16%	55%	22%	7%

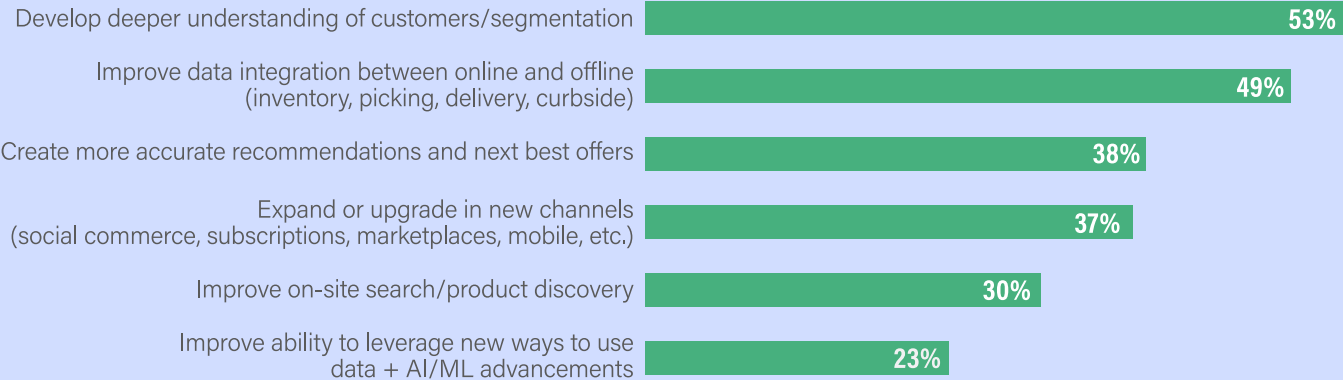Strongly agree   Agree   Disagree   Strongly disagree

Opportunistic Strategies to Seize On the Omnichannel Boom

When asked to identify the most important opportunities to improve the omnichannel shopping experience, two emerged at the top of the list: "developing a deeper understanding of customers and segmentation," chosen by 53 percent and "improving data integration between online and offline channels," chosen by 49 percent. *(See Figure 5.)*

Sustainable success in the omnichannel world is now reliant on deep, current and accurate data about individual customers and customer segments, which retailers use to tailor shopping experiences to specific customers and groups. In the omnichannel world, this process requires seamless integration of data between online and offline sources.

Figure 5

Most important opportunities to improve the omnichannel shopping experience

| Opportunity	Percentage
Develop deeper understanding of customers/segmentation	53%
Improve data integration between online and offline (inventory, picking, delivery, curbside)	49%
Create more accurate recommendations and next best offers	38%
Expand or upgrade in new channels (social commerce, subscriptions, marketplaces, mobile, etc.)	37%
Improve on-site search/product discovery	30%
Improve ability to leverage new ways to use data + AI/ML advancements	23%

Any glitches or data latencies in multi-channel integration will not only diminish the quality of the shopping experience and result in lost sales, but it will also produce a cascade of negative effects on inventory management, replenishment, re-ordering and adjustments to fluctuations in demand. For a surprising number of retailers, these negative effects are unavoidable due to the age of their data analytics systems.

Nearly three out of ten retailers (28 percent) say their data analytics systems are more than four years old and 19 percent say the systems are more than six years old. These numbers are probably higher since 20 percent of respondents say they "don't know" how old their current data analytics systems are. *(See Figure 6.)*

28%

Nearly three in ten retailers say their data analytics systems are more than four years old and, of these, 19 percent say more than six years.

Figure 6 **Length of time using current data analytics system to support shopper experience strategies and functions**

Less than a year — 10%
1 - 2 years — 21%
2 - 4 years — 21%
4 - 6 years — 9%
6 - 8 years — 19%
Don't know — 20%
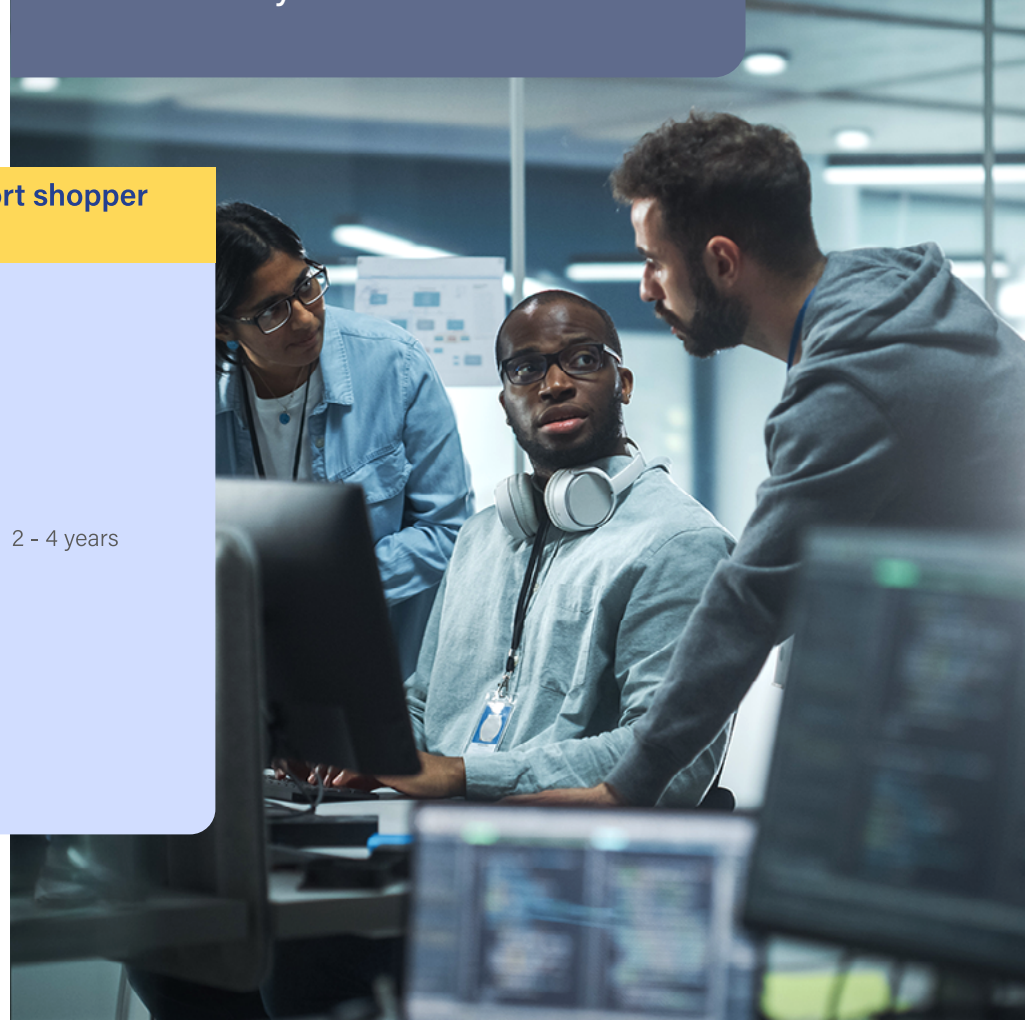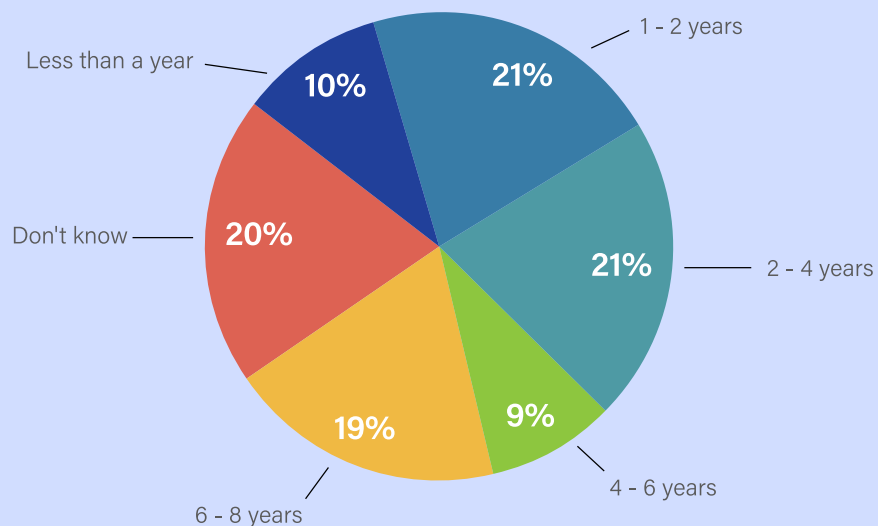
Data analytics systems are among the fastest developing technologies in retail today and being out of date can have a negative impact on a retailer's ability to compete effectively. One of the most important recent technologies to reach maturity, Artificial Intelligence (AI), is also one of the fastest to spread throughout the industry. *(See Figure 7.)*
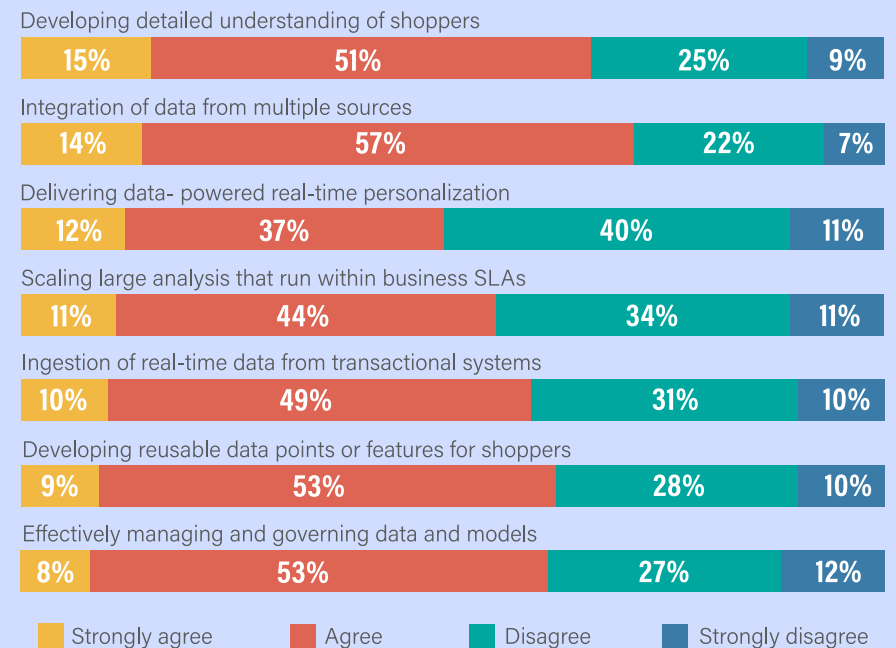
Study data shows retailers use AI capabilities effectively in two major areas that have a big impact on the shopper experience. They are: "integration of data from multiple sources" (14 percent strongly agree and 57 percent agree) and "developing a detailed understanding of shoppers" (15 percent strongly agree and 51 percent agree).

Delivering data-powered, real-time personalization is one of the best methods retailers have for driving sales and profitability. Despite this, in a surprising datapoint, real-time personalization appears at the bottom of the list for effective use of current AI capabilities — 12 percent strongly agree it is being effectively used and 37 percent agree. By investing in real-time data and AI to drive personalization, retailers can sharply target relevant marketing, promotions and offers to improve the shopping experience and differentiate from their competitors.

Figure 7

My organization's data + AI capabilities are effective in performing the following functions…

Developing detailed understanding of shoppers

Strongly agree	Agree	Disagree	Strongly disagree
15%	51%	25%	9%

Integration of data from multiple sources

Strongly agree	Agree	Disagree	Strongly disagree
14%	57%	22%	7%

Delivering data- powered real-time personalization

Strongly agree	Agree	Disagree	Strongly disagree
12%	37%	40%	11%

Scaling large analysis that run within business SLAs

Strongly agree	Agree	Disagree	Strongly disagree
11%	44%	34%	11%

Ingestion of real-time data from transactional systems

Strongly agree	Agree	Disagree	Strongly disagree
10%	49%	31%	10%

Developing reusable data points or features for shoppers

Strongly agree	Agree	Disagree	Strongly disagree
9%	53%	28%	10%

Effectively managing and governing data and models

Strongly agree	Agree	Disagree	Strongly disagree
8%	53%	27%	12%

■ Strongly agree　　■ Agree　　■ Disagree　　■ Strongly disagree

Looking to the future, retailers are making plans to extend the use of advanced data and AI or Machine Learning (ML) capabilities. *(See Figure 8.)*

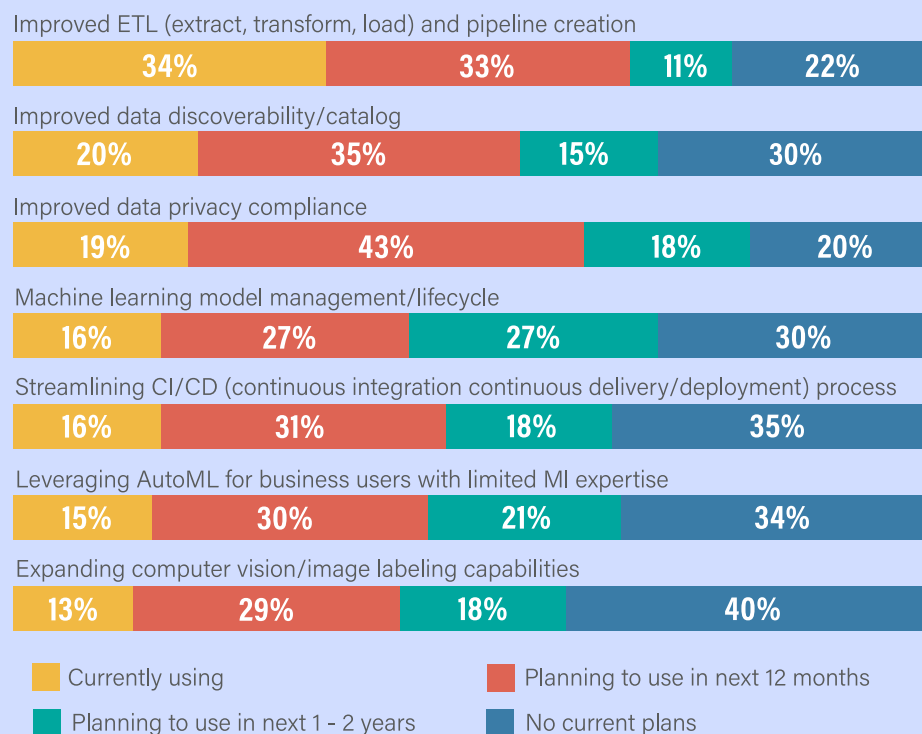At the top of the list for future adoption plans are three important capabilities:

1. "Improved data privacy compliance" — 43 percent plan to use in next 12 months and 18 percent plan to use in next one to two years.

2. "Improved data discoverability or data asset catalog" — 35 percent plan to use in the next month and 15 percent plan to use in the next one to two years.

3. "Improved ETL and pipeline creation" — 33 percent plan to use in the next 12 months and 11 percent plan to use in the next one to two years.

These numbers indicate a third of retailers plan to adopt the above technologies within the next 12 months — a short timeline that highlights the urgency around these advancements. And worth noting, when a third of the marketplace moves in the same direction, competitors are forced to catch up or take the risk of falling behind.

The numbers indicate that a third of retailers plan to adopt these technologies within the next 12 months.

Figure 8

Plans for using/adopting advanced data + AI/ML capabilities

Improved ETL (extract, transform, load) and pipeline creation

| 34% | 33% | 11% | 22% |

Improved data discoverability/catalog

| 20% | 35% | 15% | 30% |

Improved data privacy compliance

| 19% | 43% | 18% | 20% |

Machine learning model management/lifecycle

| 16% | 27% | 27% | 30% |

Streamlining CI/CD (continuous integration continuous delivery/deployment) process

| 16% | 31% | 18% | 35% |

Leveraging AutoML for business users with limited MI expertise

| 15% | 30% | 21% | 34% |

Expanding computer vision/image labeling capabilities

| 13% | 29% | 18% | 40% |

- Currently using
- Planning to use in next 12 months
- Planning to use in next 1 - 2 years
- No current plans

Takeaways for 2022 and Beyond

The pandemic-fueled explosion in e-commerce over the last two years is driving retailers to invest in real-time data to optimize the omnichannel shopper experience. This once-in-a-generation shift by consumers will have a lasting effect on how retailers operate, especially on their plans to invest and deploy advanced analytics, data infrastructure, and real-time business solutions.

It's no surprise that the top overarching strategy for 2022 is to support expansion of digital capabilities to improve the customer experience, especially functions focused on omnichannel shopping. Since consumers can so easily click away from digital shopping carts and buy from competitors, it comes as no surprise that many technology investment plans indicate a sense of urgency and a short timeline so their deployments will have an immediate impact.

A lack of agility to innovate is cited by retailers as the biggest challenge they face when attempting to make meaningful improvements to the shopper experience. However, investing in specific solutions can help with a continuous improvement plan, such as deploying technologies that create a deeper understanding of customers and segments and using tools that improve data integration between online and offline channels.

Another big obstacle retailers cite is outdated analytics systems that make real-time data collection and analytics extremely challenging. Nearly three out of ten (28 percent) say their data analytics systems are more than four years old. Of these, 19 percent say their systems are more than six years old. When considering upgrade plans, many are fast-tracking AI or ML solutions to deploy within the next year.

Booms of this historic magnitude are rare in retailing. When they occur, they produce fundamental changes that have lasting effects. The just-experienced explosion in e-commerce and omnichannel shopping represents one of those moments. Smart retailers will invest wisely to seize new opportunities and sustain momentum in the post-pandemic world. ∎

This once-in-a-generation shift by consumers will have a lasting effect on how retailers operate, especially on their plans to invest and deploy advanced analytics, data infrastructure, and real-time business solutions.

Study analysis and writing:

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About Databricks

Databricks is the data and AI company. More than 7,000 organizations worldwide — including Comcast, Condé Nast, H&M, and over 40 percent of the Fortune 500 — rely on the Databricks Lakehouse Platform to unify their data, analytics and AI. Databricks is headquartered in San Francisco, with offices around the globe. Founded by the original creators of Apache Spark™, Delta Lake and MLflow, Databricks is on a mission to help data teams solve the world's toughest problems.

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Methodology

Polling for this study was conducted during February and March 2022 and included 144 respondents.

Of the respondents, 51 percent percent were retailers or CPG manufacturers or suppliers. Other large groups include consultancies/agencies (10 percent), tech solution providers (12 percent), and distributors or wholesalers (8 percent).

The largest segment of retail represented in the respondent pool at 28 percent is specialty retailers (electronics furniture, hardware, home, auto, etc.). Two other large segments in the study are grocery stores at 16 percent and apparel (including footwear and accessories) at 15 percent.

Finally, the respondent profile includes a broad range of annual revenue sizes that run from greater than $5 billion (18 percent) to less than $100 million (35 percent). The total group of all respondents with annual revenue greater than $1 billion is 34 percent.