



# STEERING THROUGH E-COMMERCE DISRUPTION WITH CLOUD



# TABLE OF CONTENTS

**EXECUTIVE SUMMARY** 3

**INTRODUCTION** 4

**CLOUD CONTINUES TO UNLOCK BUSINESS VALUE AND INNOVATION FOR E-COMMERCE** 7

**CLOUD — NOT JUST AN IT ENABLER BUT AN E-COMMERCE BUSINESS DISRUPTOR** 8

THE MUST-HAVES: HIGH BUSINESS IMPACT AND WIDELY ADOPTED USE CASES 9

THE CHASED ONES: HIGH BUSINESS IMPACT AND EXPLORED USE CASES 10

THE NEXT-GENS OF E-COMMERCE: HIGH BUSINESS IMPACT AND EXPERIMENTAL USE CASES 11

**GAUGING ENTERPRISE' CLOUD READINES FOR E-COMMERCE** 12

**HOW CLOUD-READY ARE YOU FOR YOUR E-COMMERCE?** 14

# EXECUTIVE SUMMARY

The pandemic rocked the Retail and CPG (consumer packaged goods) industry, causing unanticipated digital disruptions. Native e-commerce players accelerated online product rollouts, leading to customers being offered a plethora of options to shop from, compelling traditional retailers to quickly pivot towards e-commerce and direct-to-customer (DTC) channels. This pivot was underscored by the global retail e-commerce sales numbers too, which jumped to USD 4.9 Tn1 in 2021, clocking in a growth of over 45% in the last 2 years alone. However, shifting to online channels was not enough. There was a need to incorporate robust infrastructure to support e-commerce operations, and in turn improve digital sales, without compromising on customer experience (CX). Amid all these digital disruptions, Cloud has continued to be the perfect enabler to helm e-commerce success end-to-end.

To better understand the pace and extent of digital transformation of Retail e-commerce, we surveyed ~50 senior management executives from global Retail and CPG brands and connected with industry experts.

The findings from the survey, coupled with insights from discussions with our customers, indicate certain key drivers that accelerate Cloud adoption and the value derived from hosting e-commerce in the Cloud. The survey also reveals tactical e-commerce use cases adopted by these enterprises to become digital retail pioneers. This whitepaper will unravel enterprise e-commerce readiness and the business opportunities that Cloud provides, in detail.

The salient aspects covered in this whitepaper include:

**Cloud as a value-generating business innovation enabler:** Retailers are faced with daunting e-commerce challenges such as data silos across multiple channels, lack of personalized e-commerce models (like DTC, live streaming, on-demand delivery) to engage customers across channels, inability to manage traffic spikes during festive seasons without compromising on website performance, and lack of technology capabilities to deploy new-age e-commerce use cases. Cloud is the perfect tool to address these challenges by enabling retailers to gain on-demand scalability, real-time data visibility, flexibility in customization of e-commerce applications, enhanced data security, and customer privacy.

**Cloud enabling high business impact e-commerce use cases:** Retailers are deriving maximum value from the Cloud in multiple customer-facing workloads and supply chain workloads. In fact, in the next 1-2 years, there will be a 25% increase in Cloud investments towards the 'must-haves of e-commerce,' or the widely adopted use cases such as customer behavior analytics, customer profiling, personalized recommendations, online order and returns management. Additionally, enterprises are focusing on developing capabilities in last-mile delivery scheduling and tracking, real-time inventory visibility which are at present, in the market entry stage.

**Retailers upping their investments to unlock business value from Cloud:** The market will witness a surge in Cloud investments to optimize e-commerce channels to their full potential. This is corroborated by the fact that by 2023, the number of e-commerce workloads running on the Private and Public Cloud platforms is poised to grow to nearly 85%, with more than half of these workloads being hosted on Public Cloud platforms.

**Augmenting next generation e-commerce applications:** Cloud has massive potential to support resource-intensive applications such as the launching of virtual products on the metaverse, shoppable live streaming, social commerce, group buying, etc., thus blurring the lines of retail e-commerce and entertainment, and helm retailtainment.

**Note:**

The data insights and visualizations in the whitepaper are based on the survey analysis of 50 global retail and consumer product goods enterprises, including e-commerce arms and expert calls with senior industry stakeholders. When we use the term 'Retailer' in the whitepaper, we indicate both retail companies and CPG brands having their own DTC or e-commerce arms.

# INTRODUCTION

The Retail and CPG industry has experienced unanticipated digital disruptions, especially in the past couple of years. These disruptions have brought about irreversible changes, both from a consumer and the business perspective. Consumers aggressively opted for online channels, seeking convenience, availability, safety, and transparency. They demanded full ownership and control of their shopping experience. Their purchase awareness and value-conscious attitudes brought a new level of sophistication to online shopping. In fact, today's consumers discover products through online snackable content (websites and social media platforms), which has been instrumental in driving the content-to-commerce economy. The immediate consequence of this momentum is the erosion of traditional brand loyalty, because customers have a plethora of options available to them when making a purchase. As a result, many Retail and CPG brands have pivoted toward e-commerce and DTC channels to directly connect with the new generation of shoppers.

In fact, even merely shifting to online channels was not enough for Retailers, with native e-commerce players continuously innovating their online offerings and grabbing a lion's share of these new-age customers.

Our survey analysis sheds light on the primary challenges that the Retailers were experiencing.

Here are the top 4 critical challenges and the role Cloud plays in addressing these areas:

## **DATA SILOS ACROSS MULTIPLE CHANNELS CURBING CUSTOMER ACQUISITIONS AND LOYALTY**

Retailers and CPG brands have strived to go beyond app-based traditional loyalty programs and engage their customers throughout their online purchase (pre, during, and post purchase) journey. This drive for customer-centricity was not just limited to customer engagements, but to differentiate themselves from other Retailers by walking the extra mile to provide at-home convenient deliveries. In fact, last-mile delivery became a hyper-focus area for many Retailers. This requires enterprises to have holistic visibility across their supply chain, while also enabling customers to track their deliveries in real-time. However, Retailers are often plagued by the problem of data silos across multiple channels, which hinders them from making informed decisions. This adversely impacts e-commerce supply chain operations, new customer acquisition, and retention of loyal customers. Cloud breaks these data silos, while processing data in real-time, giving them 360-degree visibility — be it their omnichannel operations, customer intelligence, market intelligence, or supply chain visibility.

**76%**

Of enterprises are plagued by data silos which negatively impacts customer engagement and back-end process optimization

## INABILITY TO INTEGRATE NEW ENGAGEMENT MODELS FOR E-COMMERCE

The newfound convenience commerce economy saw many Retailers and brands embracing the store-less paradigm by taking their DTC platforms up a notch. A case in point is Nike — where its digital sales increased by 28%, reaching a whopping USD 4.7 Bn in 2020, by investing in its DTC arm. In fact, Nike aims to become a 40% digital business by 2025. Additionally, DTC is proving to be a direct engagement powerhouse, rapidly strengthening revenue for Retailers. However, the criteria for providing an entertaining shopping experience for customers is noticeably missing. This further drives e-commerce towards social media platforms, thereby giving rise to new business models such as live commerce, social commerce, and gamification, to make shopping fun, engaging, and a rewarding experience for customers. This requires faster integration of such engagement models without compromising on data security, customer privacy, check-out speed, and overall platform performance.

Cloud enables personalization of customer experience by providing flexibility in customizations of applications (and/or website) at a faster rate. It also supports microservices architecture, API (application programming interface) economy, and assists Retailers in quickly modifying their app's user interface (UI) by adding or deleting features, rapidly and seamlessly integrating third-party products into their e-commerce platform, without compromising on data security.

## DEPRECIATING E-COMMERCE PLATFORM PERFORMANCE DURING PEAK TRAFFIC SEASONS

Occasions like 'Black Friday,' 'Singles' Day,' among others, are the most important retail events for any e-commerce business. Sales skyrocket as customers hanker after attractive deals and seize potential buying opportunities. This spikes website traffic load, often leading to a crash, and in turn, interrupting a customer's purchase journey. This became a major concern for Retailers, as their sales goals were impacted. Hence, there was a dramatic pivot toward improving the website and mobile app performance, and integrating robust infrastructure capable of handling fluctuating traffic, without affecting the customer's shopping experience. Interestingly, our survey analysis reveals that a staggering 80% of total enterprises consider on-demand scalability as the prime Cloud benefit for their e-commerce platforms. This is essentially because Cloud provides Retailers the flexibility to scale up (or down) their online operations vis-à-vis peak traffic demand. Coupled with huge computing power, Cloud also significantly improves customer experience to enable easy search of relevant products and allow for hassle-free check-outs.

# 67%

Of the enterprises want to adopt new e-commerce business models such as (DTC, on-demand delivery, live streaming) to actively engage their customers

# 61%

Of the enterprises face the challenge of having a robust e-commerce platform, especially during peak demand seasons

## LACK OF NEW-AGE TECHNOLOGY INTEGRATION TO DEPLOY E-COMMERCE USE CASES AT PACE

As native e-commerce players continuously experiment with technology to streamline their products and services to cater to their customers' preferences, one thing becomes crystal clear for Retailers: the need for technology-enabled capabilities to implement customer-appealing engagement channels and bring sophistication to their e-commerce operations. Cloud supports and seamlessly integrates new-age, resource-intensive technologies such as Artificial Intelligence (AI), Augmented Reality (AR), IoT (Internet of Things), Metaverse, Blockchain, etc., within the e-commerce platforms. And with tech-enabled integrations, Retailers can roll out advanced e-commerce capabilities at an accelerated pace. In fact, Cloud ensures proactive threat protection with automatic data encryption, real-time fraud alerts, customer authentication, and third-party security. It also provides security over the complete data lifecycle, without compromising on e-commerce operations.

Retailers also enjoy other benefits such as access to first-party data across customers, sellers, and partners, flexibility around cost profile, faster e-commerce application development cycle, revenue enhancement via online channels, and Cloud-based sustainability, thus making Cloud a perfect tool for digital innovation.

# 59%

Of the enterprises are unable to deploy new age technologies such as AI, AR/VR, IoT, etc. into their e-commerce capabilities

### TOP 5 BENEFITS REALIZED FROM HOSTING E-COMMERCE ON CLOUD



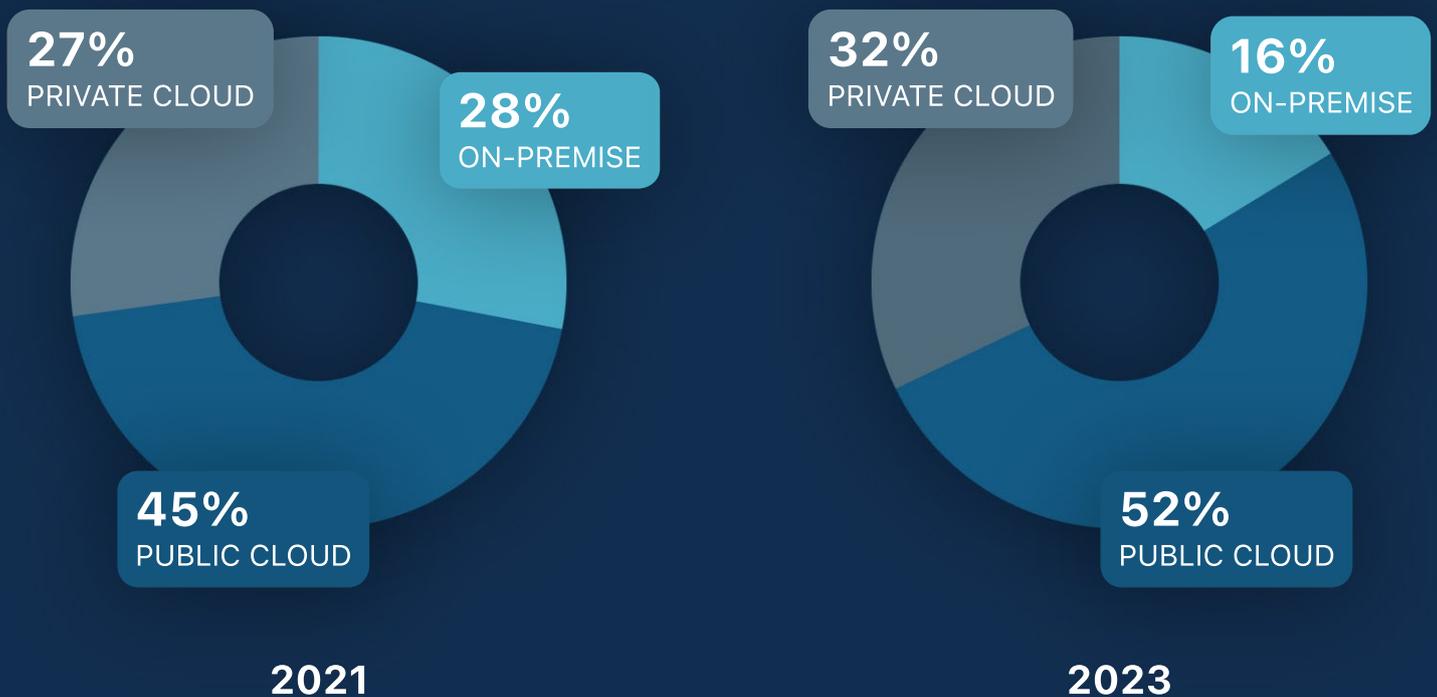
\*THE NUMBER OF ENTERPRISES THAT RATED CLOUD BENEFITS AS TOP 3 IN TERMS OF IMPORTANCE

# CLOUD CONTINUES TO UNLOCK BUSINESS VALUE AND INNOVATION FOR E-COMMERCE

With Cloud providing significant business value to Retailers, the opportunity for Cloud is massive and goes beyond mere operational excellence. Our analysis reveals that although e-commerce platforms have been prevalent for a decade, the need to host e-commerce on Cloud accelerated in the past two years. This is corroborated by the fact that more than 65% of the Retail and CPG brands migrated their e-commerce workloads to the Cloud post 2019. But this is just the tip of the iceberg. Cloud environments have been key enablers for Retailers for faster customizations and secure deployment of new e-commerce offerings. And the trend has accelerated both during and in the post-pandemic reality due to customers' increased preference towards online channels. This has further heightened enterprises' digital spending towards Cloud migration for their online platforms.

Currently, more than 60% of the total e-commerce workloads function on Private and Public Cloud platforms. By 2023, this number is poised to grow to ~85%, with more than half of these workloads being hosted on Public Cloud platforms. In fact, around 60% of the CXOs and SVPs we surveyed, intend to shift their enterprises' entire e-commerce platforms to Cloud within the next two years.

## PERCENT E-COMMERCE WORKLOADS HOSTED ON-PREMISE VS CLOUD



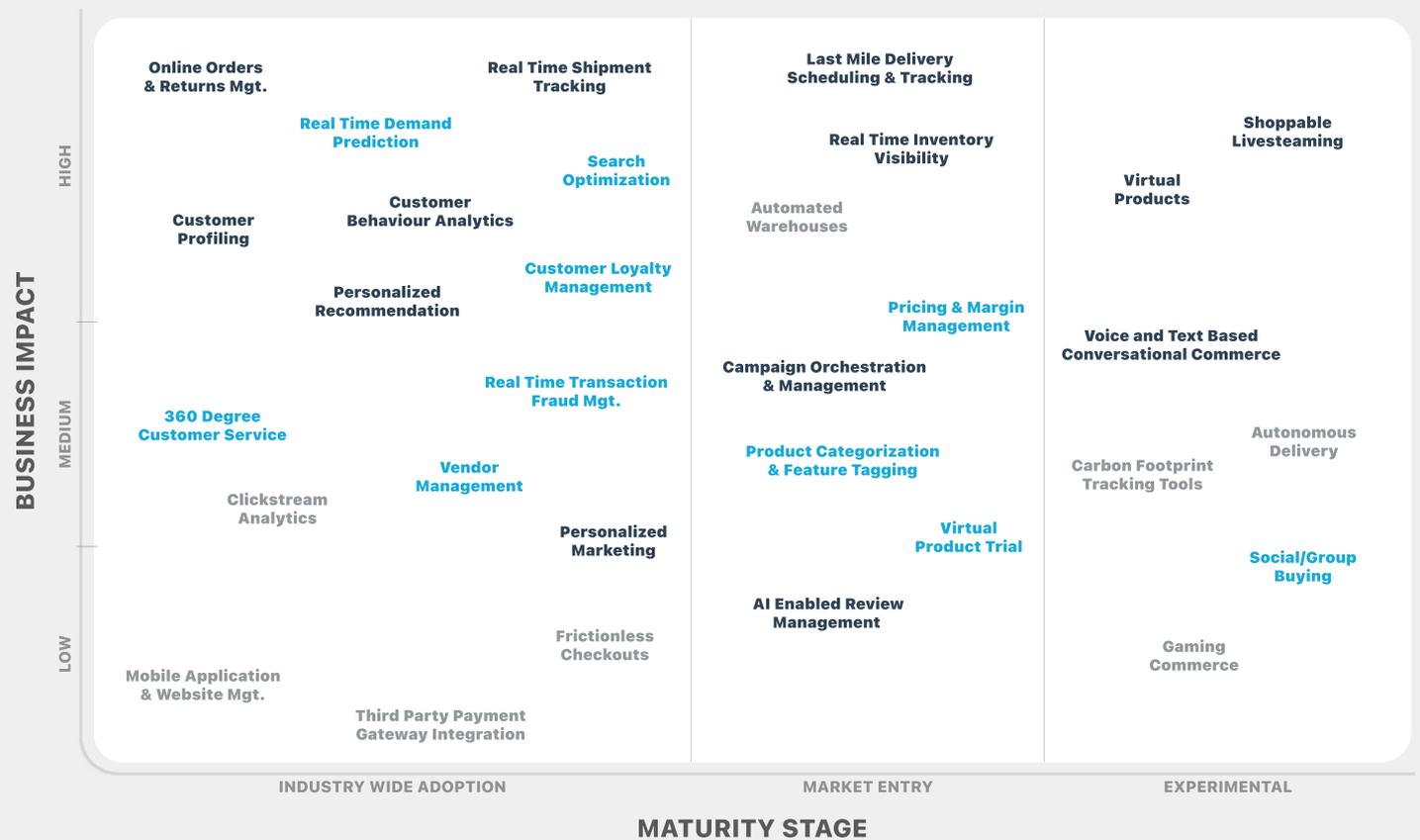
# CLOUD — NOT JUST AN IT ENABLER BUT AN E-COMMERCE BUSINESS DISRUPTOR

With e-commerce enterprises aggressively embracing Cloud, we evaluated tactical use cases that enterprises are exploring and deriving value from the Cloud.

We shortlisted around 30 high-impact use cases from our survey analysis and mapped them around 3 main angles:

- The business impact realized by hosting the use case on the Cloud
- The adoption maturity stage
- The future Cloud investment intensity in the next 1-2 years.

## E-COMMERCE USE CASE ANALYSIS



CHANGE IN FUTURE CLOUD INVESTMENT FOR SCALING/HOSTING THE USE CASE IN THE NEXT 1-2 YEARS

- Increase by more than 25%
- Increase by 11-25%
- Increase by less than 10%

Based on survey analysis of 50 global e-commerce enterprises, expert calls, and secondary research

**X axis:** Adoption maturity stage of a use case - Industry wide adoption - >50% of the enterprises have adopted and deployed the use case in production on the Cloud; Market entry: 25 to 50% of the enterprises have adopted the Use Case; Experimental: Less than 25% of enterprises have adopted the use case

**Y axis:** Business impact is measured in terms of cost reduction, operational excellence, CX enhancement by hosting that use case on cloud

We collated and categorized the 'High' impact use cases that will be hugely invested in over the next 1-2 years:

BUSINESS IMPACT	STAGE OF ADOPTION MATURITY	USE CASES WITNESSING MORE THAN 25% INCREASE IN CLOUD INVESTMENTS
<b>HIGH</b>	Industry-wide adoption	<ul style="list-style-type: none"> <li>• Customer behavior</li> <li>• Customer profiling</li> <li>• Personalized recommendation</li> <li>• Online orders and returns mgmt.</li> <li>• Real-time shipment tracking</li> </ul>
	Market Entry	<ul style="list-style-type: none"> <li>• Last mile delivery scheduling &amp; tracking</li> <li>• Real-time inventory invisibility</li> </ul>
	Experimental	<ul style="list-style-type: none"> <li>• Virtual products</li> <li>• Shoppable live streaming</li> </ul>

## THE MUST-HAVES: HIGH BUSINESS IMPACT AND WIDELY ADOPTED USE CASES

### CUSTOMER BEHAVIOR ANALYTICS

'Know your customer' is the success mantra for every Retailer. Around 60% of Retailers have adopted customer behavior analytics via the Cloud to map their customers' journeys. They consider the Cloud as an efficient tool to track customer behavior across online channels. In fact, Cloud enables them to dig deeper into their customer personas, like tracking their browsing behavior, purchase behavior, their reaction to promotional offers, etc., in real-time.

### CUSTOMER PROFILING

Cloud helps in aggregating the customer data collected across multiple channels and provides enterprises with a unified 360-degree customer view that helps Retailers to better understand their customers by demographics, geographies, product preferences, etc. In addition, customer profiling also helps identify loyal customers and incentivize prospects to become frequent shoppers.

### PERSONALIZED RECOMMENDATIONS

With Cloud providing Retailers with a unified customer view, it enables them to recommend products that are tailor-made to the customers' needs. Cloud enables not just personalized product recommendations, but also enables the personalization of each step of the shopping journey – from content browsing, personalized homepages for new users based on website analytics, and third-party data, to payment check-outs, based on the customer's shopping behavior.

## **ONLINE ORDERS AND RETURNS MANAGEMENT**

E-commerce Retailers are leveraging Cloud platforms for ML-based analytics to have complete visibility over online order tracking and management. This, coupled with Cloud-enabled analytics, also helps accurately predict the time for delivery based on the fulfillment center's (FC) location, basket value, distance between stores and the nearest warehouse, to name a few. Furthermore, based on a customer's purchase behavior, it can accurately predict the likelihood of the order being returned by a particular customer. Also, in case an order is set to return, ML algorithms can help assist Retailers with the identification of the nearest fulfillment center or warehouse, and indicate whether it should be returned to the supplier or sent to recycle, etc.

## **REAL-TIME SHIPMENT TRACKING**

With an extensive e-commerce supply chain, real-time delivery tracking of online orders becomes crucial for both the customer and retailer. Cloud-based tracking software helps in tracking all the delivery updates in real-time. This improved data visibility enables Retailers and their logistics partners to optimize delivery routes dynamically to accelerate deliveries.

# **THE CHASED ONES: HIGH BUSINESS IMPACT AND EXPLORED USE CASES**

## **LAST MILE DELIVERY SCHEDULING AND TRACKING**

With e-commerce driving the convenience economy, Retailers are hyper-focused on instant deliveries. Cloud-based last-mile solutions are revolutionizing delivery operations and facilitating the 'instant' mission. Additionally, they also provide greater flexibility to a customer to schedule and track orders, ETAs, packaging details, regardless of the location.

## **REAL-TIME INVENTORY VISIBILITY**

Real-time inventory visibility is one of the most valuable business capabilities, especially for Retailers leveraging both e-commerce channels and physical stores. It becomes imperative for them to have complete visibility over their inventory systems and e-commerce platforms. Cloud platforms can create a real-time inventory overview across all channels by aggregating the data and displaying a unified data view with lower latencies, thus helping both Retailers and customers to check and optimize product availability.

# THE NEXT-GENS OF E-COMMERCE: HIGH BUSINESS IMPACT AND EXPERIMENTAL USE CASES

In the long-term, Cloud will pave the road for larger e-commerce disruptions and enable enterprises to provide superior customer experience, with innovation at the core.

## VIRTUAL PRODUCTS

The Metaverse will be transformational for Retail e-commerce and truly merge the physical and digital channels with virtual commerce. Our study reveals that Retailers and CPG brands that are exploring the Metaverse for the first time will leverage it as an engagement and marketing platform. In fact, more than 70% of the enterprises will be exploring Metaverse to generate new customer leads and direct them to augment e-commerce sales. Interestingly, the digitally advanced Retailers have already started leveraging Metaverse to sell 3D digital assets limited to exclusive and novelty products and are also enabling consumers to virtually try-on products in their 3D avatars, driving an innovative direct-to-avatar business model. Cloud underpins all of these aspects and will steer the Metaverse into the new era of Retail. Additionally, Metaverse's capabilities will magnify by integrating with other advanced technologies such as AI, IoT, AR/VR, etc. All in all, Metaverse is already proving to be a highly resource-intensive application, that needs significant network and compute resources that Cloud will help anchor.

## SHOPPABLE LIVE STREAMING

With the advent of social commerce, Retailers and brands are exploring new avenues such as shoppable live streaming to drive sales and provide a 'retailtainment' experience for their shoppers. Cloud-based live streams enable Retailers to provide an interactive and seamless shopping experience, with direct shopper-seller interaction, live promotions with secure, fast, and reliable network capabilities, ultra-low latency, and strong network capabilities. In fact, Retailers can even access a detailed report of the live stream via Cloud-based analytics, enabling them to tweak their strategy in real-time. We believe that such engagements will encourage Retailers to double down on their Cloud investments.

## FOOD FOR THOUGHT

We believe that Retailers and brands will go beyond B2C e-commerce and monetize Cloud for new revenue streams. For instance, Retail giant Walmart, has started selling its e-commerce platform's Cloud-based technologies to other smaller Retailers. Similarly, Kroger has launched a private marketplace where brands can access its first-party consumer data to streamline their online product offerings.

**66%**

Of the enterprises intend on investing into Metaverse for their e-commerce channel in the next 3-4 yrs

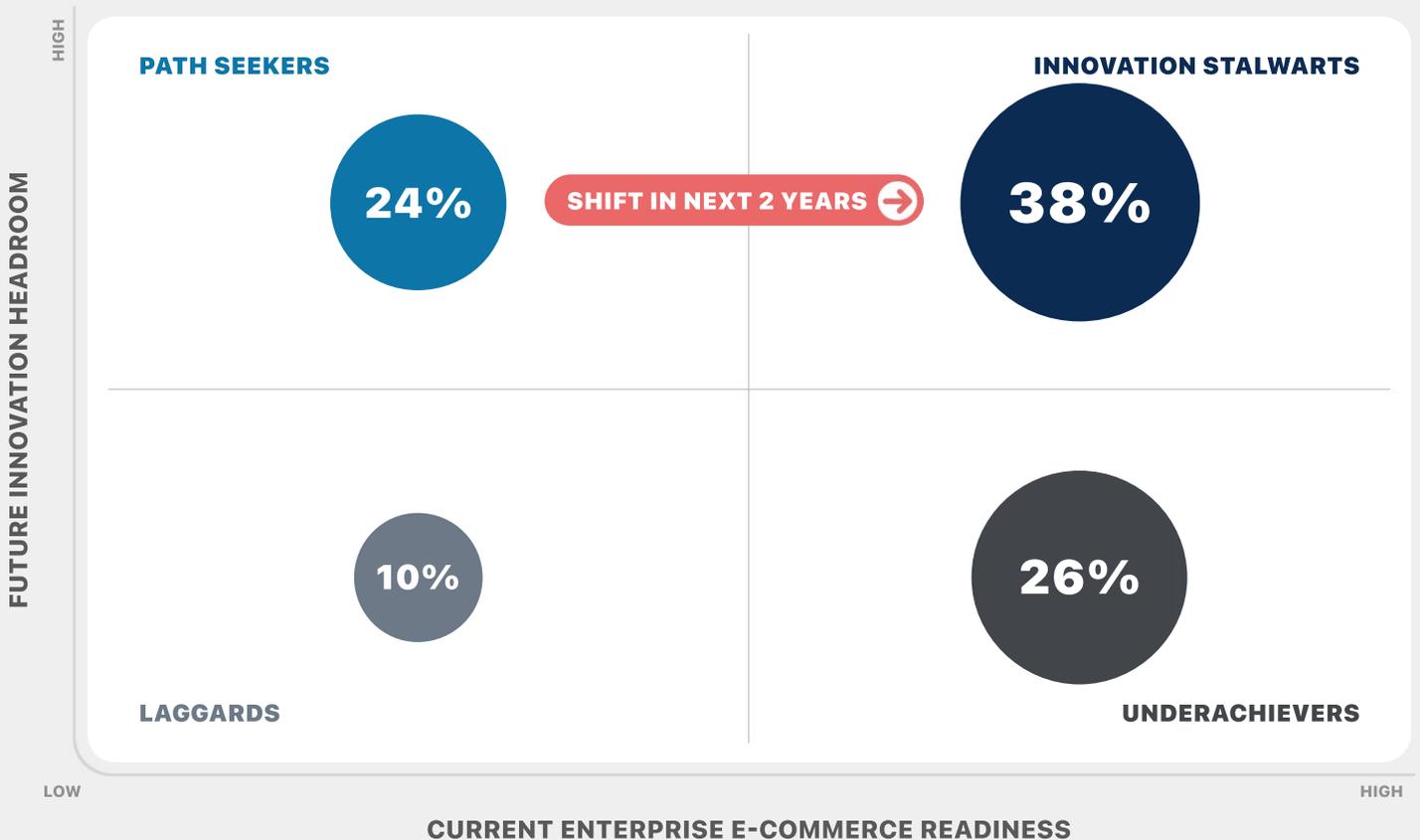
**45%**

Of the enterprises will be increasing their Cloud investments by 25% to tap into shoppable live streaming

# GAUGING ENTERPRISE' CLOUD READINESS FOR E-COMMERCE

Cloud has been instrumental in transforming the Retail and CPG industries, especially in the last couple of years. It provides a plethora of benefits and enables Retailers to innovate on different use cases and explore newer business models. Hence, Retailers are accelerating their experimentation on newer use cases, and are on a fast-tracked path to be Cloud-savvy now more than ever. However, our interviews and survey analysis reveal that there is a definitive variation in the execution levels of hosting these use cases on the Cloud. To better understand the Retailers' Cloud readiness, we have plotted a 2x2 graph to measure their current Cloud readiness for their e-commerce business versus their future focus on innovation.

## CLOUD READINESS FOR E-COMMERCE



Based on survey analysis of 50 global e-commerce enterprises:

**X axis:** Current enterprise e-commerce readiness based on the latest Cloud spend towards e-commerce, the number of e-commerce workloads hosted, and e-commerce use cases fully deployed in the Cloud

**Y axis:** Future innovation headroom based on the future adoption/migration of e-commerce workloads, number of use cases in research and POC stage, and an increase/decrease in Cloud investments in the next 2 years.

The 4 definitive categories emerging from the graph include:

### **INNOVATION STALWARTS**

Stalwarts have almost entire e-commerce workloads already running on the Cloud, with more than 60% of use cases fully deployed and running in the production stage. They are bullish on their future investments for e-commerce innovation, with the average spend being more than 25%.

### **PATH SEEKERS**

Path Seekers are in the race to become e-commerce-savvy by significantly increasing Cloud investments by more than 25% in the next few years. Though their adopted use cases on the Cloud are low, they are investing in Cloud to conceptualize use cases and launch POCs to fully deploy newer use cases in the next 2 years. We believe these enterprises will become innovation stalwarts by 2023.

### **UNDERACHIEVERS**

These are the silent observers who have robust e-commerce Cloud capabilities but go low on their future investments. They tend to observe the market trends and then invest in Cloud for advancing their e-commerce capabilities.

### **LAGGARDS**

They lack in both e-commerce readiness and future Cloud investments. Generally, they have a mere 30% of e-commerce workloads running on the Cloud, with less than 20% of use cases awaiting full-scale deployment.

We also see a variation in the way these enterprises are building e-commerce capabilities on the Cloud. On one hand, the stalwarts and underachievers tend to build their capabilities in-house, signaling a high preference for customizations and complete control over their data. On the other hand, path seekers prefer partnering with their managed Service Providers and Cloud Platform Providers to launch pre-built e-commerce applications with minimal customizations, indicating that their Cloud investments are aimed towards faster deployment of e-commerce capabilities and reducing time-to-market.

# CONCLUSION

If Retailers are to keep pace with the digital-native e-commerce companies, being Cloud-ready has become a business imperative. From exploring newer use cases and business models, to providing superior experience at every step of a customer's purchase journey, Retailers need to leverage Cloud and leave no stone unturned in their quest to keep pace with the rapidly evolving customer expectations and needs. Though the journey from being Laggards to Innovation Stalwarts isn't a straight one, it is one that has the potential to create significant long-term impact.

## HOW CLOUD-READY ARE YOU FOR YOUR E-COMMERCE?

Assess your enterprise's Cloud readiness by leveraging our industry framework conceptualized by our experts! Become an e-commerce pioneer and address all your business needs with [Microsoft's Cloud for Retail](#).

### ABOUT THE AUTHORS

#### Sid Jatia

Sid Jatia is a General Manager, Retail at Microsoft, where he leads strategy and investments for Microsoft Retail across products, partnerships, and M&A. Previous assignments and life's work have been defined by the value which is created at the intersection of Business & Technology. Notably, previous positions leading global e-Commerce at Under Armour, establishing new playbook of digital (apps) + physical (shirts & shoes) or work at Electronic Arts focused on creating stickiness in New Games.



#### Mike Edmonds

Mike is a Business Strategy Lead at Microsoft where he drives strategy for the Commerce & Consumer Engagement domain, helping retail and consumer goods companies build omnichannel-first capabilities to drive business acceleration. Prior to Microsoft, Mike was an agency operator, ecommerce practice lead, and digital product manager, leading digital transformation across B2B, DTC, and marketplace business models spanning a range of verticals including retail, CPG, high tech, industrial manufacturing, automotive, and foodservice across US, Europe, and China.

