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Cascadia Capital

Retail Technology Industry Report

1H 2024

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Table of Contents

1 Macroeconomic Trends

2 Broad Retail Technology Trends

3 Retail Analytics Subsector

4 Customer Experience Enhancement Subsector

5 eCommerce Enablement Subsector

6 Retail Operations Management Subsector

7 M&A and Capital Raise Transactions

8 Cascadia Overview

Cascadia Overview

- Founded in 1999, Cascadia is the second largest independent advisory only investment bank in the US [1], partnering with clients across the nation to deliver outcomes globally. We have completed over 495 transactions globally and have seven office locations
- Cascadia leverages our bankers' deep sub-vertical industry expertise to deliver a more highly specialized degree of knowledge, positioning and process, resulting in premium valuation in a highly efficient process.
- Our commitment is to deliver a customized and unique process for each client. We integrate storytelling and positioning with best-in-class financial and process rigor
- Cascadia focuses on optimizing outcomes, not just getting deals done. Often this includes advice to go to market later when the combination of company and market elements are more ideal. We pride ourselves on delivering direct advice focused solely on the best interests of our clients

Cascadia's Retail Technology Practice

- With a focus on innovative software solutions and as well as software-enabled hardware, our expertise spans across the retail technology landscape from eCommerce enablement to customer experience, retail analytics, and back-end retail operations

Retail Analytics: Solutions that help stores and brands understand customer behavior and retail analytics to better tailor their operations, marketing and merchandising strategies. Solutions in this subsector focus on collecting, analyzing, and visualizing data related to retail operations as well as customer behavior in order to optimize pricing strategies, manage inventory more efficiently, and make data-driven decisions to improve overall performance, profitability and customer experience

Customer Experience Enhancement: Solutions that allow retailers and brands to improve the overall shopping experience for customers. This includes personalized recommendations, omnichannel shopping, product detail page enhancements, virtual reality (VR) or augmented reality (AR) shopping experiences, and customer feedback analysis tools to enhance satisfaction and loyalty

eCommerce Enablement: Platforms and solutions that facilitate, streamline, or optimize eCommerce selling by providing tools necessary for retailers and brands to establish and operate successful eCommerce operations. This includes platforms for building and managing online stores, payment processing, order management systems, inventory and fulfillment solutions, as well as technologies for optimizing website performance, search engine visibility, and conversion rates

Retail Operations Management: Solutions that help retailers manage their physical and digital stores, inventory, operations and supply chains. This includes technologies and solutions designed to streamline and optimize various aspects of retail operations including inventory management systems, supply chain management software, point-of-sale (POS) systems and analytics tailored to help retailers efficiently manage their resources, reduce costs, minimize waste, and improve overall operational efficiency

Executive Summary

We are pleased to share our 1H 2024 Retail Technology Industry Report

In this report, we cover macroeconomic trends, broad retail technology trends and subsector trends as well as an overview of the current M&A and capital raise market including multiples, recent transactions, commentary and accompanying analysis

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Positive Macroeconomic Outlook Despite Postponed Rate Cuts	• Despite **inflationary pressure cooling**, the Federal Reserve recently **warned** policymakers against cutting rates too soon. Recently, Christopher Waller, a member of the Fed's board of governors, said "we need to verify that the **progress on inflation** we saw in the last half of 2023 **will continue** and this means there is **no rush** to begin **cutting** interest rates" [1] • In addition to higher-than-expected **inflation in January**, a **strong** US economy is contributing to the Federal Reserves decision to **maintain** rates as the US economy added **353,000 jobs** last month and grew **3.3% annually** over the past three months of 2023 [2]
Fast Growing Retail Technology Market	• The retail technology market is expected grow at a **12.2% CAGR** reaching **$47.8B** by 2030. Strong growth is driven by **accelerating digital** transformation in retail as well as **automation** advancements transforming retail **operations** for both physical and online stores • Nascent technologies are also fueling growth as **generative AI** is poised to transform **customer experience** and **VR/AR** is used to create **immersive** shopping **experiences**
Retail Margins Are Compressing Driving Increased Investment	• Retail **margins** are **compressing** in the face of increased **competition**, **inflationary** pressure and **labor shortages**. This leads to increased **demand** for technologies that enable retailers and brands to increase **efficiency** and improve operations • **Inventory** optimization and **demand** forecasting solutions enable retailers and brands to increase their supply chain **efficiency**. On the other hand, **retail analytics** tools enable stores to gain **visibility** and insights into their operations, thereby improving decision making
AR/VR Is Poised To Transform The Shopping Experience	• **Immersive** shopping, powered by **AR/VR** and **3D technology**, is poised to transform online **shopping** by enhancing customer experience through **interactive** and **engaging** content • Apple's launch of the Vision Pro marks a **turning point for VR/AR** as the technology begins to become more **mainstream**. Although we are a long way from widespread proliferation, decreasing cost will help to drive **increased adoption**
Shift Towards Omnichannel Retail	• Accelerated by the pandemic, customers are increasing **adopting hybrid shopping** as both **online** and **in-person** retail become **interlinked** and retailers seek **new tools** to help them adapt • As customer shopping **behavior shifts**, retailers are investing in technologies to help create a **seamless** and **cohesive** shopping **experience** by merging both online and offline **shopping**
M&A and Capital Raise Transaction Volume Increased in Q4 2023	• Both **capital raise** and **M&A transaction** volume and multiples remain largely **subdued** compared to the peaks experienced in 2021. However, in Q4 2023 both M&A and capital raise activity **increased slightly** pointing towards a potential **recovery** in market activity • There were **59 M&A transactions** in Q4 2023 compared to **55** in Q3 2023. Capital raise volume also increased slightly with **135 transactions** in Q4 2023 compared to **118** in Q3 2023. For more details, refer section 7 on slides 46 – 61

1 AP News: Federal Reserve Officials Caution
2 USA Today: The Fed May Wait Too Long

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Section 1

Macroeconomic Trends

Macroeconomic Indicators (1/3)

The rebound in employment within the retail sector, alongside decreasing inflation and rising consumer expenditure, is poised to propel innovation and adoption of retail technology, especially in eCommerce and customer engagement

Global Supply Chain Pressure Index (GSPI) [1]

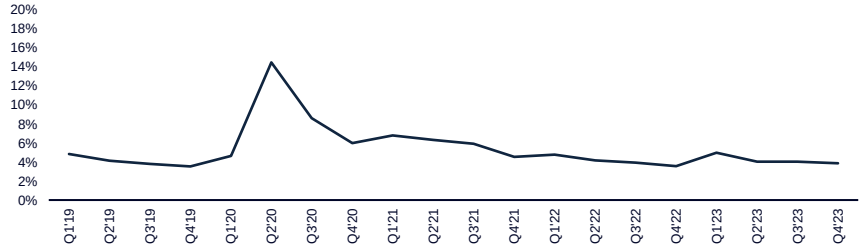
Global Supply Chain Pressure Index integrates transportation cost data and manufacturing indicators to provide a gauge of global supply chain conditions. Pandemic-driven supply chain pressure reached a peak in late 2021, as delays and stock-outs caused significant business and macroeconomic challenges as costs soared and inflation increased

US Annual Inflation Rate (%) [2]

The Federal Open Market Committee (FOMC) foresees a decline in US inflation in 2024, following a gradual shift downward from 8.5% in July 2022 to 3.4% in December 2023. This anticipated decrease is influenced by the decrease in prices of goods resulting from supply chain disruptions. It implies a prospect of sustained lower interest rates, which could positively impact consumer spending, retail pricing, and overall conditions within the retail sector

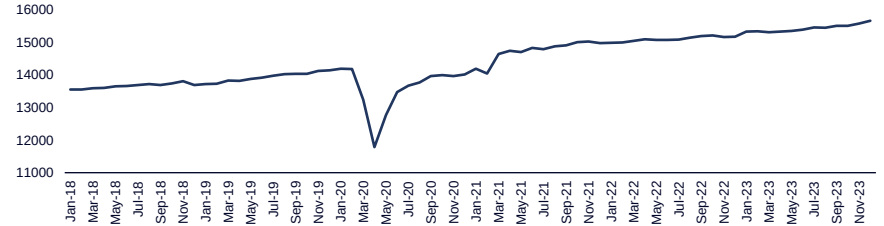
US Unemployment Rate – Wholesale & Retail Trade Sector [3]

Additionally, the sharp decrease in the unemployment rate from 14.5% in Q2 2020 to 3.9% by Q4 2023 in the Wholesale and Retail Trade sector indicates a strong industry recovery, boosting innovation and tech adoption in the retail tech sector



Real Personal Consumption Expenditure ($B) [4]

As per the Bureau of Economic Analysis, Real PCE increased by $133.9 billion (0.7%) in 2023, reflected in the increased offline and online retail sales. The PCE is a measure of the spending on goods and services by people in the US as well as a significant driver of GDP, accounting for about two-thirds of domestic spending



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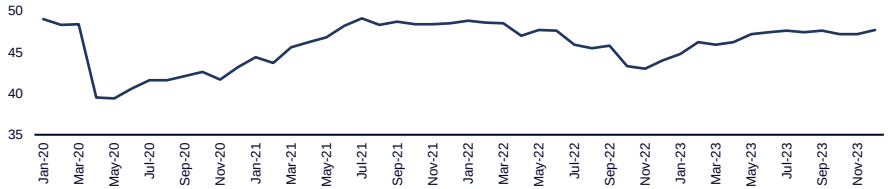
1 Federal Reserve Bank of New York: Global Supply Chain Pressure Index
2 U.S. Bureau of Labor Statistics: Annual Inflation Rates
3 FRED Economic Data: Unemployment Rate: Wholesale and Retail Trade Sector
4 FRED Economic Data: Real Personal Consumption Expenditures

Macroeconomic Indicators (2/3)

Strong consumer spending, logistical challenges, and labor shortages, particularly due to rise in eCommerce sales, is anticipated to fuel further investment and innovation in retail technology

Global Consumer Confidence Index [1]

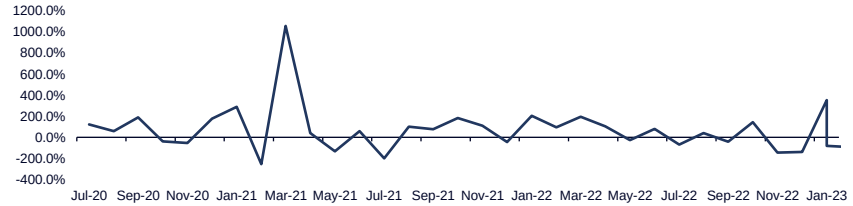
Increased consumer spending was also reflected in the rise of the global consumer confidence index which rose to 47.7 in December 2023 after a significant drop in November 2022. This surge is driven by the increase in internet shopping and AI's influence on retail, particularly in eCommerce and digital channels



*This index measures how optimistic or pessimistic consumers are regarding their expected financial situation, which directly influences their spending decisions. A higher consumer confidence index can indicate a greater willingness to spend on retail, including technology products and services.

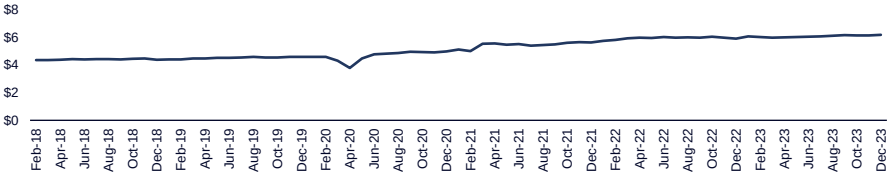
Retail Sales in the US (% Change) [2]

Despite growth in December 2023, US Retail Sales fell 0.8% in January as consumer spending cooled down. This is compared to December 2023 where US Retail Sales grew 0.4%. The drop in January was more than expected, further pointing towards an ambiguous economic outlook



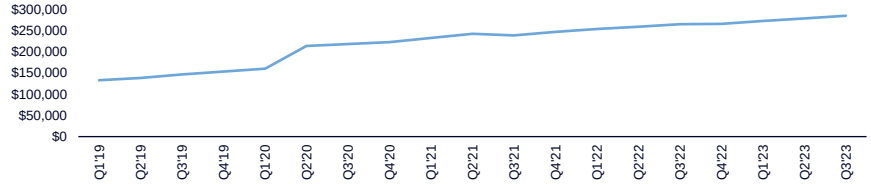
US Advance Retail Sales: Retail Trade ($M) [3]

he Advance Retail Trade index observed a modest increase, reaching $615,331 million in December 23, and growing 0.63% compared to November 2023, with growth driven by sales at department, clothing, and accessories stores. The index reflects the change in the total value of sales at the retail level, excluding automobiles and gasoline. eCommerce sales are included in the total monthly sales estimates, making the index a comprehensive measure of retail activity



US eCommerce Retail Sales ($M) [4]

The proliferation of eCommerce has led to a substantial transformation in consumer behavior, as an increasing number of individuals now favor online shopping over physical store visits. This necessitates retailers to adjust and allocate resources towards digital technologies to align with the evolving preferences of consumers



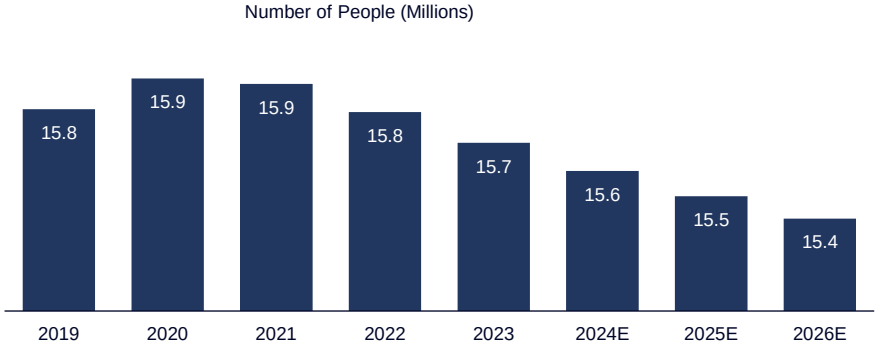
1 Statista: Global Consumer Confidence Index
2 FRED Economic Data: Retail Sales: Retail Trade
3 FRED Economic Data: Advance Retail Sales: Retail Trade
4 FRED Economic Data: E-Commerce Retail Sales as a Percent of Total Sales

Macroeconomic Indicators (3/3)

Labor and demographic shifts are driving technological innovation and a demand for tech-savvy staff in retail, transforming both brick-and-mortar and eCommerce operations

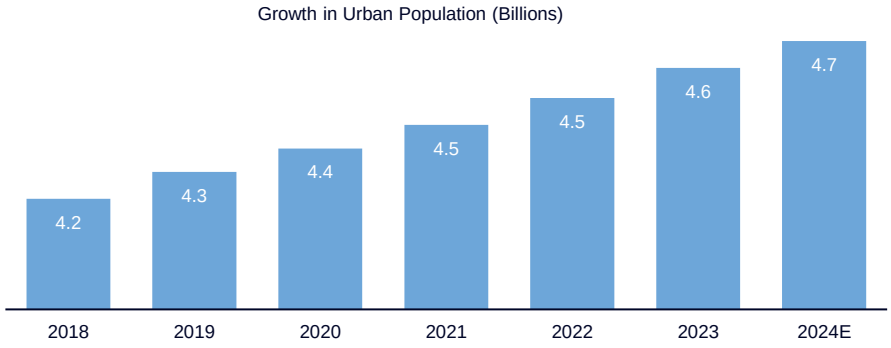
Number of Employees in US Physical Retail Establishments [1]

- The gradual reduction of the US retail workforce, expected to decline from 15.8 million in 2019 to 15.4 million by 2026, is attributed to the growing implementation of retail automation technologies
- As retail technologies become more prevalent, there's a corresponding reduction in traditional retail jobs and a surge in demand for roles centered around automation, digital platforms, and tech-driven customer solutions. This shift underscores the increasing value of digital literacy and technological expertise in the retail sector
- Therefore, while digital transformation creates opportunities for new roles demanding specialized technical skills and expertise, including data analysis, software implementation, and user experience and design



Rise of Urbanization[2]

- The rise of urbanization has opened avenues for retailers, particularly in offering personalized and technology-driven shopping experiences
- Younger consumers are gravitating toward urban centers, especially cities, in pursuit of job opportunities and cultural immersion. This demographic diversity expands interests and demands, disrupting traditional retail models
- Both millennials and Generation Z, being tech-savvy, prefer convenient and seamless omnichannel shopping experiences
- Therefore, retailers are catering their offerings to meet the needs of multicultural populations, with a focus on millennials and baby boomers in addition to specific ethnic groups like Hispanic and Asian American consumers; this is leading to a greater emphasis on hiring tech-savvy staff to innovate and optimize operations across both brick-and-mortar and eCommerce channels



1 Statista: Projected Number of Employees in Retail Industry in US from 2019-2026
2 Statistic Times: World Urban Population

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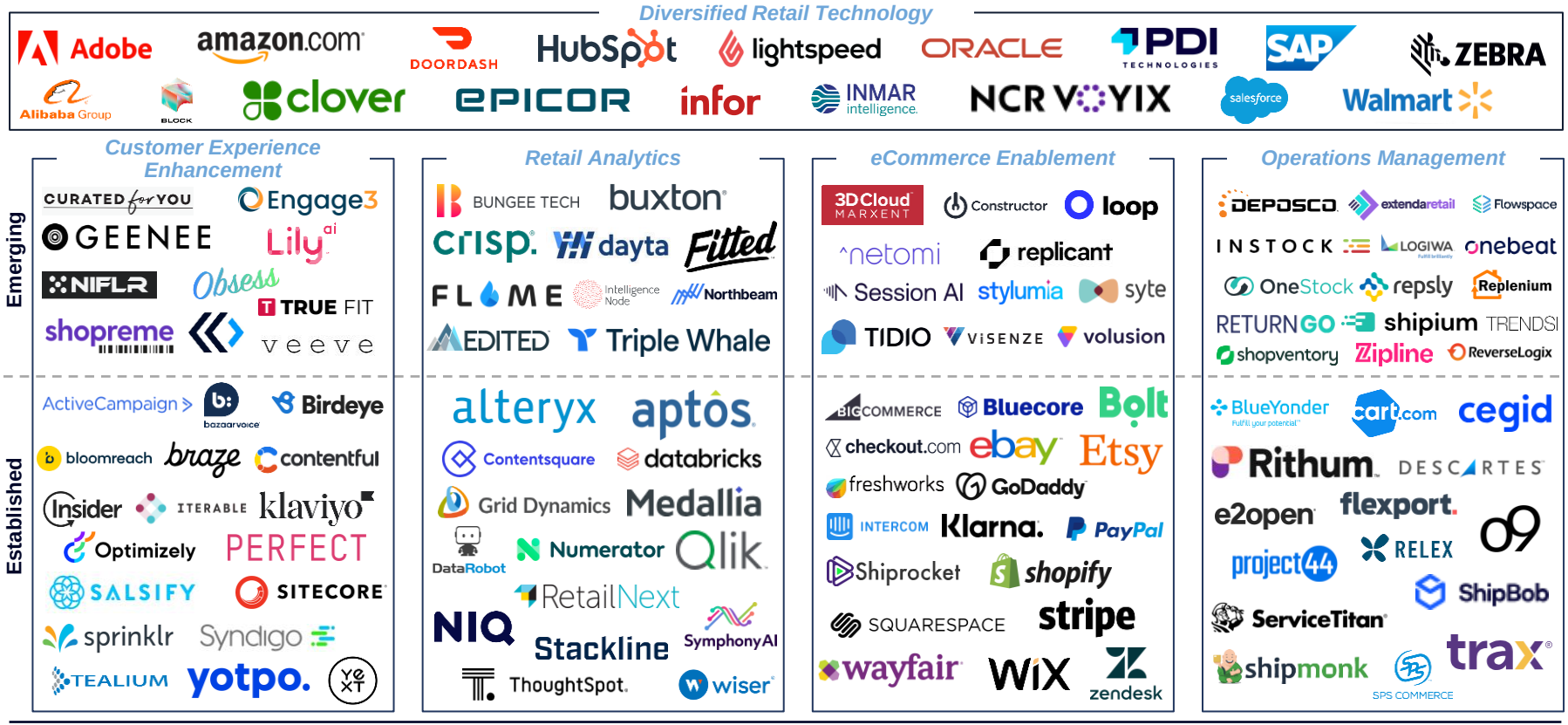
Section 2

Broad Retail Technology Trends

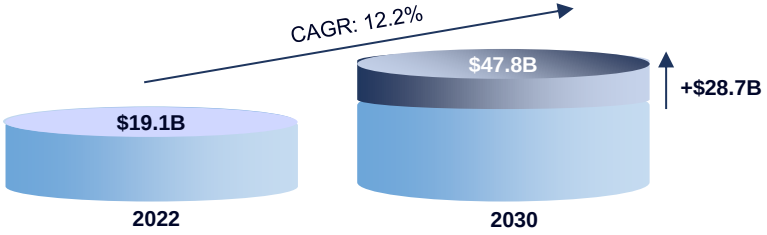
Retail Technology Market Map – Representative Landscape



Retail Tech Industry Insight

The Retail Tech market is expected to reach $47.8 billion by 2030, demonstrating a 12.2% CAGR, driven by rapid digital and automation advancements transforming various aspects of retail operations in physical and online stores

Retail Tech Market Size & Growth*



- The Retail Technology market reached $19.1 billion in 2022, and is anticipated to achieve $47.8 billion by 2030, reflecting a CAGR of 12.2%
- The swift advancements in digital and automation technologies have ushered in novel developments across the retail sector
- From point of sale to inventory management and fulfillment to in-store experiences, retail technology encompasses the integration of innovative solutions and digital advancements into retail and eCommerce operations
- Presently, both physical and online businesses allocate substantial investments in numerous facets of retail technology
  - In-store retail tech tools encompass the utilization of AI-powered technologies, such as smart mirrors and self-checkout systems
  - Meanwhile, for eCommerce stores, retail technologies facilitate streamlined inventory management through cloud software, aid in managing customer databases, and ensure a seamless retail experience across diverse platforms

Key Growth Drivers

- Nascent technologies such as AR/VR and AI advancements are driving retail market growth by improving customer experiences and operational efficiency
- Digital transformation, fueled by demand for online and omnichannel shopping, is reshaping retail market dynamics
- The pandemic's acceleration of online shopping has become a key growth catalyst, leading to expanded digital retail offerings
- The adoption of DTC models and omnichannel strategies are addressing changing consumer preferences which require renewed investment

Key Trends

- Retailers are leveraging AI-driven tools and virtual shopping technologies to transform the retail landscape, offering hyper-personalized, interactive, and immersive shopping experiences, while simultaneously enhancing customer service, and gaining insights into consumer behavior
- The focus on delivering seamless shopping experiences across multiple channels is prompting investments in smart store technologies and omnichannel capabilities
- Partnerships are becoming essential for addressing customer needs, optimizing operations, and developing sustainable solutions
- While the integration of big data, AI, and other technologies offers numerous benefits, it also presents challenges, such as the need for specialized expertise to manage and leverage these innovations effectively

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1 Grand View Research: Note - The size of the global retail technology market is contingent upon the specific technology under consideration. This report encompasses the aggregated values of distinct subsectors, namely Customer Analytics in Retail, Customer Experience Enhancement in Retail, eCommerce Enablement, and Retail Operations Management markets, when determining the Retail Technology Market size. The market size delineates the significant sub-sectors constituting the Retail Tech Market, with potential contributions from other components that may influence the market more broadly. It is essential to note, however, that the size discussed here exclusively pertains to the market size of the aforementioned four sub-sectors. Additionally, it is noteworthy that the market size closely aligns with the Retail Automation market size, the components of which correspond to the Retail Tech market size and the sub-sectors covered in this report.

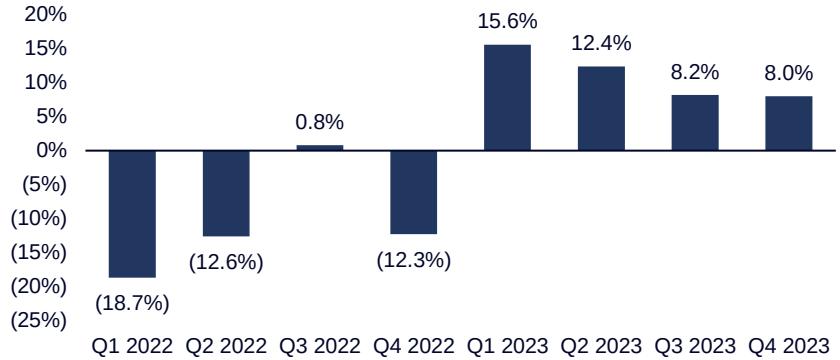
Shift in Retail Margins

Retailers are facing margin pressure due to increased competition and the growing influence of eCommerce

Margin Pressure Due to Rising Competition and eCommerce

- The retail sector in the US witnessed significant margin pressures in late 2022, primarily due to slow retail sales growth
  - This slow growth in retail sales was attributed to diminished savings after the easing of the COVID-19 pandemic, the impact of high inflation on consumer spending, and rising interest rates that discouraged purchases of high-ticket items
- The downturn in profitability in 2022 was widespread, with average profit margins for 65 retailers, including Walmart, Home Depot, and Target, experiencing a notable decline
- However, as 2023 progressed, these margins began increasing
  - 2023 financial reports of companies in the consumer discretionary and consumer staples sector such as PepsiCo, Kraft Heinz, and Target suggest that reduced input costs and inventories, coupled with sustained price increases, accelerated a rebound in profit margins
- The 2024 outlook for margins appears more favorable for retailers and consumer goods manufacturers compared to 2023
  - The anticipated improvement in profit margins is likely to be bolstered by lower input expenses, alleviation in shipping charges, and a possible decrease in overall shrinkage concerns
  - The rise in profits can be achieved through various methods. These include enhancing profit margins throughout the product range, promoting increased transparency with suppliers, and employing advanced analytics to understand the impacts of macroeconomic shifts
  - Additionally, investing in the latest technologies such as blockchain and AI-driven forecasting tools can help successfully navigate challenges presented by an inflationary environment

Change in Profit Margins in the Consumer Discretionary Sector [1] in 2023*



Margin Pressure on Major Retailers

- **Home Depot** reported sales of $37.3 billion in Q1 2023, a 4.2% decline compared with Q1 2022. Net earnings in Q1 2023 also fell to $3.9 billion from $4.2 billion in Q1 2022
- **Walmart**'s operating profit margin decreased from 5% in FY22 to 3% in FY23
- **Target** has witnessed fluctuations in its profit margins, with a notable increase to 5.2% in Q3 2023 from 3.9% in Q3 2022. However, by October 2023, both the operating and net profit margins decreased to 3.4%

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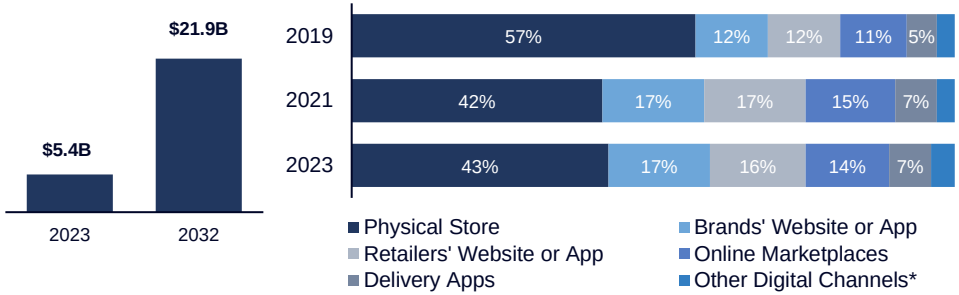
1 Refinitiv Data: Consumer Discretionary Margins in 2023
2 Forbes
3 Reuters
4 Deloitte: 2024 Consumer Products Industry Outlook
5 Home Depot: Annual Reports
6 Walmart: Quarterly reports Q3 FY2022
7 Target Corporation: Reports Q3 Earnings

*Chart scaled for values due to limited data availability. Note: Elevated profit margins within the consumer discretionary sector may suggest a possible upturn in consumer spending and confidence. Consequently, this can contribute to the expansion of the retail sector.

Shift Towards Omnichannel Retail

The changing preferences of consumers towards hybrid shopping and omnichannel retail have been encouraging retailers to adopt innovative technologies to succeed in this dynamic landscape

Global Omnichannel Retail Commerce Platform Market Size & Growth [1]



The omnichannel retail commerce platform market is growing, driven by factors such as increasing consumer demand for personalized experiences, widespread adoption of eCommerce, and the increased significance of data analytics in shaping retail strategies

As of 2021, it was observed that 61% of individuals had expressed their intention to increase their online activity, prompted by the post-pandemic era. This indicates a sustained transition towards using digital channels over the long term

According to a study conducted by the Aberdeen Group in 2023, brands with robust omnichannel customer engagement report a 9.5% year-over-year increase in annual revenue, in contrast to a 3.4% increase for those with weaker omnichannel practices [2]

Technological Evolution of Omnichannel Retail

- The pandemic compelled retailers and CPG brands to swiftly shift toward hybrid retail, prompting rapid upgrades to both digital and in-store customer experiences
  - Between 2019 and 2021, transaction shares for three types of digital channels, including brand websites and apps, retailer websites and apps, and online marketplaces, grew by nearly 40%
  - Additionally, between 2020 and 2022, retailers functioned with the agility of startups, introducing novel services to actively connect with customers in a digital-centric environment
- To meet consumer demands for seamless service, retailers have been creating integrated shopping experiences that blend the convenience of online shopping with the tactile engagement of physical stores
- Retail enterprises have implemented an array of innovative features accessible to their customers, such as BOPIS (buy online/pickup in-store), virtual styling, digital clienteling, live video commerce, real-time delivery, and AR/VR supported by AI
  - For example, IKEA's AR app allows customers to place virtual furniture in their homes, helping them make more informed buying decisions
  - Retailers like Target, are using location-sensing technologies, including BLE beacons, Wi-Fi, mobile sensors, and VLC, BOPIS to provide customers with tailored in-store shopping offers, enhancing the brick-and-mortar shopping experience
- The recent shift in consumer behavior towards hybrid shopping emphasizes the critical need for a thoughtful integration of both online and offline retail channels
  - Those retailers who promptly respond to this shift and invest in innovative technologies are likely to excel in the new dynamic and rapidly changing retail environment

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1 Market Research Future
2 Salesforce: Connected Shoppers Report, November 2021
3 DataReportal: Global Overview Report 2023
4 Porchgroupmedia.com
5 Ikea.com

DTC Brands Embrace Wholesale and Physical Retail

DTC brands are strategically expanding into wholesale channels and bolstering their brick-and-mortar retail footprint to align with evolving consumer preferences and alleviate financial challenges

Transitioning of Retail Strategies From DTC to Wholesale and Physical Retail

- The surge in D2C retail, spurred by the COVID-19 pandemic, redirected consumers toward online shopping. Even traditionally wholesale-dependent brands altered their strategies and pivoted towards DTC channels
- However, with the reopening of stores in the post-pandemic landscape and the eCommerce sector becoming saturated, numerous new and digitally native brands accelerated their transition into wholesale and physical retail spaces
- This shift was motivated by increased operating costs due to inflation, high expenses for customer acquisition, and the necessity for an omnichannel approach in response to the saturated online market. Additionally, the post-pandemic expectation for brands to provide free shipping and returns intensified pressure on profit margins
  - The National Retail Federation (NRF) emphasized the significant impact of this practice, revealing that the average retailer experiences $166 million in returns for every $1 billion in sales, highlighting the financial strain on DTC operations
- DTC brands heavily reliant on online sales, such as Peloton and Wayfair, faced substantial losses as consumers returned to in-store shopping. In 2022, Wayfair witnessed an 11% year-over-year decline in sales, while Peloton's sales dropped by nearly 22% in its fiscal year ending June 2022

DTC Brands Are Broadening Their Distribution By Venturing Into Wholesale And Establishing Physical Stores To Attract Shoppers After Post-pandemic

Expansion of Physical Retail Presence Among DTC Brands

- In 2023, Nike strategically reinforced its wholesale partnerships, pivoting away from a predominant D2C focus to leverage broader market reach and address challenges like surplus inventory and limited market penetration

Brands Turning to Wholesale Partners for Distribution Expansion

- In 2023, DTC cookware brand **Our Place** expanded its reach by launching in 650 out of approximately 2,000 Target locations
- **Allbirds**, a footwear company, recognized the constraints of sticking solely to a D2C model
  - The brand, led by co-founder and co-CEO Joey Zwillinger, expanded its approach to include physical stores and partnerships with established retailers like REI, Nordstrom, and Dick's Sporting Goods

1 Retail Touch Points: National Retail Federation (NRF) Survey
2,4 Retail Dive
3,5 PYMNTS

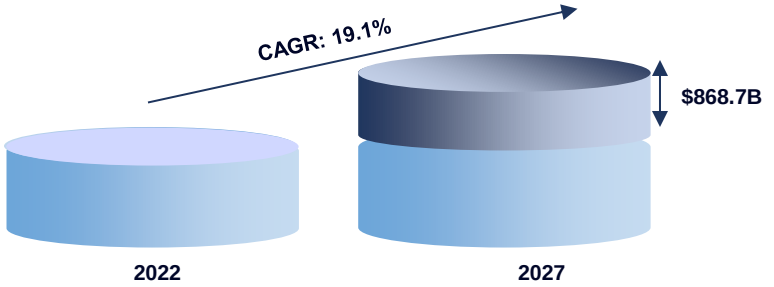
Digital Transformation in Retail Market

The pace of digital transformation within the retail market is anticipated to experience significant growth throughout the period spanning from 2022 to 2027

Digital Transformation in the Retail Sector

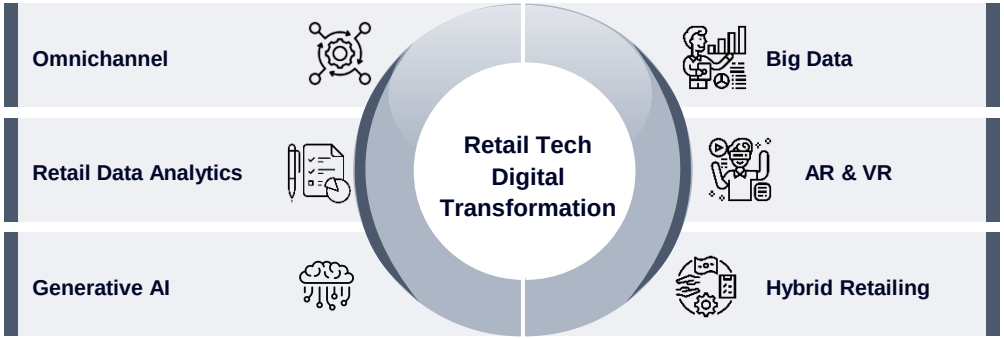
- The digital transformation in the retail market is projected to increase by $868.7 billion from 2022 to 2027, at a CAGR of 19.1%
  - This growth in the forecast period is primarily driven by big data, retail analytics, omnichannel technologies, AR/VR, and generative AI
- The surge of IoT has revolutionized the retail sector, transforming consumers into Smart Retailers who can efficiently gather and analyze individual data. This enables predictive insights into shopping habits, facilitating retailers in offering personalized products and services
- For example, a key approach contributing to market growth is the adoption of smart stores, which automates retail processes using computer vision and incorporate RFID sensors, point-of-sale terminals, smart shelves and shopping carts

Digital Transformation in Retail Market Size and Growth [1]



Key Trends

- A significant market trend in the retail sector is the **increasing number of technology partnerships and integrations**
  - The retail industry is benefiting from the integration of various technologies, including AI, cloud, and other enterprise software, resulting in operational transformations and improved efficiency
- Retailers are strategically collaborating with technology providers to address changing customer demands
  - For instance, in January 2023, Walmart partnered with Salesforce to offer its **white-labeled software solution** to other retailers, enabling easy local fulfillment and deliveries for customers
- Further, the market is experiencing growth due to rising investments in the retail digital transformation sector, along with the increasing maturity and success of the retail digital transformation market



1 Technavio: Digital Transformation Market Size In Retail Sector
2 Walmart.com

Revolutionizing of the Retail Sector

Retail is undergoing a digital metamorphosis, leveraging technology and social media to deliver personalized shopping experiences and redefine customer engagement

Embracing the Future: Retail's Digital Transformation and Social Commerce Evolution

- The retail industry is swiftly transitioning to digitalization with the aim of enhancing operational efficiency, elevating customer experience, optimizing online shopping processes, and analyzing customer behavior
  - Retail technologies encompass cutting-edge tools, systems, and strategies that retailers utilize to enrich customer interactions, streamline operations, and remain competitive in the digital era

Era of Hyper-Personalized Customer Experience

- According to Gartner research, over half of consumer expenditures are expected to occur online by 2024, with 60% of them happening through mobile platforms
- In light of this trend, customers of all ages and interests are increasingly anticipating highly personalized shopping experiences
- This movement towards advanced hyper-personalization is a fundamental aspect of the retail sector's digital transformation, particularly crucial for large-scale retailers
- Key factors enabling this shift in the retail landscape towards more competitive and forward-thinking personalized offerings include technologies like AI, big data, and AR/VR
- To effectively navigate this evolving business environment, there is a need for a cultural shift and a workforce well-versed in technology

Labor Shortage Induced Shift Towards Automation

- In 2023, the US retail sector encountered a notable shortage of labor. As per the US Chamber of Commerce, in September 2023, the wholesale and retail trade industry grappled with a scarcity of workers leading to millions of vacant positions
- With ongoing labor shortages, retailers are increasingly adopting automation to bridge the gap, leveraging technology to manage repetitive tasks with minimal human intervention
- In 2024, the impact of automation will not be limited to only cashier-less checkouts but will also extend to crucial functions such as warehousing, inventory control, and order fulfillment

Emergence of Social Commerce

- Social media has evolved into a dynamic avenue for sales and is projected to play a crucial role in the omnichannel retail strategy in 2024
- It goes beyond being merely an advertising space; it intertwines with the growing trend of livestream shopping, providing consumers the opportunity to participate in live demonstrations and complete purchases directly on social media – a comprehensive platform for both interactions and transactions
- Instagram's incorporation of shopping features permits users to make direct purchases while engaging with a live broadcast, showcasing the seamless fusion of entertainment and eCommerce within the realm of social commerce

A recent study revealed that 33% of Gen Z individuals were influenced to make a purchase after encountering a product on social media, 2023 [1]

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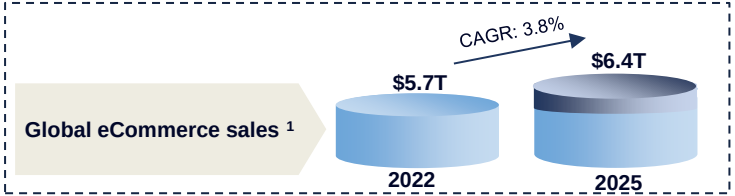
1 Gartner Research
2 US Chamber of Commerce
3 DeckCommerce
4 Insider Intelligence

Growth of Technologies in the Retail Sector

Retail digital transformation is also driving a surge in demand for eCommerce solutions, as emerging technologies shape the future Retail Tech landscape

Adoption and Growth of Various Technologies in the Retail Sector

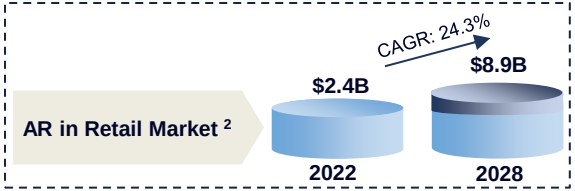
- The retail sector's digital transformation, propelled by retailers utilizing advanced technologies to improve operational efficiency, enhance customer experiences, and drive revenue growth in a highly competitive environment, is reaching new heights
  - The future retail tech landscape is poised to be shaped by several emerging technologies, including the following:



AR and VR

With AR/VR, customers can visualize and assess how products would fit in their homes before making purchases. For instance, Amazon's AR view allows customers to visualize products in their environment using smartphone cameras

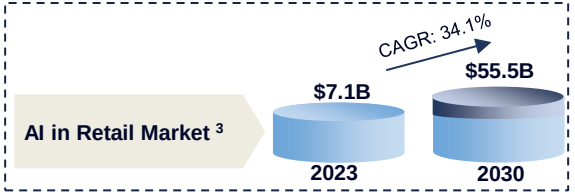
amazon



AI and ML

AI and ML powered solutions provide product recommendations, personalized marketing strategies, and streamlined logistics. Walmart uses AI to predict inventory trends, strategically allocating stock across its stores. Amazon leverages AI and ML to identify and proactively prevent fraudulent activities on its platform

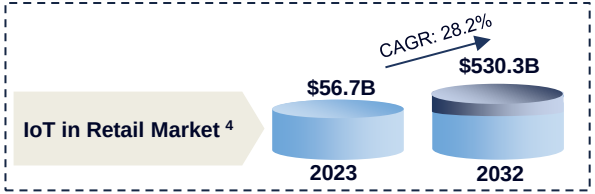
amazon Walmart



IoT

IoT sensors can monitor inventory levels in real time, enhance the efficiency of supply chain logistics, and oversee the quality of products. IoT-enabled virtual assistants such as Amazon Alexa and Google Home are reshaping the shopping experience. Users can leverage these devices to place orders, monitor shipments, and receive real-time updates on their purchases

amazon Google Home



1 Insider Intelligence, Statista
2 Tech News and Updates
3 Fortune Business Insights
4 Precedence Research

Increased Use of AR/VR for Virtual Shopping

Virtual shopping technologies are transforming retail shopping via interactive and personalized experiences

Use of Virtual Shopping Technologies

- Virtual shopping platforms leverage VR/AR and 3D technology to create interactive and immersive shopping experiences, thereby enabling customers to explore products and make purchases remotely
  - A recent survey indicates that in 2022, 70% of customers who explored virtual stores proceeded to make purchases [1]
- Obsess, a leading experiential eCommerce platform, utilizes 3D technology to craft immersive virtual shopping experiences for retail brands
  - The company has partnered with some of the world's leading brands and retailers to develop over 300 virtual stores and experiences
  - Its technology powers hundreds of virtual stores, offering interactive content, livestreaming, gamification, and social shopping. It has helped create virtual stores for brands such as Ralph Lauren and Charlotte Tilbury, among others
  - In April 2023, Obsess launched Ava, a virtual store builder that enables brands to create customizable 3D eCommerce experiences. The platform facilitates self-serve virtual store management, allowing brands to customize product imagery and placement, multimedia content, branded avatars, and social integration among other features
- Similarly, Emperia, a virtual store platform, enables retailers to create immersive virtual shopping experiences, including VR stores. The platform can also be integrated with existing eCommerce and stock management systems
  - Emperia has developed virtual stores and galleries for prominent brands such as Bloomingdale's, Tatcha, Lacoste, and Dior. It also offers an app that enables brands to host live events in a virtual space, customize exhibits, and display products with 3D models and images, as well as conduct live events with hosts who guide visitors through the virtual environment
  - In November 2023, L'Occitane En Provence unveiled a new holiday virtual store created by Emperia and designed in collaboration with artist Steven Wilson

As per a study conducted by Obsess in 2022, 60% of respondents who had previously shopped via a virtual store stated that they are likely to do so again [1]

Virtual Store Platforms

EMPERIA byondxr Matterport® Obsess

Other brands that offer virtual shopping experiences

1 Venturebeat.com: Survey by Obsess
2 Obsess.com
3 Retail Dive
4 Interline.com

AI-powered Tools for Personalization in the Retail Sector

AI-driven personalization is empowering retail industry leaders to deliver hyper-personalized shopping experiences, enhance customer engagement, and increase conversion rates

AI-powered Personalization

- A focus on personalization has further increased the use of AI/ML in the retail sector. As per a 2023 study, 43% of customers in the US prefer businesses offering personalized experiences
  - AI/ML's ability to analyze vast datasets enables retailers to glean valuable insights into customer behavior, refine strategies, optimize inventory, and create targeted marketing campaigns for increased conversion rates

Use of AI by Retailers to Create Highly Personalized Shopping Experiences

- Amazon uses its AI-driven tool, Amazon Personalize, which analyzes customer behavior, generates personalized recommendations, and builds targeted marketing campaigns, to improve the shopping experience and boost conversion rates

- Adidas employs AI for personalized product recommendations and email personalization, using dynamic content and focusing on gender-based segmentation of subscribers to showcase the most relevant products

- Various leading retailers use Bloomreach, a cloud-based eCommerce experience platform that offers personalization through AI-powered search solutions, customer data analysis, and marketing automation, unified real-time customer and product data to help businesses understand what customers want

Brands Using Bloomreach

BOSCH — M&S — PUMA

Other Brands Using Personalization Techniques

SEPHORA, Alibaba.com, prose, bigbasket, J.CREW, Walmart, OLD NAVY

Platforms that Offer Personalization

BIGCOMMERCE, bazaarvoice, salesforce commerce cloud, shopifyplus, bloomreach, Magento An Adobe Company

1 Forrester: August 2022 Consumer Energy Index And Retail Pulse Survey
2 Amazon.com
3 Keru Consulting

Heightened Emphasis on Sustainability

In 2024, retailers are adopting advanced technologies to support initiatives driven by consumer preferences for improved sustainability

Sustainable Retail Technology

- In 2024, a notable transformation is anticipated within the retail technology sector, marked by a pronounced shift towards sustainability. Brands are anticipated to integrate eco-friendly alternatives, minimize surplus inventory, and harness technology to address environmental concerns, responding to the discernible consumer inclination towards sustainability
  - A recent study conducted by Forbes reveals that 62% of Gen Z consumers exhibit a preference for patronizing sustainable brands. Impressively, 73% of those in this demographic express a willingness to pay a premium for products that are environmentally friendly [1]
- Consequently, brands are strategically employing cutting-edge technologies, such as AI and VR/AR to actively pursue sustainability objectives. This not only aligns with ethical considerations, but also proves to be financially advantageous for retailers given the escalating consumer demand for sustainable products

Sustainable Supply Chain Management

- Retailers are harnessing sophisticated technologies such as blockchain, RFID, and AI/ML to enhance the sustainability of their supply chains
  - These technologies enable better product monitoring, waste reduction, and operational efficiency improvements

Forecasting Zero Waste

- AI/ML is currently employed across the retail sector to predict and strive for the goal of zero waste
  - Companies are harnessing AI/ML for tasks such as real-time demand forecasting, analysis of waste generation patterns, and predictive modeling all aimed at reducing waste and enhancing overall operational efficiency

Product Visualization

- VR/AR product visualization is transforming consumer decision-making by enabling shoppers to envision products in their everyday environments
  - This innovation diminishes return rates while also reducing transportation and packaging waste

Key Industry Developments or Examples

- **Albertsons** has incorporated AI into diverse operations, encompassing functions such as forecasting and waste minimization
  - In 2022, the company embraced **Afresh Technologies' AI-driven predictive ordering platform**, to enhance the optimization of inventory, ordering processes, and merchandising strategies
  - This initiative is consistent with Albertsons' overarching commitment to reduce food waste 50% by the year 2030

- **IKEA's AR** application functions as a sustainability tool, aiding customers in envisioning furniture within their living spaces prior to completing a purchase
  - This feature reduces returns and minimizes carbon footprints by allowing customers to preview furniture in their homes, eliminating the need for physical store visits and decreasing the requirement for in-person shopping trips

1 Sustainabilitymag.com
2 Kadence International
3 PR Newswire
4 IKEA News and PR

Enhancing Reverse Logistics Efficiency in Retail Using Technology

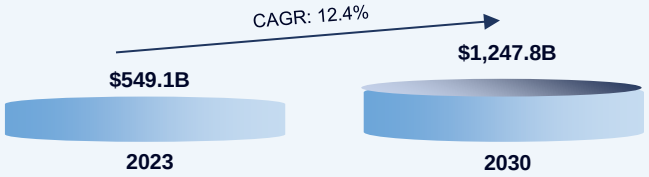
Retailers are increasingly leveraging technology and data analytics to manage returns and inventory better across both online and brick-and-mortar channels

Optimization of Reverse Logistics in Retail Through Technology

- Reverse logistics involves the process of reintegrating a product back into the supply chain after it has been sold with the goal of reselling, repurposing, or disposing of it
- The return rate for online purchases exceeds that of returns at physical stores by three times, highlighting the crucial need to prioritize reverse logistics, particularly in the online retail & eCommerce industries

According to Shopify, the average return rate for eCommerce channels is typically 20%–30% [1]

Global Reverse Logistics in Retail Market Size and Growth*



- In 2023, the retail and eCommerce segment held a dominant position in the broader Global Reverse Logistics Market, with a revenue share of 49.9%

- The increasing frequency of returns in the retail industry has highlighted the importance of effectively managing the return process and optimizing reverse logistics
- As a result, retailers are turning to advanced technologies to streamline returns, enhance customer satisfaction, and optimize inventory across both online and brick-and-mortar stores

Amazon, for example, employs AI-powered returns management software and has revolutionized warehouse management through advanced automation and standardized processes to reduce costs and enhance efficiency in handling returned items

Similarly, Walmart has made significant investments in advanced technology to enhance its reverse logistics capabilities, utilizing data analytics and machine learning to gain valuable insights into return trends and customer behavior

According to McKinsey, companies that utilize data analytics to optimize their reverse logistics can achieve cost reductions of up to 10% [2]

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1 Shopify.com
2 Grand View Research
3 LinkedIn: Appic Software
4 Faster Capital
5 Nshift.com

*The market size encompasses the Reverse Logistics in Retail segment size within the broader Reverse Logistics Market, attributed to limited data availability and accuracy.

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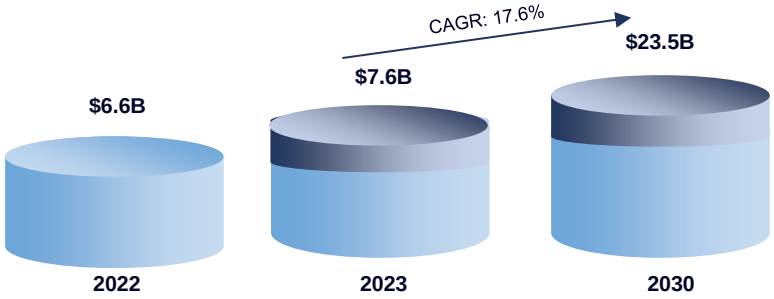
Section 3

Retail Analytics Subsector

Retail Analytics Market Insight

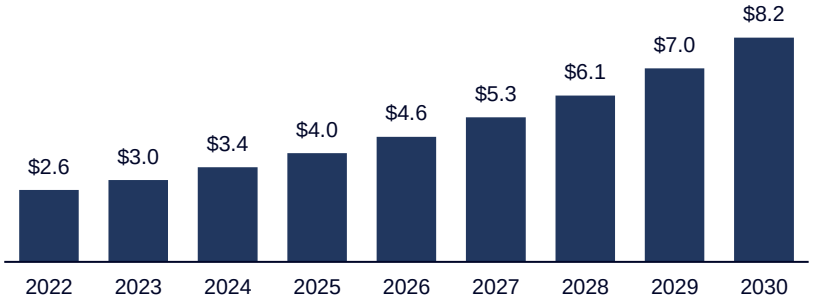
The growth in the Retail Analytics market is driven by advances in data analytics, cloud technologies, and a shift towards cloud-based solutions to improve operational decision-making

Global Retail Analytics Market Size & Forecast ($B) [1]



- In 2022, the global market size of Retail Analytics reached $6.6 billion. The industry is anticipated to experience substantial growth, projecting an increase from $7.6 billion in 2023 to $23.5 billion by 2030 at a CAGR of 17.6%
- The driving forces behind this market expansion include the increasing adoption of data analytics for enhancing customer experience, optimizing operational efficiency, and improving decision-making
- With this, an array of existing solutions in the market are anticipated to transition to the cloud
  - Companies may discover ways to leverage the capabilities of cloud analytics, wherein a majority of components include customer data sources, data models, processing apps, computing capacity, analytic models, and data storage are hosted
  - This likely could facilitate the integration of intelligence into existing processes and enhance operational decision-making

North America Retail Analytics Market Size and Forecast ($B)[2]



- North America retail analytics market holds a significant share of ~39% in terms of revenue. The strong presence of technology giants in the US, including Microsoft, Infosys, Accenture, Salesforce is expected to contribute to the expansion of the market
  - These tech giants are actively introducing innovative, market-focused products to meet the increasing demand for advanced retail analytics solutions
  - For instance, in March 2022, Google launched a retail search tool designed to provide customers with accurate search results during their shopping experience
- Further, retailers are responding to evolving consumer preferences and behaviors by integrating analytics into their business strategies
  - In January 2023, Microsoft and Salesforce introduced new systems highlighting the enduring importance of physical stores by offering smart store features, digital advertising, and improved customer and employee experiences

1 Fortune Business Insights
2 Search Engine Journal

Embracing Retail Analytics for a Competitive Edge

Retailers and brands are harnessing the power of retail analytics to extract valuable insights from customer data, driving efficiency, informed decision-making, and a deeper understanding of evolving consumer behavior

Revolutionizing Retail with Data-Driven Customer Analytics

- According to Emplifi, retailers are facing a significant challenge due to poor customer service experiences, with 5 out of every 10 customers leaving a brand as a result
- Retailers are integrating AI, ML, and predictive analytics to gain insights into customer behavior and make informed decisions
- As outlined in a 2023 white paper sponsored by Emplifi and referencing IDC, 77% of brands consider customer experience to be a vital factor in setting themselves apart competitively
- The estimated cost of new customer acquisition is 5 to 25 times higher than that of customer retention. Thus, retailers are focusing on retaining existing customers
- Leading retailers such as Amazon, Nordstrom, and Sephora have embraced data analytics to enhance customer-centricity
  - Amazon offers personalized recommendations and dynamic pricing
  - Nordstrom personalizes shopping experiences through purchase history and preferences
  - Sephora uses facial recognition for tailored product suggestions
- Additionally, analytics tools help retailers comprehend customer motivations, behavior, and needs in order to identify new sales and marketing opportunities
- According to a McKinsey report, companies that use customer analytics report 115% higher ROI and 93% higher profits than those that do not

Retailers are focusing on meticulous data analysis to improve partnerships related to supply chains, distribution, and collaboration in order to enhance efficiency

Retailers are now strategically investing in upgrades to their data management systems, enhancing their overall analytical capabilities

Retailers are not only focusing on operational efficiency, but also on customer engagement, using analytics to adapt to consumer needs and behaviors

Companies such as Adobe, Microsoft, SAP, Salesforce, Oracle, and Neustar, are at the forefront of retail analytics, offering various services ranging from predictive modeling to behavior analysis

Looking Ahead:

To maintain competitiveness in an economy where customers wield significant influence, it is imperative for the data-intensive retail sector to embrace the adoption of retail analytics

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1,2 Emplifi
3 Outbound Engine
4 Segment.com
5 McKinsey: The end of shopping's boundaries: Omnichannel personalization

Enhanced Customer Experiences via Location Analytics

Retailers and brands are also embracing location-based intelligence, which proves effective across all stages of the customer journey – from discovery to retention

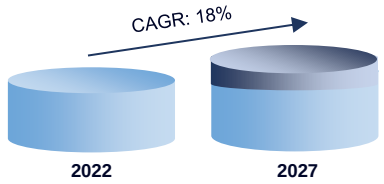
Transformation of Retail through Location Analytics

- Location analytics, a critical aspect of retail analytics, examines geographical or spatial data to uncover patterns, trends, and interactions among various elements within specific locales, such as consumer behavior, traffic movement, and demographic distribution
  - This technique is particularly vital in retail, where sales, customer acquisition, and expansion strategies are closely linked to location. Understanding spatial dynamics is important for the success of businesses
- By leveraging location analytics tools, retailers are utilizing spatial data (geographic data) to understand customer behavior, identify customers' locations, optimize store performance, drive targeted engagement, and offer personalized experiences
  - This focused approach is helping retailers optimize product placements and store layouts as well as formulate more effective marketing campaigns
  - These improvements are not only elevating customer experiences but also increasing ROI, sales, and customer loyalty, thus addressing the operational uniqueness of location analytics in retail
- According to industry experts, the utilization of location intelligence is predicted to experience a surge in demand from 2024 onwards as organizations strive to facilitate rapid decision-making

Leading Location Analytics Technology Providers for Retail

Microsoft, TIBCO, SAP, IBM, GapMaps, alteryx, ORACLE, tomtom, esri, here, HEXAGON, Google

Location Analytics Market Growth in the US [1]



- For instance, in 2022, CARTO introduced **CARTO for Retail [2]**, integrating spatial analytics with BigQuery Machine Learning to offer real-time insights into customer behavior, market trends, and operational efficiency
  - The solution leverages the core principles of spatial analytics to process and analyze location-based data, revealing geographical patterns and trends
  - It enables retailers to utilize geospatial data for improved understanding of customer behavior, regional market dynamics, and the connection between store locations and product performance, thereby improving business strategies and enhancing customer experience

CARTO

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1 Research and Markets: US Location Analytics Industry Outlook to 2027
2 Markets and Markets
3 Carto.com

Utilizing Retail Heatmaps for Analyzing Customer Journey

Retail heatmaps helps retailers in tracking customer movements and interactions, utilizing diverse technologies, and employing advanced algorithms to optimize strategies and enhance store layouts

Use of Retail Heatmaps to Analyze Customer Movement

- The incorporation of location analytics into customer analysis has led to the emergence of a new practice referred to as retail heat mapping. This innovative tool employs advanced technology to monitor and generate visual representations of customer behavior and movement patterns inside a store
  - By analyzing the data captured, retailers gain a more complete perspective of customer foot traffic and product engagement which helps optimize store analytics, refine product placements, and ultimately drive sales growth

Utilizing Heatmap Technology for Enhanced Retail Business Intelligence

- Data for retail heatmaps are gathered through a variety of tracking technologies, such as Wi-Fi, video surveillance, and mobile tracking
- The process of employing in-store heatmap technology for business intelligence involves several steps:
  - Sensors, including infrared and Wi-Fi-enabled devices, monitor the movement of customers, collecting information on their paths, the duration of their stays in specific areas, and their interactions with products
  - This data is then analyzed by sophisticated algorithms, which identify patterns that are crucial for analyzing sales performance
  - The findings are then presented in the form of a heatmap, where varying degrees of color intensity represent different levels of customer foot traffic
- Further, retailers interpret the heatmap to optimize strategies, placing popular products in 'hot' areas and improving underutilized 'cold' sections

- Retailers like Samsonite, ATU Duty Free, and Sephora leverage store heatmaps to analyze in-store shopper activities, experiment with merchandising strategies, and optimize layouts

- Moreover, retail enterprises are taking advantage of website heat maps that enable them to monitor user activity and obtain useful information for refining their online operations
  - By simplifying numerical data, these heatmaps aid in measuring website performance, understanding visitor behavior, identifying friction areas through dead clicks and redundant links, and facilitating strategic changes to boost conversion rates

Rise of Advanced Analytics in Influencing Consumer Engagement

The retail sector is adopting sophisticated analytics solutions, spanning from AI-driven platforms to in-store analytics in order to enhance consumer understanding, tailor shopping experiences, and propel strategic growth in a digitally-focused market

Revolutionizing Retail Analytics by Navigating Consumer Insights and Strategic Growth With AI

- As the retail landscape has evolved, analytics has emerged as a vital trend, bridging the gap between understanding consumer behavior and making strategic business decisions
- Retailers of all sizes are leveraging analytics to decipher customer habits and in-store interactions, using this data to optimize product placement and enhance the shopping experience
  - This strategic utilization of insights extends beyond the present, aiming to anticipate future needs and maintain optimal stock levels through root cause analysis of inventory discrepancies
- This data-driven approach is also transforming distribution strategies, enabling businesses to cater to individual customer preferences with personalized assortments, thereby boosting satisfaction and driving sales
  - For instance, in January 2023, Kepler Analytics introduced a Prescriptive Analytics System aimed at enhancing retail analytics by identifying untapped revenue zones and offering real-time sales enhancement recommendations based on comprehensive traffic and engagement data collected from its in-store sensors
- This holistic application of retail analytics underscores a significant industry trend where data intelligence plays a pivotal role in nurturing customer relationships, optimizing operations, and seizing new market opportunities

Retailers have introduced new analytics solutions, encompassing AI-driven retail analytics tailored for online and brick-and-mortar stores

- August 2023: Publicis Groupe's Profitero unveiled Ask Profitero, an innovative AI-powered iteration of their commerce analytics software, representing a pioneering use of generative AI in retail with potential for significant marketing and business implications
- March 2023: KPMG introduced Dash, an AI-enhanced digital platform for retail analytics aimed at enabling more informed decision-making and delivering a competitive edge
- February 2022: Amazon launched a new solution tailored for brick-and-mortar stores, underscoring the trend of extending digital analytics into physical retail environments to enhance the effectiveness of product placement, promotions, and advertising

1 Retail Dive
2 Adage
3 ERP Today
4 Techcrunch

Utilization of Advanced Technologies for Fraud Detection in Retail

Retailers are embracing methods like predictive analytics and anomaly detection to identify fraudulent activities

Leveraging AI and Predictive Analytics for Advanced Fraud Detection in the Retail Industry

- Retailers around the world are increasingly concerned about the rise of retail fraud, prompting them to seek out innovative solutions such as AI/ML and IoT. Industry research suggests that eCommerce businesses suffer estimated annual losses of up to $48 billion due to fraudulent activities
- To address this issue, many retailers are turning to predictive analytics and anomaly detection as key strategies for early detection and prevention of fraud. By implementing these technologies, retailers can enhance the security of their eCommerce transactions and minimize financial losses

Leveraging Tech Solutions for Retail Fraud Detection

Predictive Analytics

- Retailers are widely adopting predictive analytics to uncover fraudulent activities in customer transactions
  - This enables the analysis of large volumes of customer and transaction data
- Predictive analytics tools utilize historical data to pinpoint potentially suspicious behavior by identifying patterns associated with past instances of fraud, thereby aiding in the prevention of fraudulent activities

Anomaly Detection Through AI/ML

- Anomaly detection involves the use of AI/ML applications to identify deviations in current payment activity by assessing historical data over a specific timeframe
  - Detecting unusual patterns in payment behavior enables retail companies to conduct investigations thus preventing scams

As per the Fraud & Payments Survey 2023, 75% of eCommerce firms plan to boost their budgets for fraud prevention in 2024

- Prominent retailers like Walmart, Stop & Shop, and Home Depot are strengthening their payment and fraud detection systems by integrating AI technologies
  - They are utilizing the power of AI to recognize transaction patterns and evaluate risk according to the unique context of each transaction, thereby enhancing the effectiveness of fraud detection and prevention

- In addition to payment-related fraud, retail fraud encompasses various types such as return fraud, employee theft, shoplifting, price tag switching, and gift card fraud
- To tackle these challenges, retailers are embracing security solutions such as surveillance cameras and point-of-sale systems equipped with advanced fraud detection and prevention features

1 LinkedIn: LayUp Technologies
2 Exploding Topics
3 Emerj

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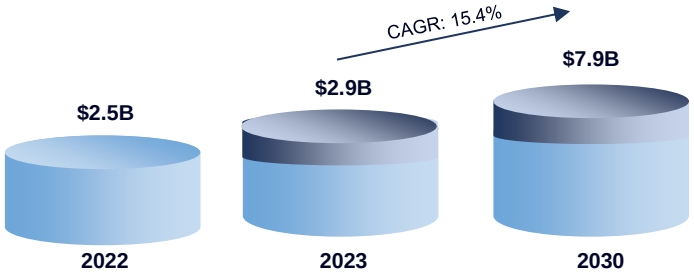
Section 4

Customer Experience Enhancement Subsector

Customer Experience Enhancement in Retail Industry Insight

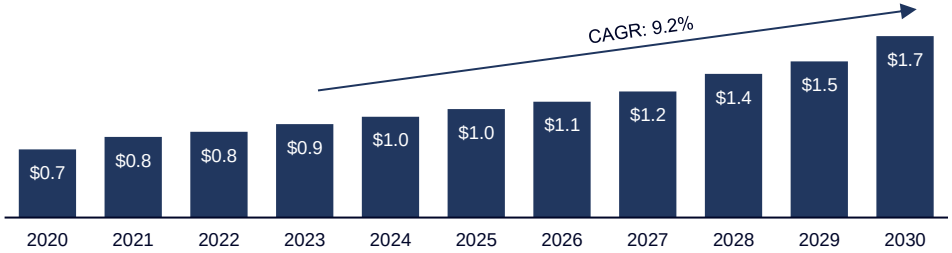
The integration of ML, AI, and IoT in digital collaboration platforms has significantly reduced customer experience management costs, driving increased investments in digital channels

Global Customer Experience Enhancement in Retail, Market Size and Forecast ($B)*



- In 2022, the global market size for customer experience management reached $2.5 billion, with an anticipated CAGR of 15.4% from 2023 to 2030
- This growth is fueled by the increasing importance of comprehending customer behavior and preferences
- Brands and organizations are adopting customer experience strategies, including consistent communication, engagement, long-term program development, and automation to deliver optimal real-time service performance to customers
- The growing adoption of digital technology tools is poised to drive digital transformation and optimization in both established and emerging businesses

US Customer Experience Enhancement in Retail, Market Size and Forecast ($B)*



- As organizations increasingly enhance customer experience through digital collaboration platforms and tools, the swift integration of technologies such as ML, AI, and IoT has led to a significant decrease in costs associated with customer experience management
  - Experts in the industry propose that organizations based in the US are boosting their investments in digital channels and marketing, thereby fueling the expansion of the Customer Experience Management (CEM) market in the country
- Moreover, social media is emerging as a valuable channel for enterprises to collect feedback, seek product reviews, and enhance brand awareness
  - Emerging solutions such as social middleware and solutions for social media management, monitoring, and measurement are empowering enterprises to increase customer engagement and brand visibility
  - Aggressive spending by US-based enterprises on digital channels such as Salesforce and Adobe's solutions for creating social media campaigns and building online brand communities are further driving market growth

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1 Grand View Research; Note: The market size encompasses the Customer Experience Management Segment size for the retail Industry (as the end-user industry or application industry), attributed to limited data availability and accuracy. It encompasses all the functions of Customer Experience Enhancement in Retail Industry

Recent Developments in Customer Enhancement Management (CEM)

In 2023, various companies had unveiled notable advancements in the CEM sector

Notable Developments in the CEM Industry: Innovations in the CEM Market in 2023

November 2023: SAS announced a collaboration with AWS, a cloud computing giant, to enhance CEM through SAS Customer Intelligence 360, which is available on AWS Marketplace

June 2023: **Adobe** unveiled new advancements in the Adobe Experience Cloud, Adobe Experience Manager, Adobe Mix Modeler, Adobe Journey Optimizer, and Adobe Real-Time Customer Data Platform as well as announced the accessibility of Adobe Product Analytics for enterprise customers

June 2023: **Avaya**, a global leader in customer experience solutions, announced that it has rebranded Avaya Professional Services as Avaya Customer Experience Services (ACES). The new upgraded solution now integrates AI, cloud, and other digital technologies to deliver enhanced business outcomes for consumers

May 2023: **Genesys**, a global leader in cloud-based experience orchestration solutions, unveiled the Genesys Cloud EX solution aimed at enhancing employee engagement, performance, and trust through AI-powered workforce management. This solution offers various tools for onboarding, training, and performance management, ultimately leading to an improved customer experience

May 2023: **Medallia,** a leader in customer and employee experience, announced a strategic partnership with Cresta and expanded its integrations with companies, including, Five9 and LivePerson. These partnerships are aimed at further strengthening the company's conversational AI technologies used for real-time customer support by chatbots

May 2023: **Oracle** and Prada collaborated to deploy cloud-based retail solutions, merging physical and digital offerings for an enhanced customer experience. The partnership utilizes data for personalized customer engagement and optimizes merchandising processes, fostering loyalty and better custom experiences

April 2023: **OpenText** has launched OpenText Cloud Editions (CE) 23.2, which features around 75,000 innovations designed to support customers in accelerating their cloud-focused digital transformation efforts

1 Sas.com
2 Adobe.com
3 Avaya.com
4 PR Newswire
5 Medallia.com
6 Oracle.com
7 Opentext.com

Embracing Social Channels for Customer Satisfaction

Brands and retailers are at the forefront of the shopping revolution, strategically embracing social channels and advanced technologies to meet and exceed the evolving expectations of connected customers

The Rise of Social Commerce and Enhanced Consumer Experiences

- Leading brands are adapting to customer behavior shifting towards shopping and engagement by leveraging social media capabilities, as well as various technological advancements, to enrich the overall customer experience
- In the US, around 36% of internet users participated in social buying in 2023, primarily on platforms like TikTok, Instagram, and Meta. This drives the US social commerce sector which is expected to reach a market value of $100 billion by 2025
  - Social retail engages customers on platforms where they already socialize and shop, blending the physical and digital realms
  - For instance, Nike is utilizing Instagram and TikTok to facilitate direct sales through Instagram Checkout and TikTok's shoppable ads, exemplifying the integration of social media and commerce

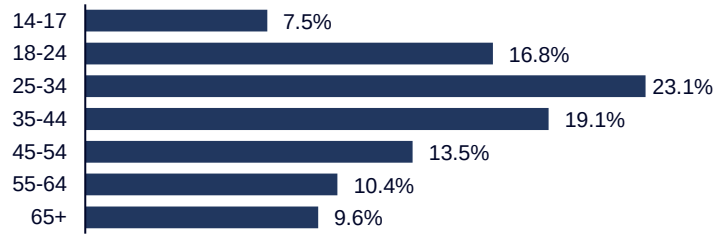
Facebook is projected to lead in the US social commerce space with 64.6 million buyers by 2024, while Instagram is expected to have 46.8 million social buyers, as per eMarketer's September 2023 forecast [1]

Live Shopping

- A new trend in the social commerce sector is **live shopping** which offers an immersive experience that allows customers to watch and shop simultaneously
  - By leveraging livestreaming, retailers engage more deeply with their audience, customizing the experience and focusing on a targeted audience

- Nike's Jordan brand has introduced a new fashion collection for Snapchat users, enabling them to outfit their Bitmoji avatars in Jordan apparel, merging virtual and in-person shopping experiences
  - This strategy not only celebrates users' personal style, but also extends the reach of Jordan's latest clothing line, fostering interactive customer engagement

US Social Buyer Share, By Age, 2023 (% of Total Buyers) [2]



McKinsey predicts that live commerce sales could represent 10 to 20% of all eCommerce by 2026, highlighting the significance of these emerging shopping methods

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1 Mintel
2 Statista
3 Insider Intelligence
4 Retail Dive
5 McKinsey

Leveraging AI to Adapt to Modern customer Behavior

Retailers and brands are harnessing technology and AI to address modern customer behaviors, innovating with AR/VR and live shopping experiences

Navigating the Future with AI, VR, and Enhanced Customer Experiences

- With a high degree of influence from modern social media, coupled with growing customer awareness about prevailing trends and patterns, a significant proportion (53%) of consumers have expressed the importance of ensuring that the quality of their experience is commensurate with the quality of the products or services being offered
- Consequently, customer experience enhancements are continually evolving by incorporate technological advancements to better align with customer preferences. Hence, the use of technologies such as AI/ML and AR/VR have shifted from just a conceptual idea to a tangible and integral part of customer-business interactions, thereby enhancing the overall customer experience

Conversation Intelligence (CI) and AI

- Conversation Intelligence (CI), an emerging concept that involves the use of AI software to analyze conversations and extract valuable insights, is being used for more personalized interactions to enhance customers shopping experience
- CI delves into customer sentiment, needs, and preferences. The human-like interaction features of AI, which have been critical for some time now, serve as a bridge for optimized AI analytics

- For instance, Walmart has introduced "Ask Sam“, an AI tool aimed at improving store employee efficiency and scheduling customer service
- With over two million employees using the app, there has been a noticeable improvement in company’s productivity
- Further, the app integrates voice assistance and Text-to-Shop features, allowing customers to find items easily and complete shopping with minimal effort

Walmart

AR/VR and Live Shopping

- In response to the dynamic needs of modern customers, who often juggle multiple activities, retailers are integrating AR and VR to provide immersive shopping experiences that cater to both familiar and emerging channels
  - For instance, IKEA leads in this domain with its VR Kitchen Experience, allowing customers to design and walk through their kitchen in a virtual setting before deciding to purchase

Brands Using Virtual Try-On Technology to Drive Sales

L'ORÉAL

Ray-Ban

BAUME & MERCIER GENEVE

MARC JACOBS

SEPHORA

According to a study by IHL Group, retailers implementing AI and ML outperformed competitors in 2023, with a 2.3x increase in sales and 2.5x in profits, a trend expected to continue in 2024

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1 VentureBeat
2 Retail Dive
3 Study by IHL Group

Improvements in Shopping Experiences through Hyper-Personalization

By leveraging customer data and AI-powered algorithms, retailers are offering personalized product recommendations, targeted promotions, and tailored shopping experiences

Use of Hyper-Personalization Services to Elevate Customer Experiences

- Customers' evolving behavior and expectations, attributed to increased access to information, shifts in demographics, and changes in lifestyle, are closely tied to growing demands for personalized and convenient shopping experiences on both digital and physical channels
  - Industry research reveals that in 2023, 62% of consumers in US demanded personalized online shopping experiences and 80% showed a higher propensity to purchase from companies that provide personalized experiences [1]
- Therefore, brands are utilizing ML and AI algorithms to a greater extent, exploring technologies like smart mirrors and image tagging/recognition to further analyze customers' browsing patterns and purchase histories, thereby providing personalized product recommendations that enhance overall customer satisfaction

Smart Mirrors

- Smart mirrors have revolutionized retail by blending VR with traditional shopping, creating virtual fitting rooms, and using AR to enhance engagement, sales, and loyalty
  - These are seamlessly integrated with the store environment, providing a personalized experience while accessing an extended inventory
  - Smart mirrors use AI and IoT to collect data for personalized recommendations
- **Coach and Mugler Fragrances** are among the retailers using AR in smart mirrors to enhance visual merchandising and customer experience

COACH

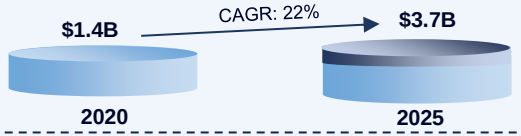
In June 2023, Coach partnered with ZERO10 to offer an in-store AR experience, allowing customers to try on digital bags with unique effects and share their looks via the ZERO10 app

MUGLER

In May 2023, Mugler Fragrances, in collaboration with creative studio Fondamentale, used FFFACE.ME's AR Mirror technology to give visitors a digitally enhanced constellation overlay to their appearance when they tried the new Angel Elixir fragrance

Image Tagging and Recognition

Global Image Recognition in Retail Market Size and Growth [2]



- Image tagging and recognition is the process of identifying and labeling content within images using AI, thereby facilitating easier search and image organization
- By utilizing this technique, brands are offering hyper-personalized product recommendations based on individuals' preferences and browsing behavior
  - Integral to this process is the visual search function, which leverages image recognition to ensure accurate product tagging, thereby simplifying the online shopping experience and enhancing the relevance of search results

Amazon has revolutionized product searches with "StyleSnap," a visual search feature within the Alexa app. StyleSnap allows users to upload photos and receive AI-driven recommendations, significantly enhancing search relevance and user experience

1 Zippia Research: Personalization Statistics
2 Vogue Business
3 Adweek
4 Markets and Markets: Global Image Recognition in Retail Market by Technology

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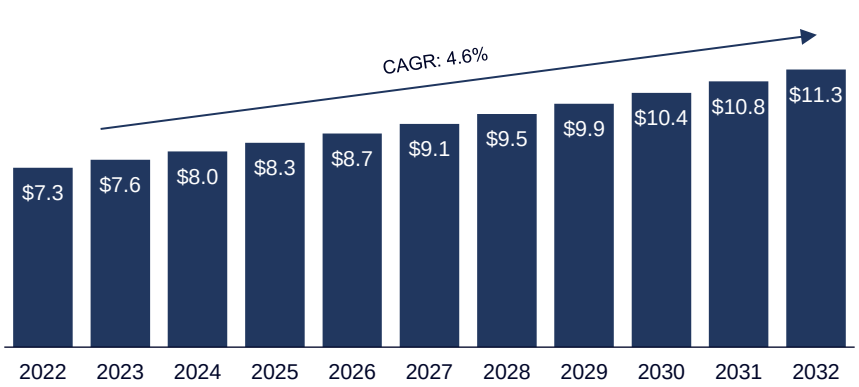
Section 5

eCommerce Enablement Subsector

eCommerce Enablement Industry Insights

The future of eCommerce enablement is expected to integrate AI/ML and AR/VR in order to enhance online shopping experiences and improve competitiveness for brands and retailers

Global eCommerce Enablement Market Size & Forecast ($B)[1]



- In 2022, the revenue produced by eCommerce enablement solutions, encompassing storefront and site creation tools, inventory management and fulfillment, payment services, customer service, relationship management, loyalty, marketing and sales effectiveness and back-end solutions amounted to $7.3 billion
  - Projections anticipate a rise to $8.7 billion by 2026 and further to $11.3 billion by 2032, exhibiting a CAGR of 4.6% from 2023 to 2032

eCommerce Enablement Market Overview

- The progress in facilitating eCommerce has opened up fresh possibilities for businesses to flourish in the digital era
  - In 2022, the funding for eCommerce enablement companies exceeded $11 billion due to a rising influx of vendors joining the market
  - Forecasts indicate that eCommerce is poised to constitute more than 20.8% of total retail sales by 2023, and this upward trend is expected to persist
- Consequently, companies that make investments in eCommerce enablement are strategically positioned for success in the forthcoming years

Challenges Despite Growth

- Despite advancements in eCommerce, brands and retailers grapple with challenges in supply chain management, logistics, and customer experience. Efficient product delivery, international shipping costs, and seamless online shopping are key concerns
  - The competitive eCommerce enablement landscape necessitates differentiation through marketing, branding, and unique product features

Market Outlook

- The future of eCommerce enablement is expected to be propelled by a blend of ML, AR/VR, generative AI and other innovative technologies that have the capability to enhance online shopping, making it more convenient, personalized, and secure
  - Through the utilization of these technologies, brands and retailers can elevate the online shopping journey, boost sales, and maintain a competitive edge in the rapidly evolving era of eCommerce

1 Activate Technology and Media Outlook 2023
2 Lengow Blog
3 ASO World: 2023 Global eCommerce Statistics

Use of Chatbots to Transform eCommerce Customer Experience

The rise of eCommerce has made chatbots a crucial aspect of the retail industry, transforming customer interactions and boosting engagement to unprecedented levels

Use of Chatbots in eCommerce

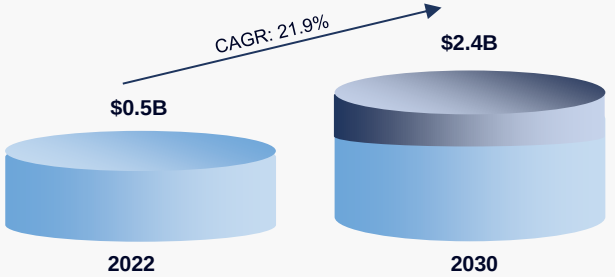
- As eCommerce continues to grow exponentially, chatbots are emerging as pivotal tools for enhancing customer experiences and driving user engagement and retention
  - These AI-driven assistants have transitioned from optional features to indispensable components within the strategic frameworks of service organizations and online businesses
- Advancements in AI and Natural Language Processing (NLP) are fueling the evolution of eCommerce chatbot capabilities
  - By leveraging advanced AI and NLP capabilities, chatbots accurately understand user input and personalize interactions while offering relevant recommendations and meaningful support for purchase decisions, thereby enhancing the flow of conversations and creating engaging experiences
    - According to research reports, advancements in NLP capabilities will significantly enhance the efficacy of chatbots. In 2024, chatbots are expected to fully handle over 50% of conversations in the retail space without requiring human intervention
- Industry studies indicate that AI-powered chatbots bring numerous benefits to both customers and retailers alike

7-25% ↑ Chatbots have the potential to elevate eCommerce earnings by 7-25%, making a substantial impact on total sales [3]

of online retail patrons are receptive to chatbot support [4]

of all interactions between businesses and consumers involve chatbots [5]

North America Chatbots in Retail and eCommerce Market Size and Growth[2]



- AI-powered chatbots enhance customer experiences while driving cost savings and improving CSAT scores for eCommerce platforms [1]
  - H&M, a fashion retailer, utilizes an AI-powered chatbot on the Kik messaging platform to engage customers and facilitate direct purchases within the chat, reducing the need for human intervention and enhancing overall customer satisfaction
  - Sephora, a beauty retailer, employs its 'Virtual Artist' chatbot to provide customers with a highly personalized and engaging shopping experience by offering fast product recommendations and makeup advice

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1 AIMultiple Research
2 AtomixWeb
3 Invesp
4 Comm100
5 Grand View Research
6 CSAT Score: Customer Satisfaction Score
7 Faster Capital

Note: The estimation of the North America chatbot market in the retail sector is determined by taking into account the proportion of retail and eCommerce within the larger North America chatbot market, due to data limitation

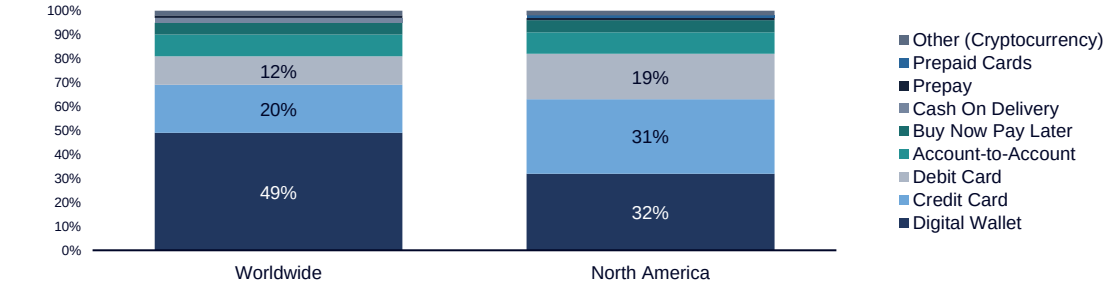
eCommerce Payment Ecosystems

eCommerce payment landscape undergoes substantial evolution as digital wallets claim 49% of the global market share and 32% in North America

Evolution of the eCommerce Payment Ecosystems

- The eCommerce payment landscape has evolved significantly, driven by technological advancements and constantly changing consumer preferences
- Digital wallets accounted for 49% of the market share of payment methods in total eCommerce globally and 32% in North America
- Online retailers need to remain agile and adapt to payment trends such as the following to thrive in the competitive eCommerce space

Market Share of Payment Methods in Total eCommerce [1]



Use of Biometric Authentication

Enhanced security measures, such as biometric authentication (fingerprints, facial recognition, etc.), are becoming increasingly common, providing a secure and user-friendly payment experience. Amazon has introduced a "pay-by-palm" technology, enabling customers to make purchases by scanning their palms on a point-of-sale (POS) device at select Whole Foods stores

amazon

Adoption of Tap-to-Pay and Digital Wallets

Customers are adopting contactless payment options, including tap-to-pay credit cards and mobile wallets such as Apple Pay, Google Pay, and PayPal

Frictionless Checkout

Businesses are prioritizing frictionless checkout by leveraging **advanced POS systems** with RFID, NFC, and QR code technologies. The focus is on reducing wait times and simplifying payments to create a seamless journey for customers from product selection to payment

Pay G Pay PayPal

Voice Commerce

With the rise of virtual assistants and smart speakers, voice-activated payments are gaining traction, allowing customers to make purchases using voice commands. When consumers initiate purchase queries, their voice assistants use Natural Language Processing (NLP) and AI to understand their commands and direct them to the most pertinent product pages. To complete the purchase, customers may need to authenticate their stored payment card or method before initiating the voice payment, ensuring both convenience and security in the process

1 Statista
2 CNBC

Revamping the Autonomous Check-Out Systems

Retailers are blending conventional self-checkout kiosks with autonomous checkout systems, adjusting to customer desires for both familiarity and convenience during their shopping journey

Scaling Back on Fully Autonomous Checkout and Integrating it with Traditional Self-Checkout Kiosks

- The retail sector is witnessing a decline in autonomous checkout, as evidenced by the model adopted by Amazon Go. Amazon's recent decision to shut down several Amazon Go convenience stores is a component of its overarching strategy to streamline physical retail operations and cut costs
  - The challenges linked with autonomous checkout technology, such as increased merchandise losses from customer errors and theft, scanning difficulties for certain items, and the necessity for heightened security measures, have prompted retailers like Amazon to reassess the merits of autonomous checkout and re-prioritize customer experience through staffed checkout lanes
- On the other hand, customer frustrations with self-checkout persist, including issues like produce scanning errors, unclear instructions, and complications with alcohol purchases
  - In response, retailers such as Walmart, Costco, and Wegmans are reevaluating their self-checkout approaches. They are increasingly striving to strike a balance between the convenience of self-checkout and the necessity for human interaction and security measures to minimize losses and enhance the overall customer experience
- This recalibration of checkout strategies has brought attention to integrate traditional self-checkout kiosks with autonomous systems as exemplified in the latest **Amazon's Just Walk Out** technology**.** This approach acknowledges consumer discomfort with fully autonomous stores and the operational challenges of traditional self-checkouts, which often necessitate manual oversight and increased staffing

Amazon Go Store powered by Amazon's Just Walk Out Shopping	**1. Enter at Gate**	**2. Shop**	**3. Walk Out**
	Use the Amazon app, a credit card, or Amazon One at select locations to open an entry gate and immediately start shopping	Customers can pick up and put back items as they please. They can use their own bag, or one provided by the store as they shop	When finished, walk through an exit gate. Customers will only be charged for items taken out of the store

- Amazon Fresh's introduction of traditional self-checkout kiosks in addition to its existing frictionless checkout system at its London store in September 2023 reflects this trend, recognizing consumer preferences for familiar checkout methods amid the leap to fully autonomous systems
  - This hybrid model is emerging in response to feedback from consumers who are not yet comfortable with fully autonomous shopping and prefer more familiar checkout options

1 Amazon.com
2 PYMNTS

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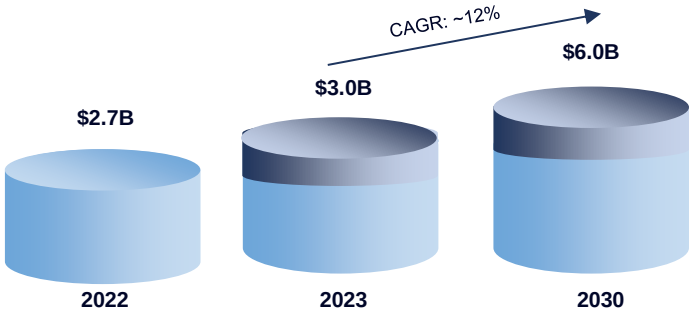
Section 6

Retail Operations Management Subsector

Retail Operations Management Industry Insight

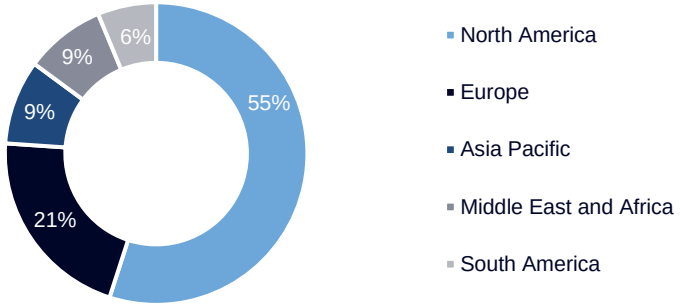
The global retail management software market will witness steady growth through 2030, driven by factors such as the need for unified front-end and back-end operations, enhanced data security, and customizable POS systems

Global Retail Management Software, Market Size & Forecast ($B) [1]



- In 2022, the global retail management systems software market was valued at $2.7 billion, and is estimated to grow at a CAGR of ~12% between 2023 to 2030 [2]
- The growth in the market is being driven by retailers increasing demand for unified platforms to handle inventory management, billing management, customer relationship management, enterprise resource planning, and centralized warehouse operations
- Retailers also have a key focus on omnichannel retailing with retail management systems helping to ensure product availability across all channels and prevent stockouts while maintaining optimum inventory levels
- Rising concerns around data security for maintaining customer and retailer privacy is another key factor contributing to the growth of retail management systems. These systems also offer customizable POS and dynamic product pricing and promotions, which are the other key factors driving their adoption

Regional Market Size (2022) and Forecast [3]



- In 2022 North America held the largest share at ~55%, followed by Europe, which accounts for ~21% of the global market for retail management systems
- North America is also witnessing a steady influx of partnerships within this space, which is further contributing to the growth of the market in the region. Examples include:
  - November 2023: Partnership between Canadian Retail Solutions (CRS) and Priority Software to develop omnichannel commerce platforms to integrate ERP, POS, and retail management capabilities
  - May 2023: Partnership between Retail Pro International and Ayden to enhance POS capabilities, leading to a unified customer shopping experience across all channels
- Continuing until 2030, North America will continue to be the largest contributor to the market, owing to the high demand of cloud-based retail solutions and omni-channel retail operations in the region, coupled with the adoption of AI, automation, and analytics within retail operations

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1 Maximize Market research
2 Retail Insight Network
3 Retail Pro

Adoption of Retail Shelf Intelligence Tools

Retail shelf intelligence tools are being adopted by companies to achieve optimized replenishment processes, prevent stock-outs, improve store layouts, and drive higher ROI – the US is seeing a steady influx of partnerships in this space

Shelf Intelligence Tools Transforming Replenishment and Layout Strategies in Retail Operations

- Adoption of shelf intelligence tools is on the rise as it is helping retailers in maintaining the on-shelf availability of products and mitigating stock outs while developing pricing and promotion strategies and measuring brand performance vs. category competitors
- Retail shelf intelligence using computer vision involves real-time monitoring of shelves with cameras and image processing tools – the images of front-end products are captured, and the image processing tool analyzes images from video, maintains product count and issues alerts to the store manager for restocking
  - These computer vision-based retail shelf intelligence tools can also identify the effective placement of products within a store, thus, helping in creating optimized planograms which can be used for performing shelf audits to identify missing items
- Retail shelf monitoring and planograms performed manually (i.e., store employees physically checking items and maintaining count) can be time consuming with high labor costs and errors – retail shelf intelligence overcomes these challenges
- The retail industry is experiencing increasing demand for these shelf intelligence tools which has led to the launch of several solutions such as Omnichannel Intelligence Module by Engage3 and an AI-based shelf intelligence tool by Google

Key Players

Pensa

trax

chooch

SymphonyAI

Examples of Computer Vision-based Retail Shelf Intelligence

- Pensa System's automated retail shelf intelligence solution utilizes computer vision to ingest video streams, which contain multiple images (more than 100 on an average) of each shelf item from different angles
  - The solution then leverages AI to identify restocking patterns and if products are in the right place, running low or out of stock
- Trax's Perfect Store solution leverages computer vision to analyze images captured from shelves and analyze the availability percentage of various SKUs. It can also be combined with POS data to drive effective sales strategy in stores

Key Partnerships in Retail Shelf Intelligence

- February 2023: Analytic Index announced a partnership with Skai to provide digital shelf intelligence on ecommerce platforms such as Amazon, Walmart, Target, and Kroger
  - This will help retailers improve performance by leveraging performance data, competitive intelligence, and category insights
- March 2022: Pensa Systems partnered with Blue Yonder to combine retail shelf intelligence with category management solutions to help retailers improve planograms, assortment plans, store layouts, and forecast accuracy

1 Pensa.com
2 Traxretail.com
3 PR Newswire
4 Globe Newswire

Growth Drivers for Retail Management Software

High demand for omni-channel retail operations, cloud-based retail solutions, and analytics is driving the overall adoption of retail management software

Underlying Factors of Adoption

Omnichannel Retail Operations

- The adoption of retail management software is increasing, driven by the high demand for omnichannel retail operations, which helps in providing a seamless and efficient customer experience
- Retailers require a unified view of their operations and customers across physical and online channels – this is being enabled by omnichannel retail management software and tools
- These systems allow retailers to manage their physical stores, online stores, and mobile app operations in one platform, providing a unified view of their customer data and operations

Cloud-Based Solutions

- The growing need for cost optimization, scalability and better data security is leading to the adoption of cloud-based solutions by retailers for managing back-end operations efficiently
- This is driving the demand for cloud-based retail management systems that help retailers with real-time tracking of inventory down to the SKU or barcode levels, devising new warehouse locations, tracking on-the-move pallets, containers or delivery vehicles, and minimizing recurring delays
- Cloud-based systems are also helping retailers cut down on infrastructure costs, which is leading to more efficient retail operations

Advanced Analytical Capabilities

- Retailers are seeing an increased demand for advanced analytics and predictive capabilities, fueling adoption of retail management systems
- Retail management systems with advanced analytical capabilities are helping retailers improve picking rates by optimizing product placement in warehouses. It is also helping retailers with predictive picking, wherein businesses can initiate order fulfilment and anticipate demand surge [1]
- Additionally, retailers are utilizing advanced analytical capabilities to manage demand forecasts and just-in-time inventory replenishment, while receiving real-time updates on supplies and shipments

1 Verified Market Reports
2 Tool Sense

Enhanced Efficiency Through Advanced Demand Forecasting

With the growing shift towards omni-channel shopping, retailers are enhancing efficiency by improving demand forecasting for better retail operations

Enhancing Omnichannel Retail Efficiency Through AI-Driven Demand Forecasting

- Retailers are using AI-driven demand forecasting to maintain optimal inventory levels, crucial for omnichannel retailing, which includes both online and physical stores. This approach helps to mitigate the risk of overstocking or stockouts, thereby enhancing profit margins
- By employing advanced forecasting tools, omnichannel retailers can avoid inventory misallocation. Accurate demand predictions are vital for this, as they support supply chain cost savings by reducing excess inventory, thus improving gross margin return on investment (GMROI)

Revolutionizing Retail Demand Forecasting Through AI

- AI in supply chain management significantly reduces forecasting errors
- Retailers using AI have reported up to a 50% reduction in errors, resulting in potential profit increases of up to 65% due to improved product availability [1]
- Retailers employ AI and ML to respond swiftly to market fluctuations, especially during global events like the pandemic, ensuring real-time adaptability
- AI-driven demand forecasting enhances customer experiences by predicting preferences in real-time
  - This integration of AI leads to reduced stockouts, better inventory optimization, and improved operational efficiency for retailers
- In 2023, AI-driven demand forecasting was shown to reduce stockouts by 15% and increase inventory level optimization by 20%

Cases: AI in Retail Demand Forecasting

- Nestle significantly improved its operations by adopting TradeEdge Demand Sensing technology in 2022
- This move enabled the company to identify and capitalize on $200 million in opportunities for cross-selling and upselling, thereby enhancing the effectiveness of its sales planning and the efficiency of its supply chain

Nestlé

- Simons, a Canadian apparel company, improved sales estimate accuracy by 40% after adopting AI technologies, resulting in notable operational cost savings

simons

- Amazon's use of AI technologies for personalized customer experiences has significantly impacted customer satisfaction and loyalty, adapting product recommendations based on individual customer data

amazon

1 McKinsey & Company
2 LinkedIn
3 Trade Edge
4 Thou Sense

Enhancing Accuracy in Inventory Management

In response to the emerging trend of AI-driven demand forecasting, retailers are furthering their commitment to overall efficiency by focusing on accurate inventory tracking

Retailers Prioritize Overall Efficiency by Emphasizing Precise Inventory Tracking

- Combined with demand forecasting models, AI algorithms are being used to plan inventory reductions and increases according to forecasted changes in demand which can reduce operational costs
  - Inventory accuracy makes demand forecasting easy and reduces operational overhead while helping avoid stockouts and overstocking

Improving Inventory Accuracy Systems Aid in Retail Operations Management

- In the omni-channel retail era, consumers expect real-time online inventory checks before visiting stores. Retailers need to adeptly track and predict in-store and click-and-collect sales to ensure accurate and available inventory levels
- To guarantee the accuracy of inventory systems, AI-powered software is playing crucial role in assisting retail operations managers in making informed choices regarding stock orders and maintaining optimal inventory levels

Auto-replenishment: Auto-replenishment automates the process of ordering additional stock when inventory reaches a predefined threshold

RFID Technology: The introduction of RFID technology significantly improves inventory tracking accuracy by allowing quick and efficient data gathering about items on the shelves. It could improve inventory accuracy to ~93-99%

Automation with Drones and Robots: Some stores are experimenting with drones and self-guided robots for inventory management. These technologies not only assist in tracking inventory but also help in maintaining proper shelf placement and orientation of products

Autonomous retail robots not only excel in inventory management but also enhance store operations by ensuring promotional displays, reducing audit penalties, and promoting safety through hazard monitoring, freeing employees for other value-added tasks

- In June 2023, PacSun, the apparel brand, initiated an RFID pilot in three of its stores
- The objective was to enhance inventory accuracy, ultimately reducing the frequency of split shipments
- Co-CEO Michael Relich noted that he observed an industry-wide average of 70% inventory accuracy in stores and an average of 1.5 packages shipped per order for omnichannel retailers
- As of 2024, this development continues to positively impact PacSun's operations

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Section 7

M&A and Capital Raise Transactions

Select Retail Technology M&A Transactions

Acquisition multiples reflect scale, business models, growth and scarcity value – premium multiples are typically paid for large platforms with recurring revenue, strong growth and unique technology

	Dec 2023	Dec 2023	Sep 2023	May 2023	Mar 2023	Feb 2023	Jan 2023	
Selected Market Activity	alteryx *Acquired by* CLEARLAKE	granify [1] *Acquired by* bazaarvoice	TIE KINETIX *Acquired by* SPS COMMERCE	GK *Acquired by* FUJITSU	BERKSHIRE GREY *Acquired by* SoftBank Group	ENVASE *Acquired by* wisetech global	POSHMARK *Acquired by* NAVER	**Median**
Transaction Size	$4.4B	$70M	$76M	$317M	$375M	$230M	$1.4B	***$317M***
Revenue Multiple	4.8x	~7x+	4.7x	2.8x	4.0x	6.6x	3.5x	***4.7x***
Target Description	Provides generative AI-based analytics software to businesses with features for workflow management, data profiling and predictive analysis	Provides AI-based eCommerce contextualization SaaS with features for conversion optimization, personalization and real-time performance measurement	Provides SaaS to companies, governmental institutions, and their suppliers to simplify and automate their supply chain processes	Provides AI-based retail management SaaS with features for loyalty programs, analytics, mobile POS, price management, payment processing and inventory management	Provides enterprise robotic automation systems and AI-based supply chain management SaaS and related APIs to businesses globally	Developer of a trucking & freight operations platform to improve efficiency through dispatch optimization, container tracking and real time analytics	Operates an online social marketplace for apparel and accessories including both new and secondhand products for customers in the US, Canada, Australia, and India	

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Source: Pitchbook Data, 451 Research

[1] Represents the multiple published on 451 Research. Cascadia worked on the Granify transaction and has proprietary knowledge about the actual multiple

Select Retail Technology Capital Raises

Top venture capital and growth equity firms have backed Retail Technology platforms with established product-market fit, a visionary and execution-focused leadership team, and strong growth prospects

	Feb 2024	Jan 2024	Dec 2023	Dec 2023	Nov 2023	Nov 2023	Nov 2023
Selected Market Activity	SENSOS	SIERRA	GreyOrange	copia	zubale	crisp.	XPRESSBEES
Amount Raised	$20M	$85M	$135M	$70M	$25M	$38M	$80M
Investors	JAL VENTURES, Sumitomo Corporation	SEQUOIA	Anthelion	goodwell, ENZA CAPITAL	QED INVESTORS	Target Global, KEEN venture partners	ONTARIO TEACHERS' PENSION PLAN
Target Description	Developer of leading supply chain management platform that features real-time tracking, proactive risk mitigation, and data-driven insights, enabling retailers to streamline operations	Developer of a conversational AI platform that enables companies & brands to consistently elevate their customer experience with by handling customer conversations	Developer of a robotics and AI-driven fulfilment platform designed to empower retailers, warehouse operators and third-party logistics providers to achieve automated, agile and efficient order fulfilment.	Developer of an eCommerce platform designed to transform middle to low-income Africans into empowered global consumers.	Developer of business management software designed to connect brands and retailers with independent workers.	The company's platform ingests and analyzes data from various sources and provides forecasts on food supply and demand, enabling food retailers and suppliers to manage their inventory and reduce food wastage.	Operator of an eCommerce logistics platform intended to fulfill comprehensive supply-demand needs.

Source: Pitchbook Data, 451 Research, S&P Capital IQ

Most Active Strategic Buyers

Strategic M&A: Acquisitions from 2020 – Q4 2023		
Company Name	**# of New Investments**	**New Investments**
DESCARTES	9	greenmile, PLS, kontainers, FOXTROT SYSTEMS, PEOPLEVOX, QuestaWeb,Inc., XPS ship.com, SUPPLY VISION, localz
ASCENTIAL	7	intrepid, perpetua, X TARGET, INTELLIBRAND, OneSpace, sellics, YIMIAN
lightspeed	6	Ecwid, Upserve, NuORDER, vend, SHOPKEEP, GASTROFIX
TRANSPOREON transforming transportation	6	TRACKS, nexogen, SupplyStack, LOGIT ONE, TNX, ControlPay
EPICOR	5	GROW, jmo systems, DecorFusion, CBC COMPUTER SYSTEMS, CITIUS
cart.com	5	AmeriCommerce, 180, cheap! cheap! MOVING BOXES, SellerActive, DataFeedWatch
GrubMarket	4	FARM HOUSE, FUNTECH, novalibra, WaudWare
accenture	4	THE STABLE, BRIDGEi2i, MACGREGOR
project44	4	SYNFIOO, convey, clearmetal, OCEAN INSIGHTS
SAP	4	emarsys, askdata, taulia, AppGyver.

Source: Pitchbook Data, 451 Research

Most Active Private Equity Investors

PE: New Investments from 2020 – Q4 2023		
Company Name	**# of New Investments**	**New Investments**
INSIGHT PARTNERS	14	CADEERA, CommerceHub, channeladvisor, CommerceIQ, FARFETCH, universe, Orbis Tech, ZAIUS, selligent, Optimizely, SwiftIQ, TOTALogistix, trend, SKUPOS
PSG PROVIDENCE STRATEGIC GROWTH	11	assembly, HealthTrio, PipeCandy, PACVUE, Helium 10, timely, reepay, 365, Ad-Lib, SENTRY, INCREASINGLY
TA ASSOCIATES	9	Stackline, priority, aptean, LEADVENTURE, revalize, TOTALogistix, RetailSeft, SKUPOS, trend
AKKR	7	TrueCommerce, KALERIS, teamcore, toolsgroup, VENDAVO, onera, evo
MARLIN EQUITY PARTNERS	6	LINNWORKS, CURALATE, unifaun, vergic, discover.ai, netRivals
Advent International GLOBAL PRIVATE EQUITY	5	CiVALUE, foxintelligence, dataimpact, Rakuten, NielsenIQ
CLAYTON DUBILIER & RICE	4	EPICOR, jmo systems, GROW, cbc computers.com
WARBURG PINCUS	4	SPINS, moloni, Soluciones online, sage
Great Hill PARTNERS	3	BLUE RIDGE, prodege, Goldstar
SUMMIT PARTNERS	3	CHEETAH, WALLEX, CLEARTRACK

CASCADIA

Source: Pitchbook Data, 451 Research
Includes control and growth equity investments above $1M

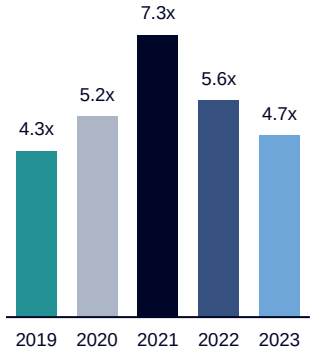
Retail Technology M&A Overview

Retail Technology M&A Activity Overview

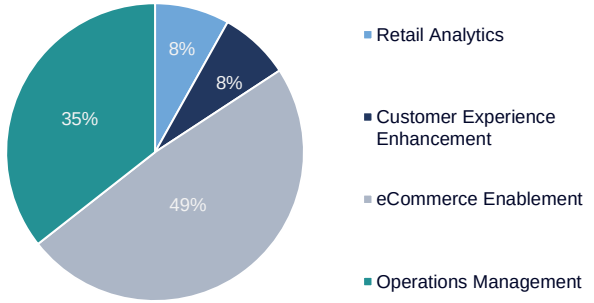
- Retail Technology M&A transaction volume increased slightly in Q4 2023, jumpstarting a new uptrend trend. Transaction volume and M&A multiples remain subdued compared to 2022 levels as economic uncertainty impacts activity and valuations
- Retail Technology M&A transaction volume saw an upward trend, with a 7.3% QoQ increase from Q3 to Q4 of 2023 indicating a promising expansion in the sector
- Notable recent transactions include:
  - Clearlake's $4.4B acquisition of Alteryx in December 2023
  - Bazaarvoice's $70M acquisition of Granify in December 2023
  - SPS Commerce's $76M acquisition of Tie Kinetix in September 2023

Median Multiples by Year

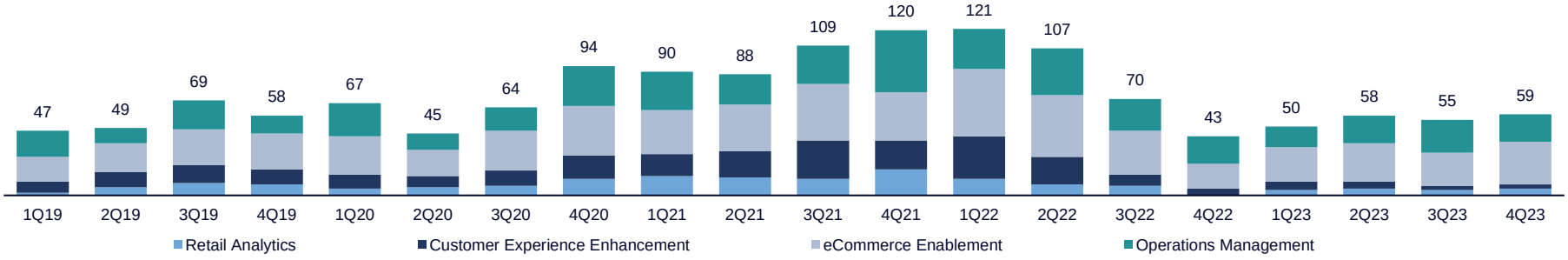
**EV / Rev*



M&A Transactions by Subsector as of 2023



Retail Technology M&A Transactions



CASCADIA

Source: Pitchbook Data, 451 Research
*Data through December 2023

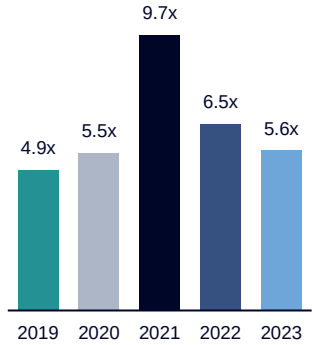
Retail Technology Capital Raise Overview

Retail Technology Fundraising Overview

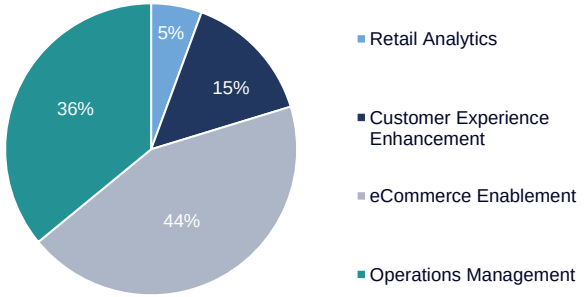
- Retail Technology capital raise transaction volume increased slightly in Q4 2023, concluding a noticeable up-and-down year
- Capital raise multiples have decreased substantially in 2023 and are expected to remain depressed at least through Q1 2024
- Capital raised in the retail technology sector witnessed a significant volume decrease of 38.5% YoY from Q4 2022 to Q4 2023
- Notable recent financings include:
  - Sensos' $20M Series A raise in February 2024
  - Sierra's $85M early-stage raise in January 2024
  - GreyOrange's $135M Series D raise in December 2023
  - Copia Global's $78M Series C raise in December 2023

Median Multiples by Year

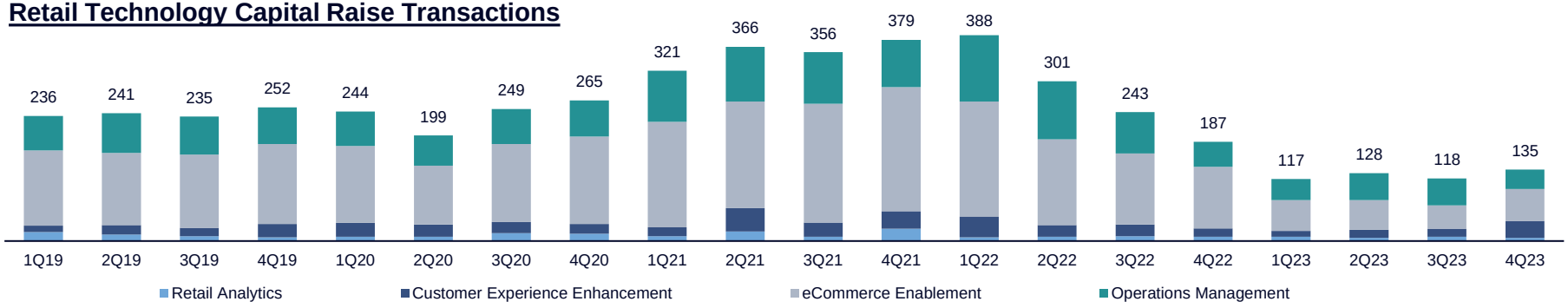
**EV / Rev*



Capital Raises by Subsector as of 2023

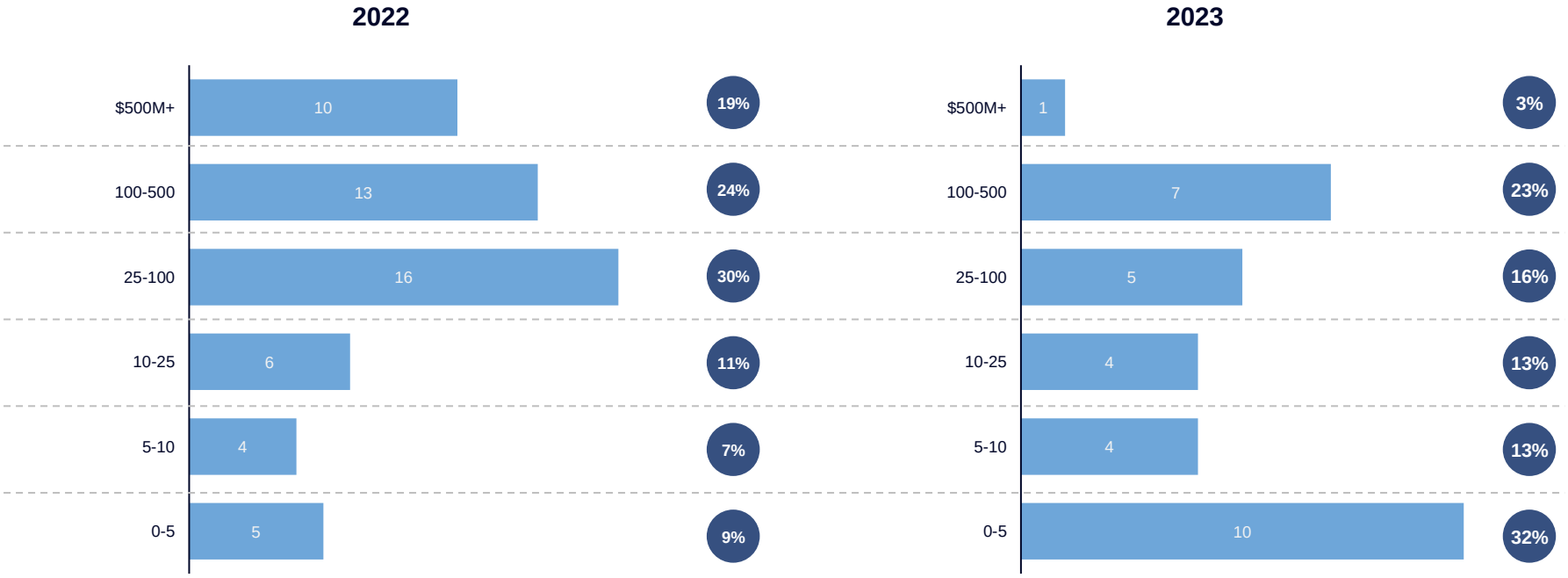


Retail Technology Capital Raise Transactions



Source: Pitchbook Data, 451 Research
Capital raise transactions below $1M are not included
*Data through December 2023

M&A Transactions by Deal Size



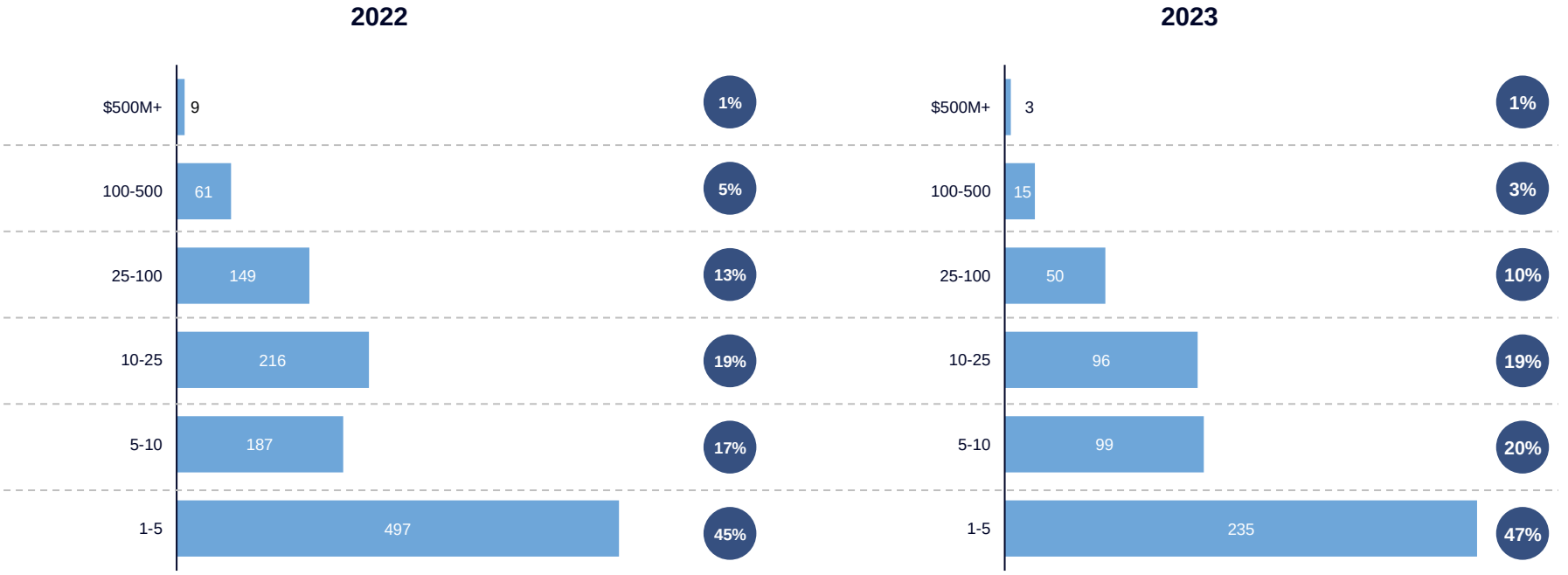
Mean / Median Transaction Size **$634M / $65M**

Mean / Median Transaction Size **$208M / $11M**

CASCADIA

Source: Pitchbook Data, 451 Research; data includes US, Europe, and Asia

Capital Raise Transactions by Deal Size



Mean / Median Transaction Size **$29M / $6M**

Mean / Median Transaction Size **$24M / $5M**

CASCADIA

Source: Pitchbook Data, 451 Research; data includes US, Europe, and Asia
Capital raise transactions below $1M are not included

Retail Analytics Deal Volume

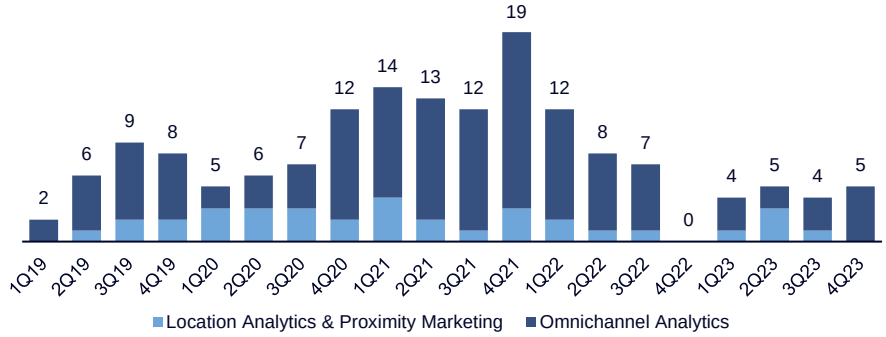
M&A

- M&A deals in the Retail Analytics sector remained relatively flat in Q4 2023, yet continuing to demonstrate a steady rebound from the lows experienced in Q4 2022
- While transaction count continues to be subdued, especially compared to 2021, transaction volumes also consolidated substantially in FY 2023
- Notable recent transactions include Power Digital's acquisition of Endrock Growth and Analytics in December 2023
  - Endrock Growth is a provider of consumer analytics and growth experimentation software for D2C, eCommerce, and Retail
- Notable recent transactions include Teamcore's acquisition of Pabis Retail in November 2023
  - Pabis Retail is a business intelligence platform intended to serve retail businesses by assisting in critical decision-making

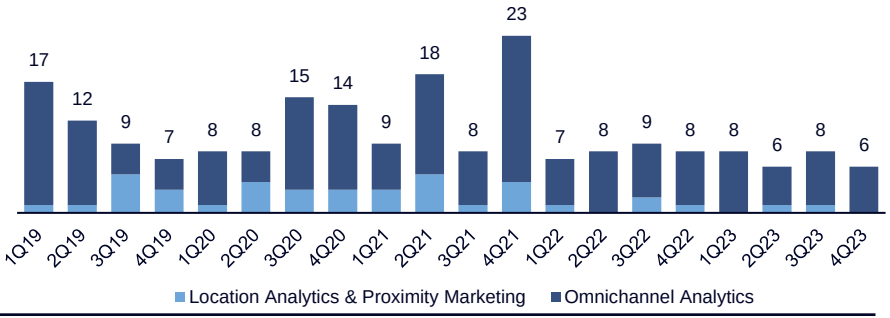
Capital Raise

- Retail Analytics tools have had a slight slowdown in investment interest with transaction volume reverting slightly to levels seen earlier in Q2 2023
- After reaching its peak in 2021, deal activity within Retail Analytics experienced a noticeable decline, which has since stabilized from the start of 2022 onwards
- Notable recent raises include OneLook's $12M Series B raise in December 2023
  - OneLook's is the operator of Lily.AI, an artificial intelligence platform that enables brands and retailers to understand individual customers' emotional context while they shop
- Notable recent raises include Hook's $11M early-stage raise in December 2023
  - Hook is a developer of a customer engagement and analytics software that identifies how likely a customer is to renew or grow their subscription, based on insight into current customer interactions

Top Subsectors by Transaction Count *(2019-2023)*



Top Subsectors by Transaction Count *(2019-2023)*



CASCADIA

Source: Pitchbook Data, 451 Research; data includes US, Europe, and Asia
Capital raise transactions below $1M are not included

Customer Experience Enhancement Deal Volume

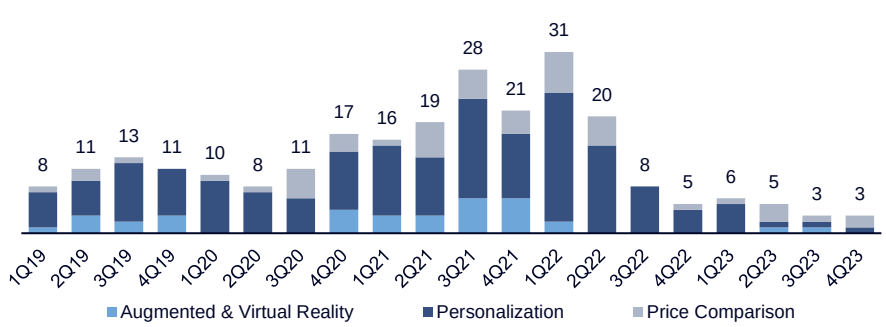
M&A

- M&A deal volume in the Customer Experience Enhancement sector remained steadily low in Q4 2023, continuing to reflect suppressed transaction activity
- Since Q1 2022, there has been a noticeable downward shift in M&A deal volume, a pattern that has continued through Q4 2023
- Notable recent transactions include Nextiva's acquisition of Thrio in January 2024
  - Thrio is a provider of cloud-native and AI-driven contact center software with features for process automation and customer experience management
- Notable recent transactions include Mondee's $6M acquisition of Purplegrids in November 2023
  - Purplegrids is a provider of generative AI-based customer experience management and automation SaaS for US retail businesses

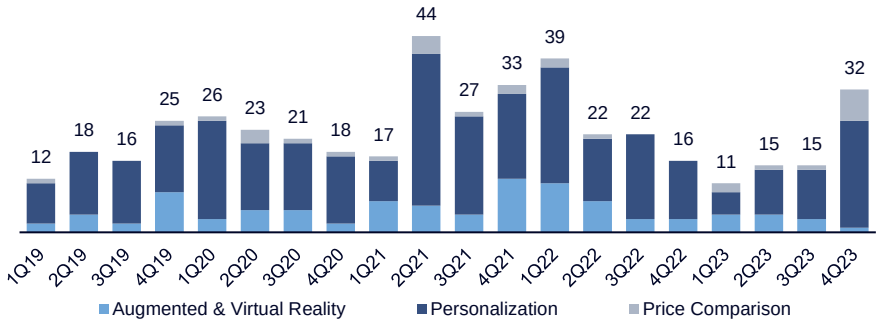
Capital Raise

- Capital raise activity in the Customer Experience Enhancement sector increased significantly in Q4 2023, reversing the stagnant trend from prior quarters
- Capital raise volume surged in Personalization and Price Comparison sectors, while Augmented and Virtual Reality saw a slight decline
- Notable recent transactions include Sierra's $85M early-stage raise in January 2024
  - Sierra is a developer of a conversational AI platform that enables companies to consistently elevate their customer experience
- Notable recent transactions include Evolv AI's $6M Series A raise in December 2023
  - Evolv AI is a developer of an AI-driven optimization and personalization platform designed to serve better experiences that connect with visitors and customers, leading to improvement in the customer journey and subsequent conversions

Top Subsectors by Transaction Count *(2019-2023)*



Top Subsectors by Transaction Count *(2019-2023)*



CASCADIA

Source: Pitchbook Data, 451 Research; data includes US, Europe, and Asia
Capital raise transactions below $1M are not included

eCommerce Enablement Deal Volume

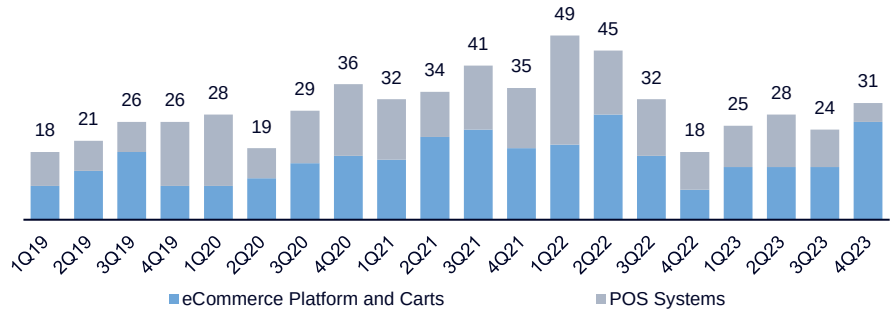
M&A

- M&A deal activity in the eCommerce Enablement sector increased slightly in Q4 2023, signaling a revitalization of the previous upward trend
- Over the past 4 quarters, M&A activity in eCommerce Platforms and Carts has steadily risen, while the POS Systems subsector has witnessed a decline in overall deal volume
- Notable recent transactions include Qoo10's $173M asset acquisition of ContextLogic in February 2024
  - ContextLogic is the operator of Wish, an online eCommerce shopping site for global consumers
- Notable recent transactions include Dover Corporations' $112M acquisition of Bulloch Technologies in January 2024
  - Bulloch Technologies is a leading provider of POS Systems to retail businesses in North America

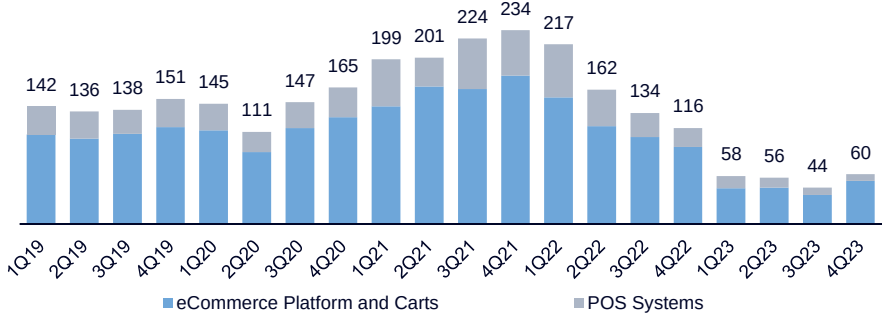
Capital Raise

- Capital raise activity in the eCommerce Enablement sector experienced a slight increase in Q4 2023, signaling a potential rebound in transaction activity
- Capital raise volume for eCommerce Platforms and Carts can be seen increasing slightly with steady deal volume for the POS Systems subsector
- Notable recent raises include Copia Global's $70M Series C raise in December 2023
  - Copia Global is a developer of an eCommerce platform designed to transform middle to low-income Africans into empowered global consumers
- Notable recent raises include Xpressbees $80M growth raise in November 2023
  - Xpressbees is an operator of an eCommerce logistics platform intended to fulfill comprehensive supply & demand needs

Top Subsectors by Transaction Count *(2019-2023)*



Top Subsectors by Transaction Count *(2019-2023)*



CASCADIA

Source: Pitchbook Data, 451 Research; data includes US, Europe, and Asia
Capital raise transactions below $1M are not included

Operations Management Deal Volume

M&A

- M&A activity in the Operations Management sector decreased slightly in Q4 2023, signaling a potential slowdown in deal activity
- The Supply Chain Management subsector saw a notable decline in deal volume compared to FY 2022, while Store & Inventory Management subsectors showed growth
- Notable recent transactions include MCI Capital's $39M acquisition of Webcon in November 2023
  - Webcon is an operator of a business process automation platform intended to assist retailers in creating greater efficiency
- Notable recent transactions include GigaCloud Technology's $10M acquisition of Wondersign in November 2023
  - Wondersign is a provider of e-catalog & inventory management software for retailers and brands

Capital Raise

- Capital raise activity in the Operations Management sector decreased in Q4 2024, continuing the downtrend trend from 1Q 2022
- The Supply Chain Management subsector has experienced a notable decline in deal volume compared to FY 2022 levels, while the Store Management and Inventory Management subsectors have shown promising growth
- Notable recent raises include Sensos' $20M Series A raise in February 2024
  - Sensos is a developer of real-time supply chain management platform designed to transition businesses from reactive to proactive decision-making
- Notable recent raises include Pensa's $14M Series A raise in January 2024
  - Pensa is an operator of a retail shelf intelligence platform designed to help retailers improve their performance through inventory management and AI

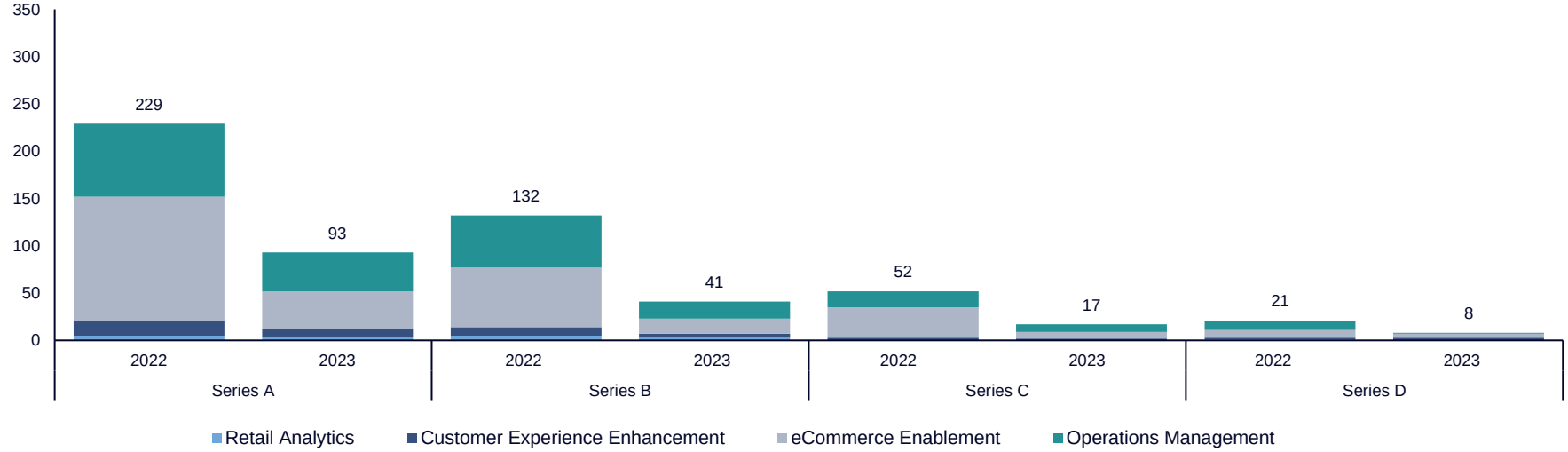
Top Subsectors by Transaction Count *(2019-2023)*

Top Subsectors by Transaction Count *(2019-2023)*

CASCADIA

Source: Pitchbook Data, 451 Research; data includes US, Europe, and Asia
Capital raise transactions below $1M are not included

Breakdown of Capital Raise Transactions by Series



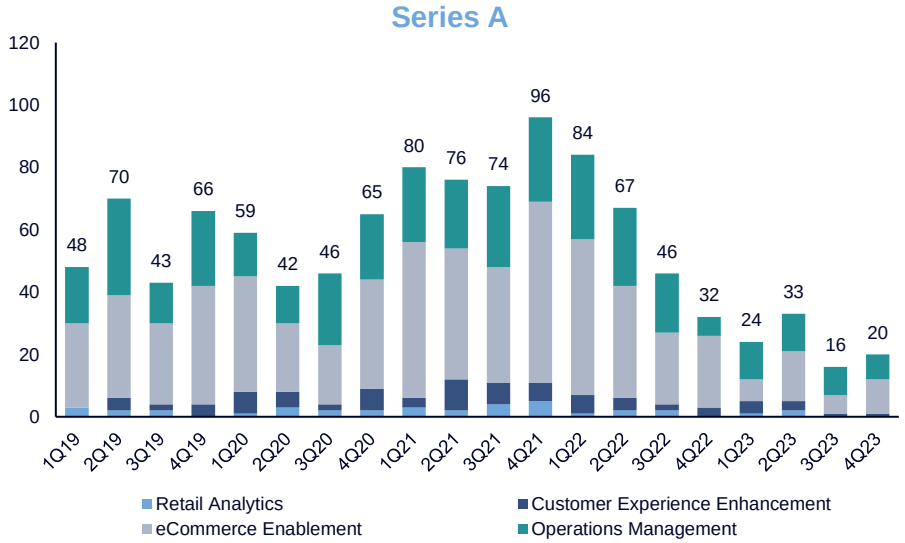
Capital Raise Overview

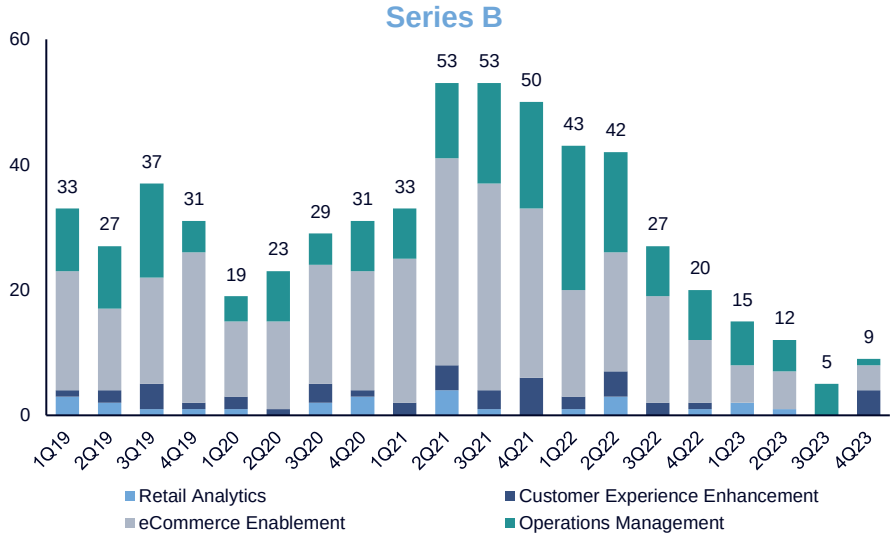
- Across all investment stages, transaction volume decreased in Q4 2023 LTM compared to Q4 2022 LTM as economic headwinds depressed overall transaction volume
- The eCommerce Enablement sector accounted for the majority of capital raise transactions across all investment stages
- Operations Management was the second largest sector by transaction count across all investment stages
- As companies in these sectors continue to mature, we expect to see a greater number of late-stage investments and M&A transactions over the coming years

CASCADIA

Source: Pitchbook Data, 451 Research; data includes US, Europe, and Asia
Capital raise transactions below $1M are not included

Capital Raise Transactions by Series





Series A Observations

- Series A transaction volume increased slightly in Q4 2023, marking a reversal from the decrease in the penultimate quarter of 2023
- The downward trajectory can be seen continuing across all subsectors from 4Q for 2021
- While not the largest category, Customer Experience Enhancement investments have remained relatively constant across each quarter, an indication of the growing relevance for the sector

Series B Observations

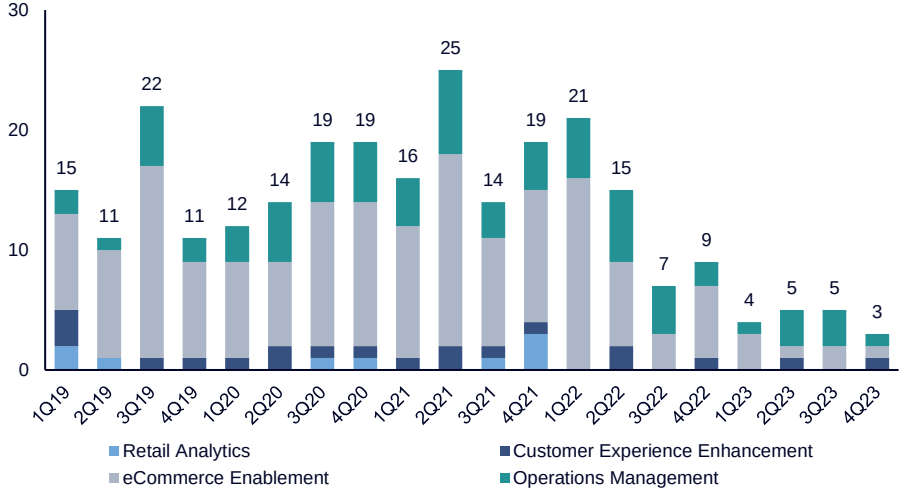
- Series B transaction volume increased slightly in Q4 2023, signaling a potential reversal in the downward trend which started in Q4 2021
- Although Series B transaction count reached an all time high in 2021, it has since decreased significantly as investors become more cautious and companies are conscious of compressed valuations, many opting to wait for the ideal time to raise their next round
- Similar to the Series A transactions, eCommerce Enablement and Operations Management companies account for most of the Series B raises over the past three years

CASCADIA

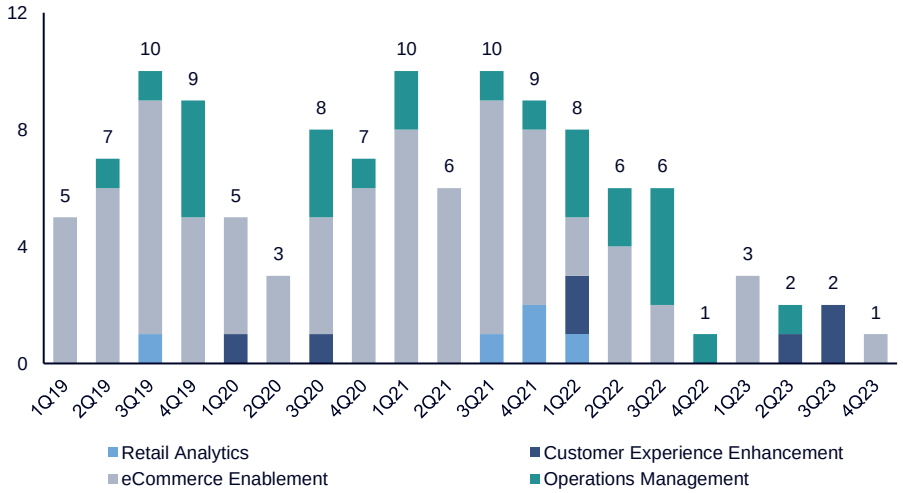
Source: Pitchbook Data, 451 Research; data includes US, Europe, and Asia
Capital raise transactions below $1M are not included

Capital Raise Transactions by Series

Series C



Series D



Series C Observations

- Despite a slight rebound in Q4 2022, Series C transaction volume remains subdued as Q4 2023 activity decreased slightly from the previous quarter
- Unlike earlier stages, all subsectors except Customer Analytics had an equal amount of Series C raises in Q4 2023
- Investment in Retail Analytics platforms wanes considerably post-Series B, indicating that these sectors are generally in an earlier stage of the startup lifecycle compared to other sectors
  - Similar trends can be seen with Customer Experience Enhancement tools

Series D Observations

- Series D transaction volume decreased in Q4 2023, continuing to mark a significant drop off from the peaks experienced in 2021
- Operations Management and eCommerce tools received a noticeable amount of Series D investment in 2022, as the demand for supply chain solutions increased – driven by the supply chain crisis which gave a renewed focus on investment in the sector
- As observed in Series B raises, investment in Retail Analytics and Customer Experience Enhancement platforms continues to wane post Series B indicating the earlier lifecycle stage of these types of companies compared to those in the other sectors

CASCADIA

Source: Pitchbook Data, 451 Research; data includes US, Europe, and Asia
Capital raise transactions below $1M are not included

CASCADIA

Section 8

Cascadia Capital Overview

Cascadia Capital —
A National Investment Bank Platform

We combine sub-vertical expertise, a diverse platform, and a long-term partnership approach as we seek to create exponential outcomes for our clients.

National Presence, Global Reach	Founded in 1999, Cascadia is the second largest independent advisory only investment bank in the US1, partnering with clients across the nation to deliver outcomes globally. We have completed over 495 transactions globally and have seven office locations.
A Highly Specialized Team with Sub-vertical Expertise	Cascadia leverages our bankers' deep sub-vertical industry expertise to deliver a more highly specialized degree of knowledge, positioning and process, resulting in premium valuation in a highly efficient process.
Customized Process	Our commitment is to deliver a customized and unique process for each client. We integrate storytelling and positioning with best-in-class financial and process rigor.
Direct Long-term Partnership to Optimize Each Client Outcome	Cascadia focuses on optimizing outcomes, not just getting deals done. Often this includes advice to go to market later when the combination of company and market elements are more ideal. We pride ourselves on delivering direct advice focused solely on the best interests of our clients.
Growth Focused	Across the industries we cover and products we deliver, the tie that binds us is a sole focus on serving growth companies. We know how to position growth to drive maximum value in any market.
Institutional Growth Financing to Better Serve Our Clients	Cascadia is a growth company. In October 2022, we received a large minority growth equity investment from an institutional investor focused on financial services and are deploying this capital to expand our industry sub-verticals, add more products and services, expand our private equity coverage, and grow our geographical coverage, all to provide our clients with broader and more comprehensive value-add.

Source: Select Wall Street Research

Customized, Repeatable Approach Drives Optimal Client Results

Sub-vertical Industry Expertise	Customized Approach	Proven Results
▪ With bankers across the nation, specialized in multiple industry verticals, we have the experience to offer industry breadth while maintaining sector depth. ▪ A dedicated resource model with comprehensive vertical expertise from Managing Director to Analyst. ▪ We know the market. We know the buyers. We know the nuances, issues, and opportunities.	▪ We are thoughtful advisors who deliver a tailored process to suit the needs of our clients. ▪ We understand the differentiated strategies of the counterparties, enabling us to tailor positioning and tell them why they should uniquely be interested. ▪ We anticipate and preempt client-specific risks and areas of concern.	▪ We have experience, industry focus and a differentiated process that drives success. ▪ Our transactions are built upon striving to deliver the best quantitative and qualitative terms with the most desirable counterparty. ▪ We do not overpromise and underdeliver. We consistently outperform our pitch range and exceed the valuation expectations of our clients.

Complementary and Integrated Investment Banking Services

Mergers & Acquisitions	Capital Markets	Strategic Advisory	Financial Sponsors Group
▪ Sell-Side Representation ▪ Buy-Side Representation ▪ Management Buyouts ▪ Leveraged Buyouts	▪ Acquisition Financing for Private Equity and Private Companies ▪ Structured Capital ▪ Recapitalizations ▪ Growth Equity ▪ Unitranche ▪ Mezzanine/Subordinated Debt ▪ Preferred and Common Equity	▪ Fairness Opinions ▪ Corporate Valuations ▪ Shareholder Rights Planning ▪ Shareholder Value Analysis ▪ Strategic Partnerships & Joint Ventures	▪ Private Equity ▪ Family Offices ▪ Institutional Investors ▪ Credit Managers

Capital Markets Overview

CASCADIA

Overview

- Cascadia's Capital Markets practice focuses on serving our private equity and private company relationships with full-service advisory and execution of financing transactions to facilitate acquisitions, growth capital, structured capital, and internal recapitalizations.
- Our practice provides complete customized capital structure advising from debt-to-equity financing.

Investors

- We have long-standing relationships and active dialogue with premier investors (banks, direct lenders, private credit funds, BDCs, equity funds, and family offices) with the ability to invest across the capital structure.

Process / Execution

- Our approach is differentiated given our professionals' deep principal investment execution expertise, allowing us to take ownership and drive an efficient and cost-effective engagement from early reads, marketing, and term sheet all the way through document and terms negotiation and closing.
- We also integrate our industry bankers' sub-vertical expertise to provide another layer of value add in effectively positioning our client's business to optimize market interest and terms.

Representative Transactions

- LMR Wine Estates completed a new debt financing Goldman Sachs
- Fatbeam received financing from Bank Street & Post Road Group
- Vera Whole Health received debt financing from Comerica
- Noble House Hotels & Resorts secured a senior credit facility from Northwest lenders
- Galaxy Gaming, Inc. (OTC:GLXZ) received debt financing from Breakaway Capital Management
- Bensussen Deutsch & Associates, Inc. received debt financing from Cyprium Partners

Engagements Include

- Acquisition Financing for Private Equity and Private Companies
- Structured Capital
- Recapitalizations
- Growth Equity
- Unitranche
- Mezzanine / Subordinated Debt
- Preferred and Common Equity

Capital Markets Leadership Team

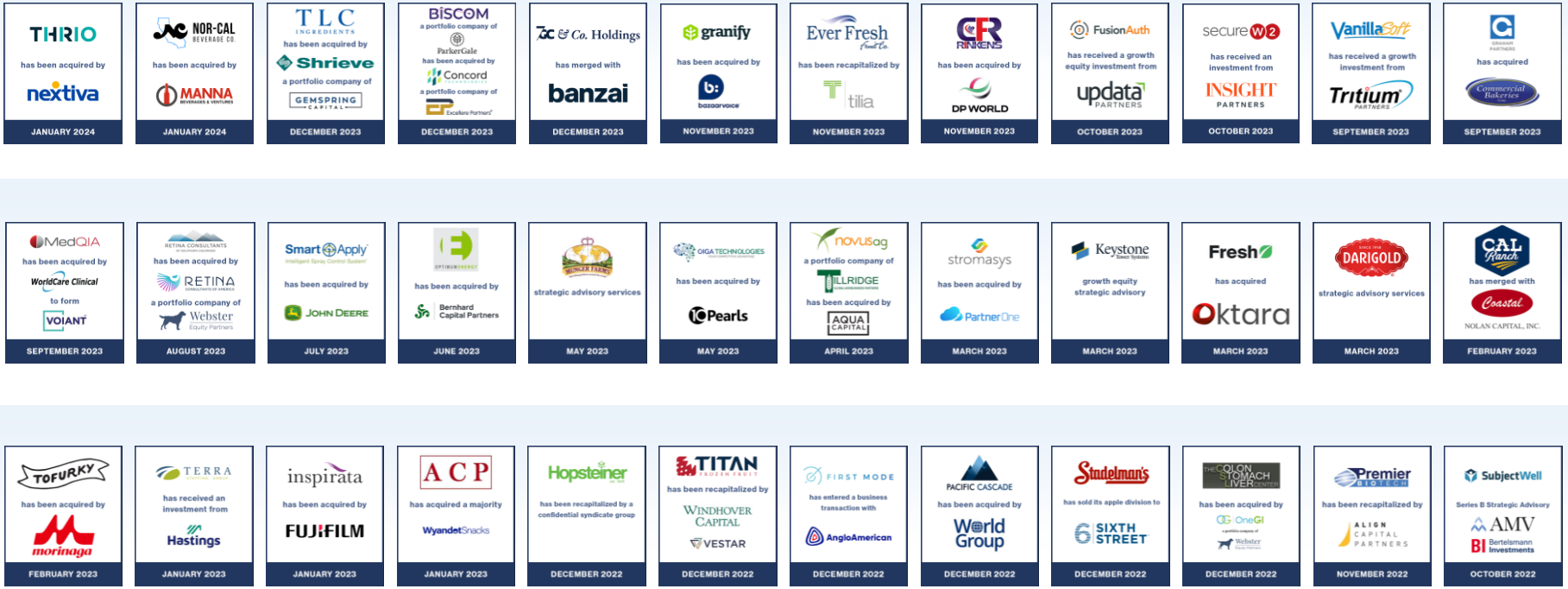
Carle Felton
Managing Director
Head of Capital Markets

Kayla Cartoski
Vice President
Capital Markets

We Drive Results

CASCADIA

Cascadia's most recent transactions:



Technology Overview

CASCADIA

Deep sub-vertical experience

- Over 80 years of combined experience in Technology M&A and financing

Operational and corporate development expertise

- Prior and current experience in operational and corporate development

Domain experts

- Specialized knowledge of the Technology sector

Strategic client positioning

- Ability to effectively position clients with suitable partners or investor

Representative Transactions

THRIO has been acquired by nextiva — JANUARY 2024

ZC & Co. Holdings has merged with banzai — DECEMBER 2023

granify has been acquired by bazaarvoice — NOVEMBER 2023

FusionAuth has received a growth equity investment from updata PARTNERS — OCTOBER 2023

Principal Sector Focus

Application Software

- Compliance & eLearning
- Financial Technology
- Human Capital Management/ HR Tech
- Legal & Tax Solutions
- Public Safety
- Sales, Marketing & Support
- Supply Chain Technology
- Retail & Commerce Technology

Infrastructure Software

- Data
- Security
- Software Development & IT Operations Management (“DevOps”)
- Storage

Our Specialized, Expert Team

Teague Collins
Retail & Commerce Technology, Sales & Marketing Technology, Supply Chain Technology

Ron Rivera
Enterprise Software, Mobility/Automotive Technology & Services, Technology-enabled Business/IT Services

Matthew Riendeau
DevOps, Cybersecurity, Data, Storage

Jim Stone
Payments/FinTech, Application Software, Legal/Compliance/ Regulatory Tech

Cascadia's Retail Technology Expertise

THRIO has been acquired by nextiva CX Platform for Customer Support	granify has been acquired by bazaarvoice AI-Based Conversion Optimization Platform	Pixlee TurnTo has been acquired by emplifi a portfolio company of Audax Group UGC, Ratings, Reviews, and Influencer Marketing Platform	SEAGULL SCIENTIFIC BarTender. has been acquired by PEAK ROCK CAPITAL Barcode & Label Management Solution	keen Model Your Brand Winning has received an investment from BALLAST POINT VENTURES Predictive Analytics Marketing Platform	BULLETIN has been acquired by EMERALD Premium B2B Wholesale Marketplace	The WordPress plugins business of Delicious Brains has been acquired by WP engine a portfolio company of SILVERLAKE Developer-centric WordPress Plugins
fortella has been acquired by 6sense Sales Accounts Engagement Platform	STYLE GENOME has been acquired by wayfair Content-based, AI-Powered, Retail Product Recommendation Engine	pathable has been acquired by communitybrands Virtual Event Management Platform	PERFECT has received an equity investment from Goldman Sachs AI-Driven Product Recommendation and Customer Experience Engine	RocketReach has received an investment from BRIGHTON PARK CAPITAL Go-To-Market Intelligence Platform	influenster has been acquired by bazaarvoice Influencer Product Discovery and Reviews Platform	influenster has received an investment from Rakuten Influencer Product Discovery and Reviews Platform
SITECORE has received an investment from TCV Digital Customer Experience Management Platform	empathica a portfolio company of JMI has been acquired by mindshare TECHNOLOGIES a portfolio company of SORENSON CAPITAL Social Customer Feedback Management Solution	Datanyze has been acquired by zoominfo. Technographic Intelligence Platform for Sales Teams	reelio has been acquired by FULLSCREEN a division of at&t Influencer Marketing Automation Platform	Videolicious has been acquired by SQUARESPACE Video Automation Platform for Sales and Marketing Teams	zoominfo has received an investment from THE CARLYLE GROUP Go-To-Market Intelligence Platform	Salesify has been acquired by ZIFF DAVIS a subsidiary of j2 Global Performance Marketing and Demand Generation Platform