The Future of Commerce

REPORT

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Introduction

Plug and Play's journey began with the launch of our Brand & Retail vertical, making commerce technology an integral part of who we are. We are proud to present our report on the future of commerce in brand and retail. This report offers an in-depth look at the trends, technologies, and strategies transforming how businesses connect with consumers. It focuses on six key topics, each exploring innovative advancements, promising startups, impactful case studies, and insights from industry leaders to define the next chapter of commerce.

Our report is divided into **four sections:**

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Plug and Play: Pioneering Innovation Globally

Plug and Play is a leading venture capital firm headquartered in Silicon Valley, with over 2,000 portfolio companies and 30+ unicorns (N26, PayPal, Rappi, Dropbox, Blockdeamon, and Honey, among others). We are the world's largest global innovation platform and a key driver of technological advancements. With operations spanning over 60 locations worldwide, we drive innovation across 24+ industries and facilitate connections between corporations and the most innovative startups. Our extensive network comprises 550+ world-leading corporations, 75,000+ startups, and numerous venture capital firms, universities, and government agencies operating in multiple industries.

Our innovation platform

CORPORATE INNOVATION

We supercharge the innovation of **over 550** industry-leading partners by keeping them at the forefront of industry trends.

VENTURE CAPITAL

We invest in **over 200** companies a year alongside the world's best VCs.

ACCELERATOR PROGRAMS

We run multiple industry-specific innovation programs in **over 60** cities globally.

ALL-IN-ONE SOLUTION

A complete, turnkey infrastructure for startups and corporations to thrive.

Our methodology to conduct this report is comprised of three phases:

Phase 1: Identification of Research Topics Based on Internal Capabilities

The first phase involved assessing various innovation topics previously explored with corporate partners. We also aligned these topics with the entrepreneurs we met and the solutions we assessed.

Phase 2: Exploration Based on External Capabilities

We conducted comprehensive market research in the second phase to complement our internal knowledge. This included reviewing reports from reputable sources and engaging in discussions with corporate partners to understand the innovation topics they focus on for 2025.

Phase 3: Interviews With Corporates, Startups, & VCs

In the final phase, we interviewed leading corporations in the brand and retail sectors, along with entrepreneurs in the commerce scene, to gather their insights on upcoming trends. Their responses are included in the report as direct quotes to provide an external perspective. Please note that these external

insights do not influence the original content developed by Plug and Play. The purpose is to compare our internal perspectives with those of other parties. Despite that, results showed a strong alignment in predictions.

Outcome: Report "Future of Commerce"

All the previously mentioned steps culminated in a comprehensive overview of the trends shaping the commerce sector in 2025.

We would like to extend our sincere thanks to Benjamin Benichou from Drop, Risini Niriella from MAS Holdings, Thibaut Pellegrin from Metreecs, Alexandre Girault from Lacoste, Lerato Matsio from Trudenty, Ryan Janssen from Zenlytic, and Brandon Barbello from Archetype AI for their valuable contributions.

We truly appreciate your support and insight. We hope readers find this report informative and engaging. Should you have any questions or wish to engage further, please do not hesitate to contact us.

2024: A Year of Declining Venture Capital Investment in Retail

In 2024, the retail sector[1] raised $22.6 billion across 1,771 funding rounds, reflecting a 34% year-over-year decrease. This trend mirrors the broader global VC downturn, marked by the third consecutive annual decline in funding. (Tracxn, 2024) (CB Insights, 2024)

This decrease in retail investment can be attributed to several factors, with a significant reason being a shift in investment priorities. Venture capital has increasingly shifted its focus toward industries like healthcare, which has experienced consistent growth in investment and fundraising activity this year (Silicon Valley Bank, 2024). For instance, in the U.S., venture capital investments in health AI alone have reached $11 billion this year. (World Economic Forum, 2024)

Market saturation within the retail sector further contributes to this downward trend. Intense competition among numerous players makes it difficult for startups to achieve global scalability or establish themselves as dominant local leaders. This overcrowded landscape limits opportunities for exponential growth, reducing investor enthusiasm for the sector.

Geographically, the United States dominated the landscape, accounting for 39% of total funding, solidifying its position as the largest and most attractive market for retail sector investments. Additionally, nearly half (49%) of these investments targeted seed-stage startups, highlighting a strong emphasis on supporting early-stage innovation. (Tracxn, 2024)

[1] In this section, we have chosen to narrow the global funding overview by concentrating solely on investments within the retail sector. This focuses on companies operating in FMCG, consumer durables, retail fintech, discount and deal platforms, cross-border commerce, and providers of solutions that assist businesses in managing their in-store or online operations.

What Were the Key Drivers of VC Investments in the Brand & Retail Sector in 2024?

1. Retail Fintech: Driving Growth Amid VC Market Decline

Despite the overall decline in VC investments, including those in retail, retail fintech investment achieved a 55% year-over-year increase and secured $12.1 billion in venture capital funding. (Pitchbook,2024)

Startups that have raised funding in this space include Yonder, which provides a lifestyle rewards credit card, which secured $30.8 million in Series A funding in 2024, and Midas, a Retail investment platform that raised $45M in Series A funding in 2024.

2. AI investment in 2024 has significantly impacted all sectors, including brand & retail

AI has emerged as a transformative force, accounting for 35% of all VC funding in 2024 and playing a significant role across major sectors, including brand and retail (Crunchbase, 2024). Within the retail sector, specifically in e-commerce, generative AI is shaping the investment landscape and attracted over $3 billion in total funding in 2024, with solutions focusing on personalization, customer experience, and logistics. (CB Insight, 2024)

Notable examples of AI VC investment activities in the brand and retail sector in 2024 include Sierra, a conversational AI platform designed to help businesses elevate their customer experience through advanced AI chatbots, which secured $175 million in a major funding round. Additionally, Nimble, a next-generation fulfillment solution for the e-commerce sector, raised $106 million in a Series C round.

Tech Startups Take the Lead in Retail Unicorns for 2024

The retail industry has seen seven startups achieve unicorn status in 2024, with 42% of them emerging from the **tech sector**. Notable examples include Uzum, Uzbekistan's first unicorn, offering online shopping, payments, and business services; Flipp, an app-based video commerce platform for buying and selling multi-category products; and Nimble. (Tracxn, 2024)

What Is Unfolding in the M&A Landscape for Brand & Retail?

The brand and retail industries saw a wave of interesting corporate mergers and acquisitions in 2024. Notable deals included Saks Global acquiring Neiman Marcus for $2.7 billion (Forbes, 2024) and Supreme being sold to EssilorLuxottica for $1.5 billion. Portfolio optimization emerged as a critical driver, exemplified by HanesBrands' $1.2 billion divestiture of Champion. Federal rate cuts further fueled acquisition activity, yet concerns persisted over preserving brand identity amid heightened industry consolidation and the growing dominance of luxury conglomerates. (Robin Report, 2024) (Silicon Valley Bank 2024)

Shaping the Future: Retail Thematics Defining the Agenda for 2025

Despite a decline in overall VC investment in the brand and retail industries, AI remains a focal point and continues to attract significant funding. Additionally, over 60% of retailers plan to expand their AI infrastructure investments within the next 18 months, highlighting its increasing relevance and influence in the sector. (Nvidia, 2024)

We believe that this momentum is set to continue reshaping key areas in brand and retail in 2025, such as social commerce, fashion supply chains, and in-store experiences, delivering significant value across both customer-facing interactions and back-end operations. By tackling critical challenges, ranging from personalizing customer experiences to optimizing inventory forecasting, AI is cementing its role as a transformative force in the brand and retail industry's evolution.

Below, we highlight six key topics expected to drive innovation in 2025, with AI playing a central role. The report will deliver a comprehensive analysis of each topic, delving into their significance, evolving market trends, and key innovations. It will also include detailed case studies, showcase startups driving these innovations, and feature insights from interviews with experts in each domain.

Trend #1: New Ways of Shopping: How Social Commerce & AI Shopping Agents Are Transforming Retail

The rapid growth of social commerce, driven by the widespread adoption of generative AI tools and platforms such as TikTok, is significantly influencing consumer purchasing behavior. U.S. retail social commerce sales are projected to exceed $100 billion by 2025 (E Marketers, 2024). Retailers face challenges in managing multi-channel strategies, meeting user expectations for active social media presence, and navigating the complexities of personalization. AI agents are set to accelerate developments, combining MLLM use cases like text, image, and video with social media's rich data to streamline personalized shopping journeys and disrupt existing practices.

Trend #2: Building Next-Gen Supply Chains in Fashion

Fashion supply chains are undergoing a significant transformation as advanced AI models, and the digitization of traditionally manual processes unlock new efficiencies. By integrating technologies such as 3D modeling, robotics, and LLM-powered tools, brands are enhancing speed and precision in planning, sourcing, and product development. These innovations are not only accelerating operations but also enabling smarter alignment of supply with demand, mitigating overstock risks, and redefining the industry's approach to supply chain management.

Trend #3: Resale Sector — Navigating Profitability & Seamlessness

The resale market is expected to outpace traditional retail clothing, growing 6.4 times faster, and is projected to reach $350 billion by 2028 Thredup (2024). Brands across all price segments are increasingly embracing resale by developing proprietary models. However, significant challenges remain, including high operational costs and growing competition. The focus now is on achieving profitability while delivering a seamless customer experience. Innovations in generative AI and advancements in traceability with technological innovations are set to play a transformative role, which we will explore further in this report.

Trend #4: Beyond the Checkout — Post-Purchase Innovation

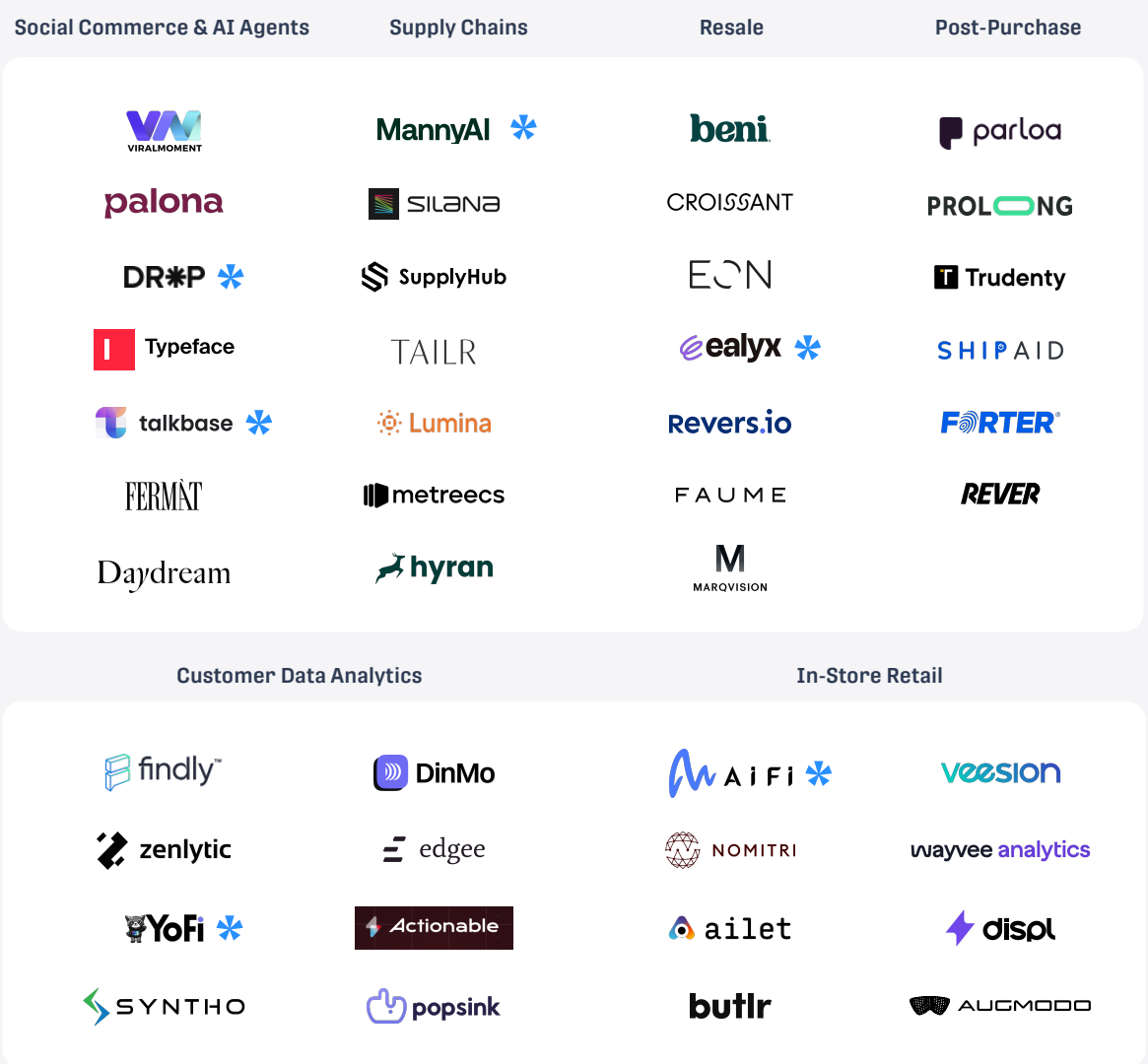
The rapid expansion of e-commerce, projected to reach $8.1 trillion in sales by 2026, has positioned the post-purchase experience as a pivotal differentiator for brands in an increasingly competitive landscape (Voxco, 2024). Technological advancements, particularly in AI, machine learning, and data analytics, are transforming the post-purchase landscape, driving significant improvements in efficiency and proactive support. We will delve deeper into these innovations, exploring their impact on the future of post-purchase experience.

Trend #5: Transforming Customer Data Analytics & Insights

The future of customer data analytics is evolving through advancements in AI, machine learning, and synthetic data. In 2024, synthetic data was estimated to power 60% of AI and analytics, enhancing privacy and scalability [Gartner, 2023]. Tools like real-time observability and decentralized data architectures are enabling faster, more tailored customer decisions. This report explores these advancements and how brands can leverage them.

Trend #6: In-Store Retail — Revolutionizing Security, Efficiency, & Customer Experience

Despite the growth of e-commerce, physical retail remains a vital part of the shopping journey, offering sensory engagement and instant gratification that online platforms cannot fully replicate. Innovations like AI vision, smart shelves, and immersive technologies are transforming in-store operations, boosting efficiency and customer satisfaction. We will examine how these advancements can be fully utilized to unlock the potential of in-store retail experiences.



Plug and Play Portfolio

#1: New Ways of Shopping: How Social Commerce & AI Shopping Agents are Transforming Retail

Konstantin Klettke

Market Development

The widespread adoption of generative AI tools, coupled with the continued rise of social media engagement, is transforming shopping into a highly personalized experience. This shift from reactive to proactive commerce underscores the growing importance of meeting customers on social platforms and the potential for AI to redefine consumer expectations. As e-shoppers increasingly use social media to discover and engage with brands, AI agents are expected to become an integral part of their daily lives, including online shopping. These AI-driven assistants provide tailored recommendations, automate decision-making, and enhance convenience. Meanwhile, social commerce seamlessly integrates shopping within social platforms, enabling dynamic, real-time interactions that allow consumers to explore and purchase products within digital communities.

Why it matters today

The growth of social commerce continues to accelerate as platform-based purchasing becomes a dominant consumer habit. In 2023, an estimated 37% of TikTok users in the US — equating to 55.5 million people — made purchases either via external links or directly on the platform.[2]

With US retail social commerce sales projected to surpass $100 billion by 2025, **competition for consumer attention** is intensifying. Increasing advertising spend on social media amplifies this challenge, even as less-cited demographics, like those aged 30+, consume vast amounts of social media.[3] [4]

[2] https://www.statista.com/statistics/1416784/tiktok-buyer-share-us/

[3] https://www.emarketer.com/insights/social-commerce-brand-trends-marketing-strategies/

[4] https://www.mckinsey.com/mhi/our-insights/gen-z-mental-health-the-impact-of-tech-and-social-media

Major platforms have embraced sales channels such as live shopping, embedded links, and direct chat commerce. However, addressing the growing complexity of **managing multiple channels** across platforms, regions, customer segments, and trends — while maximizing personalization — has become a significant challenge for retailers.

Managing transparent communication across all platforms is no longer optional — it is now a fundamental aspect of **responsible corporate behavior**. The shift in user expectations regarding retailers' presence on social media is now well-established. While this trend initially emerged granularly, it is becoming increasingly critical for businesses. Within these channels, users expect retailers to maintain an active presence, as this is seen as a key marker of authenticity.[5]

Artificial intelligence is now set to accelerate the developments of the last five years and threaten to **disrupt existing practices**. The general MLLM use cases — text, image, and video — will be combined with social media's rich data environment to streamline personalized shopping journeys.

Emerging trends

Artificial Intelligence

AI is transforming social commerce by driving personalized experiences and automating content creation. Individually, previously categorized data such as customer behavior, preferences, and past purchases can be used to create customized storefronts and tailored offerings that enhance conversion from social media to store sales. On a broader scale, AI agents will continue to disrupt the means of social media content creation, such as videos and text, automating the testing of product campaigns and helping brands refine campaigns in real time.

By 2025, AI-driven shopping agents are poised to revolutionize the retail sector, spearheaded by major technology companies such as OpenAI, Google, and Perplexity, along with a range of innovative startups. These **AI agents are expected to handle up to 20% of shopping-related tasks**, offering highly personalized experiences that encompass product discovery, price optimization, and seamless, automated checkouts, benefiting both brands and consumers.[6]

[5] https://sproutsocial.com/insights/data/social-media-transparency/

[6] https://www.pymnts.com/artificial-intelligence-2/2024/ai-to-power-personalized-shopping-experiences-in-2025/

Social video analysis

Social video analysis is reshaping how retailers understand customer preferences and behaviors. By leveraging computer vision and natural language processing, platforms can analyze millions of short-form videos frame by frame, extracting actionable insights from visual and textual data. These technologies provide real-time insights into emerging trends, brand mentions, and influential creators, enabling brands to adapt quickly to market shifts.

Retailers can also enhance their own content strategies by identifying the elements that drive virality and engagement, improving the effectiveness of their posts. Coupled with social listening, retailers can monitor customer opinions and reactions to brands, products, and campaigns, ensuring they stay attuned to evolving consumer needs.

- **Review management** plays a critical role in this landscape by analyzing customer feedback across multiple platforms. Prompt, empathetic responses to reviews can significantly enhance customer satisfaction and brand loyalty. Retailers can also strengthen **brand safety** by using these tools to identify and mitigate risks, ensuring consistent and secure brand representation across digital platforms.
- Additionally, these technologies empower **competitive analysis**, enabling retailers to compare sentiment toward their brand with competitors. This helps businesses understand their positioning and public perception more clearly, informing strategic adjustments. **Brand insights** drawn from video and social feedback allow companies to assess reputation, customer experience, and product strengths and weaknesses, crafting a stronger brand strategy.
- **Opinion mining** further refines these insights by analyzing both customer and employee feedback. This holistic approach provides a clear picture of a company's performance, identifying areas for improvement while aligning internal and external perceptions.

With these tools, businesses can refine campaigns, optimize product offerings, and maximize their reach and impact. By blending social video analysis, listening, and opinion mining, retailers gain the comprehensive insights needed to thrive in a fast-evolving digital marketplace.

Decentralized social engagement

Decentralized social engagement is reshaping social commerce as micro-influencing takes center stage, challenging the dominance of traditional large-scale ad campaigns that prevailed in consistent messaging and high-quality visuals. Technological advancements, particularly in data analytics and AI, have enabled scalable and measurable strategies to identify creators and output brand-aligned content. With improved tools that streamline revenue sharing and clear ROI insights, brands can now collaborate with small creators and manage UGC to target specific audiences and foster brand messaging on a large scale.

Startups Highlights

ViralMoment

Year: 2021

HQ: Menlo Park, CA, USA

Total funding & investors: $2.5M from investors, including Techstars, Supernode Global, & Crush Ventures.

Description: ViralMoment is an AI-powered platform that deciphers social video content, giving brands real-time insights into emerging trends, brand mentions, and influential creators.

Why we like them: By analyzing over a billion videos, ViralMoment enables businesses to navigate the complexities of social media, ensuring they capitalize on viral moments and maintain brand safety.

Daydream

Year: 2023

HQ: Helsinki, Finland

Total funding & investors: $50M from investors, including Index Ventures, Google Ventures, and True Ventures.

Description: Daydream is an AI-powered search and discovery platform revolutionizing online shopping with a large branded fashion catalog.

Why we like them: By using AI to provide a more personalized and intuitive search experience, Daydream allows users to search and discover products using natural language and images, making it easier to find exactly what they want without the hassle of traditional search methods.

Drop

Year: 2020

HQ: San Pedro, CA, USA

Total funding & investors: $5,5M from investors, including Plug and Play & Speedinvest.

Description: Drop is a social commerce platform that enables brands to engage customers directly through social media channels, transforming interactions into sales opportunities.

Why we like them: By integrating with platforms like Instagram and Facebook, Drop allows businesses to send personalized messages, enhancing customer engagement and driving conversions. The platform boasts impressive metrics, including open rates of 95% and click-through rates exceeding 35%, optimizing customer satisfaction and revenue streams.

Palona

Year: 2024

HQ: Palo Alto, CA, USA

Total funding & investors: $10M from investors, including NEO Investment Partners and Fusion Fund.

Description: Palona develops AI-powered sales agents that help businesses interact with customers more effectively. These AI agents handle customer inquiries, recommend products, and assist with purchases across various platforms, including websites, social media, and messaging apps.

Why we like them: Palona enhances D2C sales with multi-agent AI and emotional intelligence, creating personalized, engaging, and persuasive customer interactions that drive conversions, increase order sizes, and strengthen brand relationships.

Talkbase

Year: 2021

HQ: Prague, Czechia

Total funding & investors: $2.2M from investors, including Credo Ventures, J&T Ventures, & Plug and Play.

Description: Talkbase offers a platform to measure community engagement and supports companies in understanding why customers engage in their community throughout their acquisition, onboarding, and retention process.

Why we like them: Talkbase helps customers connect the dots between community, support, product, marketing, and customer success teams. This enables them to understand where the community drives real business impact and take action accordingly. It also allows them to visualize key metrics and

Typeface

Year: 2022

HQ: Palo Alto, CA, USA

Total funding & investors: $165M from investors, including Lightspeed Venture Partners, GV (Google Ventures), M1, & Menlo Ventures.

Description: Typeface offers a generative AI platform designed to assist enterprises in creating personalized content at scale. The platform's capabilities include generating text and images tailored to specific brand voices and objectives, as well as streamlining the content creation process for various enterprise needs.

Why we like them: By integrating with existing workflows and understanding brand context, Typeface enables businesses to produce on-brand content efficiently, enhancing marketing and communication efforts.

FERMÀT

Year: 2021

HQ: San Francisco, CA, USA

Total funding & investors: $29M from investors, including Greylock Partners, Initialized Capital, and CRV.

Description: FERMÀT creates AI-powered tools that enable e-commerce brands to deliver personalized shopping experiences through custom pages, boosting conversions and order values.

Why we like them: The platform's flexibility supports rapid experimentation and seamless integration with existing e-commerce systems, empowering brands to engage their target audiences and drive growth effectively.

Case Study

FERMÀT x Nood

Overview: Nood, a direct-to-consumer brand specializing in at-home hair removal solutions, partnered with FERMÀT to optimize its affiliate and blog-based shopping experience. By embedding shopping widgets directly into content, Nood aimed to enhance return on ad spend (ROAS) and reduce customer acquisition costs (CAC) while streamlining the customer journey.

Problem: Traditional affiliate marketing required customers to leave the content they were engaging with, introducing friction that lowered conversion rates. Nood faced challenges converting high-intent shoppers and sought to optimize performance metrics like ROAS and CAC.

Solution: Nood implemented FERMÀT's content-embedded shopping widgets, allowing customers to browse and purchase products seamlessly within affiliate articles. This approach reduced the friction of navigating away from content.

It resulted in over a 20% increase in conversion rates (CVR), an 18% decrease in customer acquisition costs, and a significant lift in ROAS. These outcomes enabled Nood to convert high-intent shoppers more effectively and allocate resources strategically toward content-driven commerce.

Expert interview with Benjamin Benichou, Founder & CEO at Drop

Benjamin Benichou
Founder & CEO
Drop

Q: What are your top predictions for the future of social commerce, and how is Drop planning to leverage these trends?

Benjamin Benichou: Social commerce has been evolving significantly, especially over the past year. Social media platforms have been the primary place where consumers spend their time for about a decade now.

This year has been pivotal because, at Drop, we focus on social commerce through direct messages and automated consumer engagement. A few years ago, brands and retailers were hesitant to use chatbots with their consumers. However, with the advancements in AI, the perception has changed. Now, AI is not just a buzzword but a crucial enabler that transitions direct consumer engagement from being a nice-to-have to a critical component.

I predict that more brands will adopt AI-driven solutions to engage with their audience as more personalized integrations are enabled. ChatGPT has proven that consumers don't mind engaging with chatbots. Additionally, the cycle of starting relationships on social media, guiding consumers to physical stores, and then continuing the engagement online afterward is fairly new.

Q: What strategies do you find most effective in converting social media engagement into actual sales?

Benichou: Traditional performance marketing strategies are becoming less effective as sophisticated tools are more accessible. Thus, raising overall acquisition costs and making the old playbook of driving traffic to stores and converting customers quickly are no longer viable.

Instead, a more relationship-focused strategy is proving to be more effective. Brands should engage consumers at various stages of the funnel, not just aim for immediate sales. With Drop, brands can foster deeper connections with their audience by providing valuable and interactive experiences. This helps consumers feel more connected to the brand beyond content consumption.

This strategy is increasingly essential, as many brands have yet to implement it, and by 2025, those solely focusing on bottom-of-the-funnel conversions will be adversely affected by rising acquisition costs, as evidenced by significant performance declines among top e-commerce brands in 2024.

Q: How is Drop leveraging artificial intelligence to enhance social commerce, particularly in terms of personalization?

Benichou: Artificial intelligence is a core component of Drop's strategy to enhance social commerce. Over the past year, we have integrated numerous AI features and capabilities into our platform, thanks to the accessible models provided by OpenAI. These AI tools enable us to offer functionalities like audience segmentation and sentiment analysis.

With AI, we can detect signals from different consumer groups, identifying those who are ready to purchase versus those who need more nurturing. This allows for more personalized interactions, making consumer engagements feel authentic and tailored to their needs. AI also helps optimize our ad campaigns for direct messaging, ensuring that interactions are both efficient and effective.

In a climate where marketing teams are shrinking, and budgets are tightening, AI allows brands to deliver more value with fewer resources. Additionally, platforms like Meta have become more mature, supporting optimized ad projects that drive direct messages. This synergy between AI capabilities and platform advancements positions Drop to effectively enhance consumer-brand interactions and drive higher engagement and conversion rates.

Q: What major shifts in consumer behavior have you observed, particularly regarding platform-specific trends?

Benichou: One of the most notable shifts in consumer behavior is within the creator economy. We've moved beyond traditional influencer marketing to a model where influencers are launching their own brands and products. Consumers are increasingly seeking genuine and personal interactions, preferring to engage with real individuals rather than faceless corporate accounts. For instance, when Drop collaborates with artists like Jared Leto, fans receive personalized messages that enhance their sense of connection and community.

Brands like Hot Topic are effectively using Drop's solutions to create engaging campaigns around popular intellectual properties (IPs) such as Hello Kitty. These campaigns focus on delivering enjoyable and emotionally resonant experiences rather than just pushing products. By creating gamified and interactive experiences, brands can build a loyal fan base that is more likely to engage with and purchase their offerings.

Additionally, the rise of multiple social media accounts managed by brands, such as dedicated fan accounts for artists like Billie Eilish, highlights a trend towards more specialized and community-focused engagements. These dedicated accounts allow for more genuine interactions and provide a space for fans to engage deeply with the brand or individual, fostering stronger emotional connections.

Overall, the shift towards authentic, personalized, and community-driven interactions is reshaping consumer behavior. Brands that embrace these changes and leverage platforms effectively to create meaningful engagements are better positioned to build lasting relationships and drive sustained growth.

#2: Building a Next-Gen Supply Chain in Fashion with Data-Driven & Automation

Zoë Chrysostom

Market Development

Emerging technologies are aiming to make fashion supply chains more data-driven and automated. AI has already revolutionized supply chain management for brands by enhancing demand forecasting and streamlining decision-making in key areas such as planning, pricing, promotions, and restocking. However, more advanced AI models and a willingness to digitize steps that have not been changed for centuries enable increased speed and better planning. For instance, **3D modeling and robotics** are speeding up product development. Additionally, the latest data-driven and automation tools — powered by large language models (LLMs) or designed for new applications — are helping brands streamline **sourcing interactions with suppliers, enhance planning, and better align supply with demand, reducing the risk of overstock.**

Source: Plug and Play

Why it matters today

The rise and dominance of hyper-fast fashion players like Shein, Temu, and Boohoo, which prioritize data analytics and predictive technologies at the core of their operations, have.

Source: Drum

Pressure on luxury brands: Luxury fashion, traditionally characterized by exclusivity, meticulous craftsmanship, and a measured production pace, is increasingly under pressure to meet the growing demand for constant novelty and speed. Brands like Gucci, Burberry, and Coach have accelerated their production

timelines to launch collections more frequently. For example, Gucci's Art Lab in Italy is dedicated to streamlining the production of leather goods and footwear, enabling the brand to bring new collections to market at unprecedented speeds, adopting strategies reminiscent of fast fashion's quick turnaround.

Source: Drum

The latest generative AI models can help businesses with consumer research, scenario forecasting, or creating new products with synthetic customer data. Compared to before, the difference with generative AI is that it can analyze vast amounts of data from various sources to offer answers about supply chains. Input your inventory data and ask, "Where am I at risk of overstocking or understocking based on current sales trends?" You'll get a tailored, data-driven answer with the latest generative AI technology. This technology streamlines the inventory management process by leveraging tools like pricing platforms and Google search, delivering insights efficiently and effectively. Generative AI models can help brands make data-driven decisions about sourcing, production planning, and inventory allocation by analyzing data related to suppliers, production capacities, lead times, and transportation logistics.

Source: Vogue

Emerging trends

Product Development

Fabric feasibility: Today, fashion fabric mills struggle to communicate with manufacturers and brands about fabric composition. Even the slightest change in a fabric's fiber composition can make it truly unique. Hundreds of specialized mills craft an endless array of distinctive fabrics each season, showcasing remarkable variety and innovation. When it comes to selecting the fabrics and laying out the pattern on the fabric, brands discover many fit or feasibility issues because it is not aligned with the properties of the fabric. This involves sampling waste and fit issues at the moment of purchase. Tailr's fabric sourcing and assessment tool aims to reduce the amount of sampling back-and-forth and fit issues by ensuring fabric feasibility.

Design: Generative AI, or large image generation models, is revolutionizing the design process by enabling the rapid creation and evaluation of hundreds of design variations based on set criteria, past collections, and brand standards. This accelerates the stages of inspiration, moodboard creation, and design development. While platforms like Arcade AI for jewelry, Raspberry AI, and Fabric for apparel have gained traction and secured substantial funding, their adoption by major brands, particularly in the luxury sector, remains gradual. Early adopters are more likely to be individual designers, smaller brands, or mass-market labels, which are generally more open to experimenting with AI-driven creativity.

Source: Plug and Play, Tailr

Demand forecasting and inventory management

Even the largest brands face challenges in accurately predicting demand, often resulting in overproduction, excess inventory, and price reductions that impact profitability. Traditional approaches, such as Excel formulas, basic regression models, or legacy software, struggle to keep pace with today's fast-changing market. Relying solely on historical data can lead to inefficiencies by overlooking demand fluctuations across customer segments or product categories. Modern solutions powered by Large Language Models (LLMs) enhance forecasting accuracy by incorporating larger external data sources like customer reviews, social media trends, and economic indicators such as inflation and the Consumer Price Index (CPI). Generative AI minimizes manual forecasting efforts, allowing planners to focus on strategic decision-making and quickly respond to market dynamics. Advanced tools like Autone, Metreecs, and Haiko are challenging traditional platforms like Anaplan and Relex by analyzing broader datasets to refine existing machine-learning models for greater precision and explain the reasoning behind demand shifts.

Source: TechCrunch

Procurement

Generative AI allows for streamlining supplier interactions and sourcing processes, including tasks like identifying potential suppliers, generating Requests for Proposal (RFPs), and evaluating bids. Analyzing sourcing options against predefined criteria significantly reduces the time and effort needed to select the most suitable suppliers. Additionally, generative AI enhances contract management by automating tasks such as summarizing agreements and facilitating contract negotiations.

Source: Planet Fintech

Manufacturing

The fashion industry's production model, largely unchanged for decades, faces significant challenges. Retailers grapple with overproduction — up to 30% of clothing remains unsold — alongside lengthy production cycles and reliance on offshore supply chains, which contribute heavily to carbon emissions from transportation. According to the BoF-McKinsey State of Fashion 2023 Survey, many fashion leaders are exploring nearshoring and on-demand production as solutions to supply chain inefficiencies. Emerging software tools aim to reduce production timelines from six months to as little as two weeks. To offset higher costs associated with onshore manufacturing, some brands also adopt robotics technologies to automate processes like sewing and weaving, streamlining production while managing expenses.

Sources: McKinsey, MannyAI

Startups Highlights

Hyran

Year: 2022

HQ: Cambridge, UK

Last fundraising & investors: $563K from investors, including Closed Loop Partners.

Description: Hyran is an AI platform that helps brands and their suppliers reduce lead time. Hyran uses AI to hold the optimal amount of raw material and trims at the supplier to ensure that brands can quickly respond to consumer demand. The model optimizes for minimizing lead time, waste, inventory cost, and financial risk for both the brand and manufacturer. Currently, Hyran is collaborating with global brands and manufacturers.

Why we like them: Instead of forecasting sales and demand, Hyran aims to strengthen the connections between the suppliers and stakeholders in the supply chain. It connects upstream and downstream data on raw material availability and production with sales data at the moment of purchase.

Metreecs

Year: 2024

HQ: Paris, France

Last fundraising & investors: $500K from investors, including Y Combinator.

Description: Metreecs can predict which products are going to be overstocked or understocked by fashion brands.

Why we like them: Contrary to many solutions on the market, they plug directly into brands' data sources and leverage the latest AI discoveries in academic research to process and analyze complex time series capture data patterns with significantly greater efficiency than conventional models.

Tailr

Year: 2018

HQ: Dublin, Ireland

Last fundraising & investors: $773.5K from investors, including Delta Partners, Haatch, & Enterprise Ireland.

Description: Tailr supports brands in making better decisions in the design process by digitizing fabric sourcing and providing data-driven recommendations on fabric feasibility during product development. By owning a digital fabric library and understanding the exact fabric composition, Tailr's AI models can advise the impact of using a certain fabric for a certain product type, thus reducing the back-and-forths in creating samples.

Why we like them: Fabric mills struggle to communicate with manufacturers and brands about fabric composition. When it comes to selecting the fabrics and laying out the pattern on the fabric, brands discover many fit or feasibility issues because the pattern is not aligned with the properties of the fabric. Tailr can reduce sampling waste and tackle the sizing and fit challenges at the moment of purchase.

SupplyHub

Year: 2023

HQ: Scottsdale, AZ, USA

Last fundraising & investors: Undisclosed.

Description: SupplyHub uses advanced tech and AI to automate sourcing and maximize value. It consolidates data for instant spend visibility, identifies savings through cost analysis, streamlines supplier discovery with curated matches, and automates RFQs, bid analysis, and strategy optimization for immediate and long-term benefits.

Why we like them: Current solutions are mainly targeted at buyers only, while SupplyHub provides rapid deployment and ease of use for both buyers and suppliers, which increases adoption.

Silana

Year: 2022

HQ: Vienna, Austria

Last fundraising & investors: $3.3M from investors, including SOSV, HAX, Material V, & OOE Hightechfonds GmH.

Description: Silana developed a machine that automates the expensive sewing process, turning fabric rolls into finished garments without human input. This innovation enables clothing production to be faster, cheaper, and more sustainable, even in high-wage countries.

Why we like them: Silana's machines use advanced robotics to produce high-quality garments without human input or chemicals, embedding traceability data in seams. With seven patents, a proven t-shirt prototype, and the ability to cut production costs by 40% while achieving an 83.5% gross margin, Silana demonstrates both technical and financial leadership.

MannyAI

Year: 2023

HQ: London, UK

Last fundraising & investors: $62K from investors, including Plug and Play, Dreamcraft, & Carbon13.

Description: MannyAI is an AI-powered production flow planner, enabling fashion brands and factories to leverage on-demand production to match supply with demand while avoiding overproduction & boosting profits. They have done projects with Ikea, Asos, and H&M.

Why we like them: Each year, 30% of garments (40Bn items) go unsold, leading to 490M tonnes of CO2e emissions and $300B in waste. Small batch production could solve this, but it is often costly, slow, and creates stock uncertainty. MannyAI makes small-batch production fast and profitable for brands and factories.

Lumina Ai

Year: 2024

HQ: London, UK

Last fundraising & investors: Undisclosed.

Description: Lumina transforms the role of ERPs by building modulable software that plugs into all the dedicated supply chain tools (forecasting, quality check, traceability, etc.). Thanks to generative AI, it acts as a data layer that enables users to make sense of all of the siloed data in a much more seamless manner.

Why we like them: Lumina is one of the handful of companies challenging legacy ERPs. The company believes ERPs will evolve into separate supply chain and financial operations systems. Their platform connects with financial systems, allowing supply chain teams to gain insights into the financial consequences of their choices, such as the cost of storing excess safety stock.

Expert interview with Risini Niriella, Business Analyst & Account Lead at Twinery (MAS Holdings)

Risini Niriella
Business Analyst & Account Lead
MAS Holdings

Q: Given the continued pressure to reduce overproduction in fashion, how is flexible and on-demand manufacturing critical, and what factors are driving this trend?

Risini Niriella: The apparel industry is fragmented, involving multiple players (yarn, fabric, and garment makers, brands, and retailers), leading to inefficiencies, long lead times, and high minimum order quantities (MOQs).

Traditionally, brands plan with manufacturers up to two years ahead of store delivery, relying heavily on forecasts that may not accurately predict future market changes. Reliance on these forecasts results in overproduction, unsold inventory, discounts, and waste. Flexible, on-demand manufacturing helps brands quickly respond to shifting consumer demands over shorter periods, reducing overstock and missed sales.

Additionally, brands can offshore production for predictable demand to maintain cost efficiency while using onshore manufacturing for quick responses to trends and fluctuations.

Driving factors:

- Growing awareness of environmental harm and waste in fashion, alongside new regulations
- Post-COVID caution of brands around over-ordering, as excess inventory led to business closures
- Increasing global disruptions (e.g., geopolitical tensions, tariffs, political instability, extreme weather) affect supply chains and create unpredictability
- Consumers' demand for instant gratification and on-trend products forces brands to act quickly to stay relevant (pushed by brands like Shein).

Q: How do you see manufacturing driving innovation? How is MAS Holdings innovating in the space?

Niriella: Individuals within the supply chain are efficient, but together, the industry has become inefficient. A factory is efficient, a fabric mill is efficient, etc., but when they come together, the whole system is inefficient. Because of these inefficiencies, we are seeing that manufacturing is driving innovation in connectivity tools throughout the supply chain. Seamlessly connected supply chains can lead to a more agile, market-driven supply chain. MAS is doing a lot when it comes to innovation in manufacturing; a few examples include:

1. Onshoring tech and business models: In response to the growing need for on-demand manufacturing, MAS is developing onshore technologies and business models that help brands stay ahead of the curve. Solutions are easy to operate, require minimal skills, and can be smoothly integrated into our partners' operations. They help them stay agile by enabling faster response times to market demands.
2. AI tools: Using historical and real-time data points, MAS can predict sales trends and match manufacturing to consumer purchasing patterns.

Q: Do you have a case study to share with some of your clients?

Niriella: Promptly is an onshored direct-to-garment printing solution that offers photo-realistic wraparound prints on intimate and athleisurewear of any fabric type. Brands need only maintain an inventory of white blanks (e.g., panties, bralettes, sports bras) that can be customized with prints, colors, and patterns to meet individual consumer preferences. For example, a collection of 40 white blank SKUs can be transformed into an infinite number of SKUs through limitless customization options printed on-demand. This on-demand printing process ensures that products are only made when needed, significantly reducing excess inventory and waste. Orders are printed and shipped in just five days, allowing brands to respond quickly to consumer demand. Through a unique combination of engineering, chemistry, algorithms, and vision systems, Promptly enables efficient and sustainable manufacturing by using 99% less water and 80% less energy than traditional printing methods. Promptly is onshored in the US and Mexico with brands like Adore Me (acquired by Victoria's Secret) and has supported their collaborations and drops such as Halloween, Pride, and Breast Cancer Awareness Month.

Q: With the latest developments in AI, what future developments do you anticipate in being more data-driven and automated at the manufacturing stage?

Niriella: The apparel industry operates in a linear and siloed manner, where each stage — yarn production, fabric creation, and garment assembly — occurs sequentially, creating inefficiencies and long lead times. AI can integrate these stages, enabling overlapping processes. For example, yarn can be delivered in stages, allowing fabric production to begin without waiting for the entire batch of yarn.

This simultaneous workflow breaks down silos and significantly reduces lead times, which allows brands to respond much quicker to market dynamics. Intelligent planning tools and prediction tools powered by AI can collapse the supply chain lead times, resulting in less over-production, better sales, and free-up cash flow for brands.

Expert interview with Thibaut Pellegrin, Co-Founder & CEO at Metreecs

Thibaut Pellegrin
Co-Founder & CEO
Metreecs

Q: How is the demand forecasting tooling landscape evolving? Why are we seeing a new wave of solutions?

Thibaut Pellegrin: In recent years, with the rise of machine learning and new large language models (LLMs), we've seen a dramatic improvement in forecasting capabilities. AI-powered forecasting, which was once mostly used for advanced trading strategies, is now being applied to tackle a broader range of challenges, such as addressing the $1.8 trillion inventory distortion between demand and supply (source: IHL Services). These advancements represent a huge opportunity for demand forecasting tools, enabling retailers to unlock greater value than ever before!.

Q: How is Metreecs addressing these new trends, and what are you doing differently from legacy solutions?

Pellegrin: Our CTO, Elie, brings deep experience in AI forecasting from his work at Virtu, a leading global financial market player. At Metreecs, we leverage transactional and inventory data from retailers, combined with external datasets and demand signals (such as weather, trends, seasonality, marketing, and macroeconomic factors), to deliver best-in-class forecasting. While many retailers still use legacy systems like spreadsheets and ERPs for demand forecasting — which require extensive manual work and often lack accuracy — we aim to provide a new way of delivering actionable, data-driven insights that boost profitability and efficiency.

Q: How do you connect forecasting to other parts of the supply chain?

Pellegrin: In the supply chain, forecasting is evident in key areas like planning and helping retailers get the right product in the right quantity and at the right location. Or for stock allocation by enabling efficient stock rebalancing and optimizing service levels across the distribution network. However, forecasting is the backbone of a more efficient supply chain and distribution system. From product ideation to planning, pricing, allocation, marketing, and discounting, AI-driven forecasting is transforming every step of the process.

Q: Could you describe how you are supporting a (fashion) brand?

Pellegrin: The accuracy of our forecasts is critical to supporting our clients, and we've seen up to 95% accuracy with the actual state of our models. For our early customers, the results have been quantifiable. By significantly reducing stock shortages, we've enabled up to 35% growth in sales opportunities while simultaneously cutting on-hand inventory by 30%. Our mission is clear: we want to harness AI and data science to transform the retail industry, an area rich with underutilized data.

We aim to help retailers drastically reduce waste, improve profitability, and create genuine value for their customers. AI goes beyond task automation or forecasting; it's about deepening understanding and offering clear guidance. It's about equipping users to harness their knowledge more effectively and make smarter, data-driven choices. Integrating AI seamlessly into workflows enables teams to focus on what truly matters — driving growth and innovation.

#3: Resale Sector: Navigating Towards Profitability & Creating a Seamless Experience

Rita Belarbi

Market Development

Resale involves buying and selling pre-owned goods, offering a sustainable alternative to discarding products once they have served their initial purpose. While the sector is gradually improving, profitability remains challenging for many players. Major companies in the market have only recently achieved profitability. For example, Vinted became profitable for the first time this year despite being in the market since 2008. Similarly, The RealReal achieved profitability in the fourth quarter of 2023, marking its first profit since its IPO in 2019.

Achieving profitability in the resale market is challenging for several reasons. High operational costs are a significant factor, as the logistics of managing a resale business, including inspecting and verifying items, are expensive. In the context of C2B2C businesses, such as The RealReal, and brands operating their own resale platforms, each second-hand item must be treated as unique, as every item needs authentication, pricing, photography, and a dedicated listing page.

Additionally, the resale market is becoming increasingly saturated, with many C2C and C2B2C platforms and brands entering the second-hand space. Furthermore, indirect competitors, such as ultra-fast fashion brands, are capturing a share of the resale customer base. This intense competition has sparked price wars, further reducing profit margins.

Innovation, particularly through AI for dynamic pricing and automation in quality control and authenticity, can significantly enhance financial performance. By optimizing pricing and

automation in quality control and authenticity can significantly enhance financial performance. By optimizing pricing and streamlining operations, these technologies help reduce costs and boost revenue, improving overall profitability.

Within this competitive ecosystem, providing a seamless experience is essential to enhancing user satisfaction, reducing friction in the buying and selling process, and improving customer retention. Innovations such as one-click resale and AI for product listings for C2C marketplaces can help deliver this seamless experience, making transactions faster and more efficient for both sellers and buyers.

Why it matters today

Resale has existed for many years, but it has now firmly established itself as a dominant force, especially in the clothing industry, outpacing traditional retail. It is projected to more than double by 2028, growing 6.4 times faster than the broader retail clothing sector, and is expected to reach $350 billion by 2028 Thredup (2024). Resale platforms have seen a surge in demand as consumers become increasingly concerned about the environmental impact of their buying choices and shift toward more eco-friendly consumption. With over 50% of consumers opting for secondhand apparel in 2023, these platforms play a vital role in supporting a circular economy. Fortune (2024)

As resale grows in popularity, brands are embracing it as a new revenue stream. Previously dominated by third-party marketplaces, Resale as a Service (RaaS) has emerged as a business model where companies partner with external recommerce solutions to create customized resale services. Brands across various price points are now becoming active players, building their own resale models. The number of brands offering resale platforms has grown by 31% from 2023 to 2024, surpassing 160 brands Thredup (2024). In 2024, key players like New Balance and IKEA launched their own resale platforms. Additionally, some retailers in these sectors are positioning themselves in the industry through acquisitions. This year, R Brand Alley, a retail brand, made its move into resale by acquiring The Edit Ldn, a sneaker resale platform.

Government involvement could also accelerate the shift toward a more sustainable future, including in the resale sector. For example, the Americas Act allocates over $14 billion in incentives for circular innovation as part of efforts to compete with China. Companies can qualify for a 15% deduction on their "qualified textile reuse and recycling activity income" for the taxable year. (Congress.gov, 2023), (Vogue Business, 2024)

Finally, technological advancements, particularly in artificial intelligence, have transformed the resale industry. AI enhances various touchpoints in the resale journey to improve operational efficiency and provide a seamless experience for both buyers and sellers.

Emerging trends

AI is Enhancing the Resale Sector

The resale sector is undergoing significant enhancement and transformation driven by AI, impacting every touchpoint of the resale process and improving both profitability and customer experience.

- **Dynamic Pricing:** AI enhances pricing in the resale sector by enabling dynamic adjustments in real-time, considering factors like market trends, item condition, demand, and competitor pricing. It can, for instance, recommend price increases for popular items or reductions for slower sellers. It can also assist in setting competitive prices for brands having their own resale platforms by monitoring similar items across the web and adjusting prices according to evolving market conditions.

- **Listing & product categorization touchpoint:** There is a duality between the need for detailed listings that buyers seek on C2C marketplaces and the demand for faster, easier listing creation from the sellers' side. AI has the ability to efficiently address this challenge and create a seamless experience for both buyers and sellers. In September, Depop launched an AI tool that generates listing descriptions and item details from a single photo, enhancing the experience for both sellers and buyers. Similarly, eBay developed an AI-powered solution, the "Magical Listing Tool," which automatically creates product details from one image.

- **Enhanced Authentication & Quality Control:** $2 trillion worth of counterfeit products are sold yearly, making it a key issue for the resale sector. CBS News (2024) AI is enhancing quality control and authenticity in the resale market, particularly in luxury goods, by automating product authentication, which reduces overall operational costs. MarqVision, for instance, uses AI to detect and remove

counterfeit listings from online marketplaces automatically. Marketplaces also use their AI features to improve authentication and quality control. In 2023, eBay acquired Certilogo, an AI-powered authentication provider, to improve and streamline secondhand authentication.

Creating a Seamless Experience in the Resale Sector Through Traceability

Digital ID (also known as a digital product passport) is set to enhance the resale sector by enabling better product identification and traceability. With this concept, every product can be pre-programmed for resale, allowing it to be tracked throughout its entire lifecycle.

Startups like Eon are already enabling brands to pre-program their products for easy resale across various marketplaces and channels. Their technology allows shoppers to scan a QR code or tap an NFC chip to instantly access product details, including material, provenance, and authenticity credentials.

Many industry players are adopting this innovation. In September 2024, Poshmark, a resale marketplace, partnered with EON and Coachtopia (Coach's sub-brand) to offer a one-click resale option for Coachtopia products on Poshmark using the digital passport built by EON. This collaboration creates a seamless experience for buyers and sellers, simplifying the process of listing and selling products with verified authenticity and traceability.

Additionally, regulation will further enhance the Digital Product Passport. The European Union is set to implement a rule requiring nearly all products sold in the EU to feature a Digital Product Passport, driving indirectly the integration of digital tracking in the resale market.

Startups Highlights

Beni

Year: 2021

HQ: Santa Barbara, CA, USA

Total fundraising & investors: $5M from investors, including Better Ventures, Buoyant Ventures, & Chingona Ventures & was part of the Google for Startups Accelerator.

Description: Beni is a free browser extension that highlights resale alternatives in real time while browsing brand sites. It also offers a mobile app and extension for viewing deals, saving searches, and setting alerts for new listings.

Why we like them: E-shoppers are often overwhelmed by the number of new and existing items found online. The browser extension efficiently highlights resale options during shopping, allowing users to discover alternatives without leaving a website.

Croissant

Year: 2022

HQ: Nashville, TN, USA

Total fundraising & investors: $24M from investors, including Third Prime & 25madison.

Description: Croissant offers a seamless shopping and resale experience through its Chrome extension, providing users with guaranteed buybacks for items they purchase from partnered retailers.

Why we like them: Croissant takes an innovative approach by shifting e-shoppers' mindset towards asset ownership. Indeed, with the guarantee to resell their products, shoppers are now more likely to view their purchases as "quick assets." With resale options integrated into the e-commerce checkout, Croissant enhances conversion rates by providing shoppers with the guarantee to resell their purchases.

Eon

Year: 2017

HQ: New York, NY, USA

Total fundraising & investors: $8.2M from investors, including Imaginary Ventures & SAP.iO.

Description: EON specializes in creating digital IDs for products, transforming how brands manage product lifecycles and engage with customers. Shoppers can gain instant access to detailed product information by scanning QR codes or using NFC chips.

Why we like them: EON's technology is particularly interesting because it can pre-program products for resale, providing a seamless, frictionless experience. With its 1-click resale feature, customers can simply scan a product's digital ID and resell it in just a few clicks on marketplaces such as Vestiaire Collective. This also streamlines marketplace operations, as product identification and authentication are fully automated.

Ealyx — Link to our startup series interview

Year: 2024

HQ: Barcelona, Spain

Total fundraising & investors: $1.1M from investors, including Archipelago Next and Demium.

Description: Ealyx integrates trade-in as a payment method within e-commerce and provides instant discounts to consumers when they sell their used products while making a new online purchase. The trade-in value is instantly discounted from the new purchase even before the product sold is inspected.

Why we like them: Ealyx is interesting as it integrates multiple buyback partners, making the trade-in process independent of product categories. For instance, a shopper can purchase a phone by partially paying with a used bicycle. Additionally, it offers Buy Now Pay Later solutions after the trade-in reduction is applied, making purchases more accessible for shoppers.

MarqVision

Year: 2020

HQ: Los Angeles, CA, USA

Total fundraising & investors: $41M from investors, including Hillspring Investment & Altos Ventures.

Description: MarqVision offers AI-powered brand protection software to combat counterfeiting and unauthorized sales. The platform detects counterfeit items using advanced image recognition and semantic analysis. It also helps businesses analyze, take legal action, and measure the impact of these infringements.

Why we like them: MarqVision takes care of the counterfeit issue from A to Z, reducing the burden for marketplaces and brands with their own resale platforms. Like other competitors, it flags counterfeits, removes the products, and sends cease-and-desist letters to offenders.

Revers.io

Year: 2009

HQ: Paris, France

Total fundraising & investors: $6.5M from investors, including SAP.iO & Fonds régional de co-Investissement.

Description: Revers.io helps develop second-life businesses thanks to returns. The solution efficiently directs returned items to the appropriate resale channels for businesses. Revers.io also offers repair features, enabling brands with their own resale platforms to manage product reconditioning in preparation for resale. Additionally, it automates the resale process by creating unique product sheets for each item and automatically distributing the product on a brand's merchant site for resale.

Why we like them: With the average return rate for online purchases at 17.6%, this issue presents a significant challenge for brands like Shopify (2024). Revers.io addresses this issue by turning returned items into valuable assets. The platform efficiently manages returns, converting them into second-life products, and automates the resale process, including smart dispatch, product sheet creation, and integration with second-life e-commerce platforms.

FAUME

Year: 2019

HQ: Paris, France

Total fundraising & investors: $7.4M from investors, including Bpifrance & Daphni.

Description: FAUME provides a resale platform for fashion and luxury brands to implement circular business models. The platform offers tools for managing trade-ins, reconditioning products, and enhancing the resale experience. One of its key features is its dynamic pricing solution, which enables businesses to adjust prices in real time based on market conditions and financial goals.

Why we like them: FAUME's dynamic pricing features interest us the most. The system analyzes real-time data across various factors, allowing businesses to adjust prices instantly, optimize profits, and maintain resale market competitiveness. This flexibility ensures quick adaptation to market conditions, improving secondhand program profitability and aligning with competition.

Case Study

Hardloop

Overview: Hardloop is an e-commerce platform entirely dedicated to outdoor products. In 2021, they launched their second-hand online department, fully integrated into their initial e-commerce platform, to support the circular economy and address environmental concerns. All product inspections are conducted in-house, and second-hand products sold offer the same benefits to shoppers as new ones, including delivery fees and return policies.

Problem: Hardloop encountered significant challenges in implementing and scaling its resale platform. Managing second-hand items involved high operational costs and logistical complexities due to the unique nature of each product and the lower average basket values compared to new items. Furthermore, maintaining a steady supply of high-quality pre-owned items required effectively incentivizing customers to actively participate in the resale program.

Solution: To address these challenges, Hardloop implemented a series of strategies. The company opted to manage the resale process entirely in-house, developing internal tools for logistics, quality control, product photography, and online listing. Hardloop also employed a dynamic pricing strategy, controlling both buying and selling prices to accurately forecast margins and remain competitive. To encourage customers to contribute high-quality second-hand items, Hardloop simplified the process for sellers by providing flexible payment options, such as bank transfers, vouchers, or donations to environmental causes. Finally, integrating second-hand and new products on the same platform allowed Hardloop to boost revenue through cross-selling opportunities, as nearly 40% of second-hand orders included new items.

Be sure to check out our interview with Hardloop co-founder Julien Jérémie to explore how startups like his are leading the way in circular fashion.

Expert interview with Alexandre Girault, Head of Innovation at Lacoste

Alexandre Girault
Head of Innovation
Lacoste

Q: The resale sector is growing, but achieving profitability remains challenging. How do you think brands with their own resale platforms can overcome this challenge?

Alexandre Girault: First, I would like to add a disclaimer that these are my personal opinions, and other great people at Lacoste in strategy, business, marketing, and branding may offer more targeted insights.

Profitability is indeed the primary challenge in the resale and second-hand business. For brands to succeed with their own resale platforms, they must focus on three critical levers. First, operations and product processing must be optimized at the item level to control costs and ensure efficiency. Second, inventory management is crucial to balancing supply and demand while avoiding overstock. Lastly, achieving sustainable margins requires precise pricing strategies and cost monitoring. A strong operational foundation paired with a clear alignment to brand values will be key.

Q: As Head of Innovation at Lacoste, what type of innovation did you implement in the new resale service — backend or frontend?

Girault: We have greatly benefited from our partnership with FAUME, whose expertise in the resale space has been invaluable. They've supported us in learning the nuances of second-hand operations. However, as this is a Lacoste initiative, we've ensured that our high standards are upheld across both the backend and front end to offer our customers the seamless, premium experience they expect.

We have implemented some innovations that were related to the constraints we were having; one I have in mind, for instance, while not going too much into detail, is that we have implemented AI tools to automate the cropping of model shots for product detail pages (PDP) across past and present collections of garments.

Q: With the rapid advancement of AI, what future developments do you foresee in the resale sector that could drive profitability?

Girault: I would love to have the answer to that! I believe AI will play a role in scaling profitability in the resale sector. Hyper-personalization stands out as a key opportunity: offering the right product at the right time to the right customer will enhance engagement and drive conversions. But more than business, it will definitely help us better monitor our impact in terms of sustainability!

AI-powered predictive analytics could also help us drive inventory and pricing management, helping brands minimize overhead while staying competitive. Even though we are not there yet, on the marketing front, generative AI has lots of potential to scale our content that highlights the unique stories behind second-life pieces.

That said, authenticity remains non-negotiable, especially for premium brands like Lacoste. While AI might streamline authentication through advanced image recognition, ensuring trust and quality will always require a human touch. Especially for us, as authentication is at the heart of our resale offering. For me, the future is about blending technology with craftsmanship to enhance customer experiences and uphold brand values.

Q: As the resale sector becomes increasingly saturated with marketplaces and brands launching their own resale platforms, how can they differentiate themselves in such a competitive landscape?

Girault: As for e-commerce, I think it really comes down to what services you are able to offer to your customers both on the back and front end. However, I am not sure it's more about differentiating ourselves just for the resale platform. My take on it is more about how you converge your firsthand and secondhand offerings to be able to express even more the DNA of the brand end-to-end with coherence to our audiences.

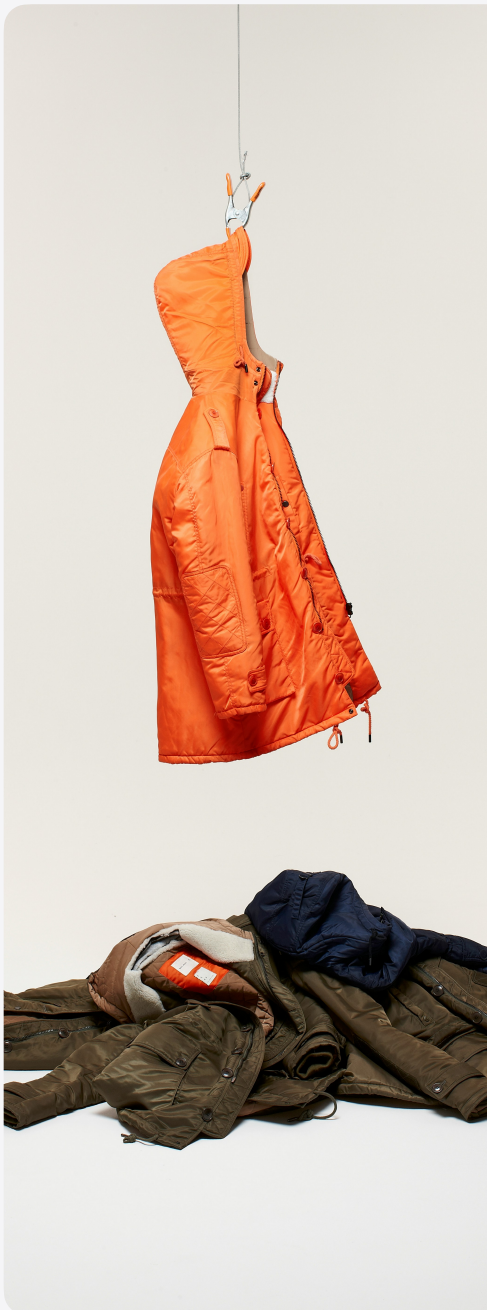
Also, I think at Lacoste, we are extremely lucky as it is in our DNA to provide timeless and durable products that can be passed down from generation to generation, and that means that customers who look for second-hand products usually are seeking out Lacoste.

#4: Beyond the Checkout: How Post-Purchase Innovation Redefines Brand Loyalty

Daria Pelini

Market Development

Post-purchase innovation refers to the suite of services and technologies designed to enhance the customer and brand experience after a purchase has been made. This trend includes solutions for **customer service, product repair, returns, fraud prevention, shipping issue resolution, and recommerce.** The objective is to extend customer satisfaction and engagement beyond the point of sale, making the post-purchase experience as seamless, convenient, and personalized as possible. This trend is particularly relevant for e-commerce and DTC businesses, where customer retention and brand loyalty are critical to success.



Why it matters today

The importance of post-purchase innovation has grown significantly in recent years, driven by a confluence of macroeconomic factors and evolving customer expectations. The rapid **expansion of e-commerce, accelerated by the COVID-19 pandemic,** has fundamentally altered the retail landscape. In 2023, global e-commerce sales reached $6.3 trillion and are projected to grow to $8.1 trillion by 2026.[7] This surge has heightened consumer expectations for a seamless post-purchase experience, encompassing everything from shipping and returns to customer support.

As **competition intensifies,** brands are increasingly recognizing the post-purchase experience as a key differentiator. A study by Salesforce found that 90% of consumers consider the post-purchase experience to be just as important as the quality of products themselves.[8] This shift has compelled companies to

[7] https://www.voxco.com/blog/importance-of-optimising-post-purchase-customer-experience/

[8] https://www.voxco.com/blog/importance-of-optimising-post-purchase-customer-experience/

invest in enhancing their support and convenience offerings even after a sale is completed.

Technological advancements, particularly in AI, ML, and data analytics, have revolutionized the post-purchase landscape. These innovations have made it possible to automate and personalize various aspects of the customer journey. For instance, AI-powered chatbots can now handle up to 80% of routine customer service questions, freeing up human agents to focus on more complex issues.[9]

The **rise of sustainability concerns** has also played a significant role in shaping post-purchase innovation. Consumers are increasingly conscious of the environmental impact of their purchases, with 66% considering sustainability when making a buying decision.[10] This shift has driven demand for re-commerce and repair services, pushing brands to support a more circular economy.

Data & automation have become central to post-purchase strategies. Companies now have access to unprecedented amounts of customer data, allowing them to streamline processes, detect fraud more effectively, and automate customer service. For example, advanced analysis can predict customer issues before they arise, with companies reporting a 30% reduction in consumer service inquiries through proactive problem-solving.[11]

[9] https://www.pymnts.com/news/retail/2024/brands-focus-on-post-purchase-innovations-to-foster-customer-loyalty/

[10] https://wesupplylabs.com/8-effective-ways-to-enhance-your-post-purchase-customer-experience/

[11] https://www.retaildive.com/spons/the-power-of-post-purchase-engagement-strategies-for-lasting-customer-loya/712434/

Emerging trends

Customer Service

Customer service is undergoing a transformative shift through **AI-powered solutions** like Claude, which was developed by Anthropic. **Generative AI** has also improved the space, creating human-like responses to customer queries. AI systems are not capable of analyzing user patterns to **initiate proactive customer support experiences.**

ASAPP, a leading customer service technology company, has demonstrated Claude's breakthrough capabilities in revolutionizing customer interactions. By leveraging Claude's advanced conversational AI, businesses can now provide more natural, contextual, and efficient customer support. Research indicates that 85% of consumers would not shop with a retailer again after a poor delivery experience, underscoring the importance of effective post-purchase support.

Product Repair

Legislation, particularly in the EU, is mandating manufacturers to provide spare parts and repair information to consumers.[12] New solutions in the space are being developed to help retailers provide repair services to their clients and comply with stricter legislation. Examples are **AI-powered diagnostic tools** to accurately diagnose product issues and streamline the repair process, **circular economy platforms** that facilitate collaboration between stakeholders, **and AI-driven repair triage solutions** to provide personalized repair guidance. Companies like Prolong are addressing consumers' desire for sustainability by providing convenient access to clothing alterations and repairs. Prolong's platform enables brands and retailers to extend the lifespan of their items seamlessly. This approach not only appeals to eco-conscious consumers but also helps retailers manage inventory more effectively and cut down on returns due to fit or wear issues.

Returns

Returns are a significant expense for retailers, but innovative solutions are helping to reduce these costs. One promising approach is the use of **AI-powered exchange-first models**, such as **Rever**, which analyzes customer preferences and purchase history to recommend personalized exchanges. This approach not only increases the likelihood of retaining sales but also offers instant refund options, enhancing the customer experience. New technologies like **virtual fitting rooms and try-before-you-buy programs** further help minimize returns by allowing customers to better assess products before committing to a purchase. Additionally, **centralized return hubs** are transforming the logistics of returns. For instance, **Happy Returns** provides a

[12] https://techsee.com/blog/right-to-repair-and-ai-powered-support/

network of drop-off points where customers can return items without needing packaging or shipping labels, streamlining the process while reducing operational costs and environmental impact.

Fraud Prevention

Return fraud is a growing challenge that costs retailers billions each year. New technologies are emerging to enhance fraud detection, including **AI-powered real-time anomaly detection, behavioral biometrics,** and innovative methods for **gathering customer data.** Solutions like **Trudenty** tackle this by providing fraud risk scores for customers, enabling retailers to assess the likelihood of fraudulent returns before they happen. These scores are based on consumer data and behavioral analytics, allowing companies to take a data-driven approach to fraud prevention and deliver tailored customer experiences based on risk levels.

Shipping issue resolution

Shipping delays and lost packages are significant challenges, particularly for e-commerce brands. Innovative solutions in this space include **AI-powered predictive analytics** to anticipate potential shipping issues before they arise and **smart route optimization tools** that factor in variables such as weather conditions and traffic patterns to ensure timely deliveries.

Additionally, **self-service resolution platforms** streamline the process for both retailers and customers. For example, **Shipaid** offers a self-service portal that allows customers to report issues like lost or delayed packages without lengthy interactions. By simplifying the resolution process and keeping customers informed, Shipaid helps maintain trust and reduces the burden on customer service teams.

Recommerce

Recommerce is gaining traction as consumers increasingly prioritize sustainable shopping options. This practice involves buying and selling pre-owned or returned goods through online platforms, thereby extending their lifecycle. Innovations in the space include **AI-powered inspection and grading systems** to assess product quality, **multi-channel resale integrations** that connect various stakeholders for a seamless buyback and resale process, and **circular economy platforms** that offer end-to-end recommerce solutions. Companies like **Relished** are at the forefront of this trend, enabling brands to establish their own buyback and resale programs. By facilitating the resale of products, brands not only support sustainability but also retain control over their products' lifecycle. This approach helps keep customers engaged within their ecosystem and attracts new, value-conscious consumers who prefer purchasing pre-owned items from trusted sources.

Startup Highlights

Parloa — Customer Service

Year: 2018

HQ: Berlin, Germany

Total fundraising & investors: €85.7M from investors, including EQT Ventures, Newion, & Mosaic Ventures.

Description: Parloa is an AI-powered platform that automates customer service interactions across multiple channels, including phone, text, and live chat. It leverages advanced generative AI to create human-like conversations, enabling businesses to enhance customer experiences while streamlining repetitive tasks for human agents.

Why we like them: Parloa's focus on voice-first AI and human-like interactions aligns with the trend towards more sophisticated, context-aware customer service solutions. Parloa AI agents are capable of dynamic, contextual conversations with any customer, in any language, at any time of the day, resulting in 97% routing accuracy, 70% conversion rate, and a 10% cross-selling rate.

Prolong — Link to our startup series interview

Year: 2023

HQ: Paris, France

Total fundraising & investors: €1.5M from investors, including Imagination Machine.

Description: Prolong is a SaaS platform empowering brands and retailers to seamlessly launch, pilot, and scale impactful white-label care and repair services.

Why we like them: Prolong provides services in a white-label manner, allowing brands to develop their own repair platform. Moreover, Prolong is an omnichannel platform, harnessing new streams of revenue across all touchpoints with integrated care services.

Trudenty — Fraud Prevention

Year: 2022

HQ: London, UK

Total fundraising & investors: Undisclosed seed round.

Description: The Trudenty Trust Network enables data sharing across the payments ecosystem to prevent fraud and enable enhanced payment experiences through personalization.

Why we like them: Trudenty's real-time AI analysis goes beyond traditional fraud detection by providing dynamic risk scores for each transaction, allowing for more nuanced and accurate fraud prevention without compromising the customer experience.

ShipAid — Shipping issue resolution

Year: 2022

HQ: Pasadena, CA, USA

Total fundraising & investors: Undisclosed.

Description: ShipAid provides a self-service resolution portal for shipping issues, allowing customers to report and resolve delivery problems without lengthy conversations with customer service.

Why we like them: ShipAid's self-service portal empowers customers to resolve shipping issues independently, reducing support ticket volume and enhancing customer satisfaction through immediate problem-solving capabilities.

REVER — Returns

Year: 2022

HQ: Barcelona, Spain

Total fundraising & investors: €8.4M from investors, including Y Combinator & Global Founders Capital.

Description: REVER is a SaaS platform that automates tracking, processing, and managing customer inquiries, reducing the need for manual support. Part of its offering is an analysis of customers' preferences to recommend exchanges instead of returns.

Why we like them: Automated returns processing, making returns 30% cheaper and increasing customer satisfaction by 90%, AI-powered insights to help bring returns down to zero, omnichannel capabilities both online and in-store, seamless integrations with global eCommerce businesses.

Forter — Fraud prevention

Year: 2013

HQ: New York, NY, USA

Total fundraising & investors: $525M from investors, including Sequoia Capital, Bessemer Venture Partners, & New Enterprise Associates.

Description: Forter is a SaaS company that delivers real-time, automated fraud prevention solutions for online merchants. Part of its offering is a fraud prevention platform for e-commerce that makes real-time decisions across the entire customer journey, distinguishing between legitimate customers and fraudsters.

Why we like them: Forter's ability to make instant decisions across the entire customer journey, coupled with its vast transaction database, allows for unprecedented accuracy in fraud detection while minimizing false positives.

Case Studies

Rever & Adidas

Overview: Adidas, a global leader in sportswear, partners with REVER to enhance its reverse logistics operations. By implementing REVER's "Guarantees" system, Adidas aimed to improve warranties, streamline logistics, and integrate with existing ERP and warehouse systems. This initiative was designed to boost operational efficiency and customer satisfaction in their return process.

Problem: As Adidas expanded its global presence, managing returns across numerous stores and franchises became increasingly complex. To maintain operational excellence, the company needed a solution to streamline its reverse logistics, improve warranty management, and integrate seamlessly with existing systems.

Solution: Adidas implemented REVER's 'Guarantees' system to optimize its reverse logistics operations, which provided improved warranty management, seamless logistics integration, and compatibility with existing ERP and warehouse systems. This comprehensive approach allowed Adidas to streamline its returns process effectively.

Results: This initiative resulted in Adidas achieving a remarkable €500 million revenue growth in 2023, significantly expanding its operations to over 2 million stores and more than 13,000 franchises worldwide. The implementation of the REVER system led to substantial improvements in operational efficiency, enhancing warranty management and contributing to the company's overall operational excellence in managing returns.

Parloa & Decathlon

Overview: Decathlon, a leading global sporting goods retailer, partnered with Parloa to optimize its customer service operations. Leveraging AI-driven conversational bots, Decathlon aimed to enhance customer experience across phone, chat, and messenger channels. This initiative streamlined interactions, reduced agent workload, and supported their goal of delivering top-tier service in a scalable manner.

Problem: As Decathlon expanded, its customer support faced growing challenges, including high volumes of repetitive queries and increased pressure during peak times. These inefficiencies impacted response times and limited agents' ability to address complex customer issues.

Solution: Decathlon implemented Parloa's conversational AI, alongside partners Genesys and Future of Voice, to automate routine inquiries and enhance service scalability. By integrating AI bots across multiple channels, they reduced repetitive tasks by 20%, improved response accuracy, and freed up agents to handle priority issues, ultimately boosting both customer satisfaction and operational efficiency.

Loop & Progress Jiu Jitsu

Overview: Progress Jiu Jitsu partnered with Loop to improve their returns process. By automating returns and providing customers with convenient options like instant exchanges, they enhanced customer satisfaction and retained more revenue.

Problem: Their manual returns system was inefficient and time-consuming and didn't align with their brand's high-quality image. Additionally, many customers who requested refunds didn't return to shop again.

Solution: Loop's platform helped Progress in several ways:

1. Automated Returns: replaced manual processes with an automated system that streamlined returns, reducing time spent on identifying and processing items.
2. Increased Exchanges: introduced features like "Shop Now" and "Instant Exchange," allowing customers to quickly exchange products instead of requesting refunds. Bonus credits encouraged 90% of customers to opt for an exchange.
3. Data-driven insights: provided analytics on return reasons, helping the company adjust product sizing. This led to a 10% drop in return rates, improving customer satisfaction and retention.

Expert interview with Lerato Matsio, Founder & CEO at Trudenty

Lerato Matsio
Founder & CEO
Trudenty

Q: Given the evolving landscape of digital commerce, why is fraud prevention increasingly critical, and what key factors are driving this trend?

Lerato Matsio: Fraud in commerce grows in tandem with the rise of digital commerce, with friendly fraud in the post-purchase journey alone contributing to over $100 billion in annual merchant losses and operational inefficiencies. Key drivers of this trend include:

- **Shifts in Consumer Behavior:** Friendly fraud, where customers exploit refund policies for personal gain, is increasingly viewed as a "life hack," particularly among Gen Z and Millennials. This behavior reflects a troubling normalization of policy abuse.
- **Consumer Protection Regulations:** Mechanisms like Chargeback Processes, Consumer Duty, and the Mandatory Reimbursement Model have strengthened consumer protection but unintentionally opened doors for fraudsters to exploit these frameworks for fraudulent refunds and chargebacks.
- **Rise of Faster Payments:** While Faster Payments reduce card fees and offer efficiency, they expose merchants to greater risks due to the absence of robust dispute resolution and chargeback mechanisms, leaving them vulnerable to fraud, unauthorized transactions, and customer disputes.

Q: How does your solution specifically address fraud challenges in the post-purchase phase, and what quantifiable benefits have your clients experienced?

Matsio: Trudenty's Consumer Trust Network tackles post-purchase fraud, particularly friendly fraud, by leveraging a shared intelligence approach. Our platform uses machine learning and a collaborative fraud prevention model to:

- **Identify fraudulent patterns and consumers:** By analyzing transaction histories across merchants and issuers, we detect patterns indicative of friendly fraud.
- **Provide evidence-based insights:** Our platform generates detailed evidence reports for chargebacks and refunds, increasing merchants' success rates in dispute resolution.
- **Promote preventative action:** Merchants can preemptively flag high-risk transactions or customers based on network insights and take preventative action that prevents fraud.

The Consumer Trust Network delivers tangible benefits to merchants: Reducing fraud losses by identifying and addressing friendly fraud risks preventatively, improving dispute success rates through evidence-backed responses, and saving hours previously spent on manual fraud investigations and refund decisioning.

Q: With the rapid advancement of technologies like AI and ML, what future developments do you anticipate in fraud prevention, and how is Trudenty positioning itself to stay ahead?

Matsio: The next big leap in fraud prevention technologies lies in leveraging collaboration through data sharing to eliminate the visibility gap and enable real-time fraud prevention and adaptability. Three key themes we're excited about across commerce:

- **Shared fraud risk intelligence:** Networks that enable collaboration across merchants and banks to distill real-time fraud risk insights to prevent friendly fraud.
- **Trust-based ecosystems:** Shared fraud risk intelligence will require trust and transparency on networks facilitating the collaboration, along with standardized data-sharing mechanisms.
- **Personalized & dynamic decisioning:** Algorithms that enable merchants to deploy dynamic decisioning for consumers based on their personalized fraud risk profiles to enhance customer experience and unlock operational efficiencies.

We're proud that Trudenty is positioned at the forefront of these advancements: We're continually enhancing our Consumer Trust Network to deliver real-time fraud prevention across the commerce ecosystem. We're investing in adaptive ML models that help the network stay in step with evolving fraud tactics across participating merchants. By scaling the Consumer Trust Network, we will usher in a new global standard for friendly fraud prevention.

Q: As fraud prevention becomes more sophisticated, how do you balance effective security measures with maintaining a seamless customer experience?

Matsio: Contrary to popular belief, fraud prevention, and customer satisfaction are not mutually exclusive. By embedding personalized fraud risk intelligence directly into payment flows, merchants can seamlessly balance both objectives — enhancing the customer experience while preventing fraud.

The outcome is a win-win: merchants gain best-in-class fraud protection, and customers benefit from trust and transparency, fostering stronger loyalty.

#5: Transforming Customer Data Analytics & Insights

Gaspard de Durand

Market Development

As the demand for deeper customer insights grows, companies are redefining their data analytics strategies to drive faster, more precise decision-making. By leveraging advancements in synthetic data, predictive analytics, AI-powered feedback, and AI-driven tools like digital twins and edge computing, businesses can collect and analyze customer behavior, preferences, and interactions more effectively. These technologies not only enhance market responsiveness but also foster deeper connections with customers, enabling brands to stay agile and competitive.

Why it matters today

Competition & Technological Advancements: The future of innovation in customer data analytics is poised for rapid transformation, driven by emerging technologies and growing business demands. In 2024, Gartner estimated that 60% of data used in AI and analytics will be synthetic, enhancing privacy and enabling scalable innovation (Gartner, 2023). Real-time data observability, adopted by just 5% of organizations in 2023, is expected to grow to 30% by 2026, allowing businesses to make timely and actionable decisions through emerging business intelligence copilots powered by AI (Polestar, 2024). Additionally, decentralized data mesh architectures are gaining traction among global leaders like Netflix and Airbnb, enabling scalable and democratized access to data insights through emerging data collecting and processing solutions. Companies like Amazon and Spotify are at the forefront of this shift, led by emerging AI and ML technologies, leveraging vast customer data to offer predictive recommendations, dynamic pricing, and curated experiences that keep consumers loyal.

Similarly, brands like Shopify, with its acquisition of AI-driven analytics startup Peel Insights, and Nike, harnessing customer and athlete data through its Sports Research Lab and AI-powered AI technology, are transforming analytics into actionable insights to set the standards in customer data-driven strategies. (AIM Research, 2024)

Market Development: Customer data analytics has also attracted significant investor attention, with over $10 billion in total funding and five unicorns, including French unicorn ContentSquare, a leader in digital experience analytics, and American unicorn Acquia, a leading traditional customer data platform. Corporate acquisitions in the space have also surged, with 12 deals in 2024, including acquisitions from scaleups like Sana Labs, a leading European knowledge management company, compared to just four in 2023. (Tracxn, 2024)

Emerging trends

AI for Customer Insights & Predictive Analytics

Emerging customer insights and predictive analytics technologies are helping businesses make real-time and data-driven decisions. According to BCG, 53% of corporate executives believe AI will significantly enhance customer insights by improving data integration, predictive modeling, and faster market responses. (BCG, 2024)

- Emerging **AI-powered feedback and predictive analytics tools** are transforming customer satisfaction by integrating real-time data sources to deliver actionable insights. With predictive analytics, low-code interfaces, and pre-built models, these tools enable businesses to forecast key metrics like retention, conversion rates, and churn while streamlining data-driven decision-making.
- Emerging **AI business intelligence copilots** are transforming how brands analyze and leverage complex internal and external data by delivering real-time insights through conversational interfaces and multiple output formats. These solutions provide a self-service platform where businesses can uncover customer behavior trends and generate instant reports and graphs without relying on traditional data analysts.

Synthetic Data for Customer Research

Customer research has always relied on large and diverse data sets to provide meaningful insights. However, challenges arise when it's difficult to gather enough data on a specific niche market or when budget constraints limit the ability to reach a wide audience.

Emerging **customer research solutions leveraging synthetic data** and machine learning offer cost-effective insights by enhancing small sample sizes through AI-driven pattern recognition, improving access to hard-to-reach segments. Unlike traditional methods, these technologies do not rely on random data generation or large pools of historical surveys but instead, intelligently expand data through patterns using AI. It is also proving effective, with Qualtrics reporting that 87% of researchers who have used synthetic responses are highly satisfied with the results. (Qualtrics, 2024)

Meeting the Demand for Real-Time Customer Data

As IoT-connected devices are expected to double by 2030, businesses must shift from batch processing to real-time data collection to handle the increasing data volume. **Edge computing solutions** address this challenge by reducing latency and enabling web-focused businesses to be more responsive. By processing web data closer to its source — whether through IoT sensors, mobile devices, or in-store — edge computing overcomes the limitations of traditional data analytics platforms that miss up to 25% of users due to ad blockers and performance issues. (Statista, 2024) (EU-Startups)

Next-generation data processing and carrier tools such as **Change Data Capture (CDC)** solutions also play a key role in real-time data processing. While data is often collected in real-time, it's typically processed in intervals of 12 to 24 hours. CDC reduces the Total Cost of Ownership (TCO) and allows businesses to act on real-time insights from sales, customer behavior, and inventory. (InfoDSI, 2023)

Next-Generation Customer Data Platforms (CDPs)

Traditional CDPs may seem like a quick, all-in-one solution, but "only 58% of companies with a deployed CDP say it delivers significant value" (CDP Institute, 2024). They consolidate data across marketing channels but create silos, require moving customer data externally, and involve high costs, technical expertise, long deployment times, and vendor lock-in.

In contrast, **emerging composable CDP solutions** offer modular, flexible, and self-service tools that integrate with existing data ecosystems and sit on top of cloud data platforms. Composable CDPs allow marketers to create more tailored segments and

run campaigns through no-code interfaces, offering real-time data sharing, improved data quality, stronger governance, faster implementation, flexibility, and better control over customer data. (Snowflake, 2024)

Ensuring Customer Data Integrity in Modern Retail

Customer data integrity has become a critical concern for brands and retailers, as inaccurate data can lead to skewed analytics, poor decisions, and lost revenue. Studies revealed that poor data quality costs companies an average of $12.9 million annually — which can account for up to 3–5% of retailers' total profits. (Gartner, 2021) (Yofi, 2024)

To tackle this, emerging solutions are leveraging **machine learning** through **dynamic identity resolution and real-time anomaly detection** to validate data across multiple touchpoints. Unlike traditional fraud prevention tools, these solutions dynamically and in real time understand customer intent and context, delivering more accurate insights and reliable data. They integrate with physical stores, e-commerce, mobile apps, and third-party retailers to create a digital identity for each customer while also eliminating issues like duplicate accounts, bots, and resellers. (Artefact, 2024)

Startups Highlights

Findly

Year: 2022

HQ: San Francisco, CA, USA

Total fundraising & investors: $500K from investors, including Y Combinator & Switch Ventures.

Description: Findly is an AI business intelligence analytics copilot that transforms complex data into real-time insights for smarter business decisions.

Why we like them: Findly is an AI copilot that helps brands uncover trends, generate reports, and deliver actionable insights with real-time predictions. It automates data analysis, organizes information, and syncs with internal systems to provide powerful business intelligence through a conversational interface.

Zenlytic

Year: 2018

HQ: New York, United States

Total fundraising & investors: $15.4M from investors, including Sequoia Capital, Bain Capital Ventures and Correlation Ventures.

Description: Zenlytic is an AI-powered business intelligence platform that simplifies data exploration to make more informed decisions. It simplifies predictive analytics by turning complex data into intuitive and real-time

recommendations for operational improvements. Zenlytic allows teams to easily create dashboards, analyze data, and gain predictive insights through a conversational interface, streamlining decision-making for both technical and non-technical users without the need for complex tools.

Why we like them: Zenlytic is exciting because it enables the widespread adoption of business intelligence tools across all employees, not just data analysts.
It enables brands to harness predictive analytics to forecast customer churn and preferences by analyzing historical data and consumer behavior patterns, with features like root cause analysis, iterative questioning, and capabilities for use cases such as campaign optimization and internal data applications.

DinMo

Year: 2022

HQ: Paris, France

Total fundraising & investors: €6.6M from investors, including Seedcamp, Motier Ventures, Financière Saint James, 468 Capital, & Kima Ventures.

Description: DinMo is a next-generation customer data platform (CDP) for non-technical teams that enables marketing teams to bypass silos and independently access, segment, and activate customer data. DinMo improves targeting efficiency with first-party audience insights and enables cross-functional audience syncing as third-party cookies decline.

Why we like them: DinMo's composable CDP stands out for its modular approach to CDPs, offering a more flexible and scalable solution compared to traditional, monolithic CDPs. Unlike traditional CDPs, which require moving all customer data into their system, have high implementation costs, and are built for engineers and technical users, DinMo integrates seamlessly with existing data and marketing infrastructures. Traditional CDPs also often come with vendor lock-in, long deployment times, and can take up to a year to launch. In contrast, DinMo is highly configurable, allowing businesses to keep their customer data within their own infrastructure and integrate easily with the best tools and with no setup time.

Popsink

Year: 2021

HQ: Paris, France

Total fundraising & investors: $1.8M from investors, including XAnge & Sequoia Capital.

Description: Popsink develops the next generation of data processing tools for the modern data stack. Popsink is a data carrier that enables continuous and real-time data capture, processing, and sharing with both humans and systems.

Why we like them: While data is often collected in real time, it is typically processed in 12 to 24-hour intervals due to batch data structures. This leaves enterprises

with outdated inventory, customer support teams relying on old data, and logistics providers missing timely alerts. Sales and marketing teams also lose chances to deliver real-time value, reduce losses, or quickly address issues. Popsink helps companies act on real-time insights for sales, customer data, and inventory while reducing data management costs.

Edgee

Year: 2024

HQ: San Francisco, CA, USA

Total fundraising & investors: $2.9M from investors, including Serena and Venture Friends.

Description: Edgee is an open-source edge computing platform that turns client-side systems like browsers and devices into network edge components. It captures web analytics interactions, reduces latency, cuts bandwidth, and enables real-time data processing.

Why we like them: Edgee solves a major problem in data processing: traditional analytics platforms miss 25% of users and 30% of usage due to ad blockers, privacy rules, and performance issues (EU-Startups). By using edge data collection, Edgee captures 100% of interactions in near real-time, providing businesses with complete, reliable web analytics.

Syntho

Year: 2020

HQ: Amsterdam, Netherlands

Total fundraising & investors: Undisclosed seed round raised by investors, including TIIN Capital.

Description: Syntho uses synthetic data and machine learning to optimize customer research, helping brands and research firms gain deeper insights. It solves challenges like finding enough participants for sample groups or working within limited budgets for interviews.

Why we like them: By using predictive synthetic data and AI to analyze small survey samples, Synth can create accurate insights from hard-to-reach segments with lower error margins. By reducing costs, improving efficiency, and integrating seamlessly with workflows, Syntho also helps companies maximize global panels, uncover niche insights, and detect fraudulent survey responses (Qualtrics, 2024).

Actionable

Year: 2024

HQ: Paris, France

Total fundraising & investors: $2.2M from investors, including Axeleo & Business Angels.

Description: Actionable is a next-generation feedback tool that leverages AI to predict and optimize customer satisfaction in real time, helping businesses proactively enhance client relationships and drive growth.

Why we like them: Actionable revolutionizes customer feedback by delivering real-time, predictive insights through 130+ data integrations, analyzing detailed KPIs like app usage and resolution times instead of relying solely on surveys or NPS. Its AI predicts satisfaction, flags churn risks, and empowers teams to address issues instantly within their workflows.

Yofi

Year: 2021

HQ: Bozeman, MT, USA

Total fundraising & investors: $1.5M from investors, including Kickstart Fund and Signal Peak Ventures.

Description: Yofi is an identity platform that protects brand and retail profits by preventing abuse from bots, resellers, and fraudulent accounts (which costs retailers 3–5% of their total profits), ensuring customer data integrity through machine learning.

Why we like them: Yofi uses machine learning to analyze customer behavior in real time, transforming fragmented data into actionable digital identities and accurate insights. By understanding customer intent, Yofi helps brands eliminate fraud, improve efficiency, and protect profits from bots and bad actors.

Case Study

DinMo — How DinMo leverages next-generation composable CDP to help Interflora better manage customer data analytics.

Overview: Interflora — a leading floral service provider — recently sought a data activation platform to seamlessly connect their BigQuery data warehouse with various marketing and operational tools. The company needed a solution that could handle multiple use cases, such as sending audiences and conversions to advertising platforms, creating multi-channel paths, limiting relational pressure, and feeding support tools.

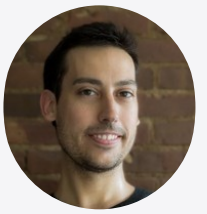
Problem: Interflora's data team was already utilizing BigQuery as its data warehouse but faced challenges with time-consuming data segmentation and maintaining complex data pipelines between BigQuery and marketing platforms. The company needed a more efficient solution to support multiple business units (FR, ES, IT) and customer-facing teams in ads, CRM, and support.

Solution: With a first use case implemented in a day, DinMo enabled Interflora to autonomously segment customer data and enrich marketing and support platforms with actionable first-party audiences without the need for intervention from the data team. DinMo enriches its platforms for various use cases such as lookalike modeling, targeting, exclusion, and observation, ensuring they always

target the right person with the right message at the right time. Additionally, their support tool is enriched with historical data to help prioritize requests and provide the best possible responses.

This solution reduced data flow development time by 80%, enabling over 70 unique audiences to be synchronized daily across various business units. In just six months, the results included a 17% reduction in average CPC for ads, a 5% increase in net margin, and a 34% boost in cross-business-unit conversions. Also, DinMo helped Interflora adapt to the decline of third-party cookies by adding first-party data to conversion tracking, adjusting conversion values for more accurate targeting, and enhancing customer support through enriched historical data. DinMo (2024)

Expert interview with Ryan Janssen, CEO at Zenlytic



Ryan Janssen
CEO
Zenlytic

Zenlytic, founded in 2018 and based in New York, USA, is a next-generation business intelligence tool that enables smarter decision-making. Backed by $15M in funding from investors including Sequoia Capital and Bain Capital Ventures, Zenlytic developed Zoë, a tool simplifying data exploration, enabling both technical and non-technical teams to make data-driven decisions and leverage predictive analytics for operational improvements.

Q: What are the main barriers to the adoption of business intelligence tools among non-technical users, and how do you overcome them?

Ryan Janssen: Business Intelligence is one of the lowest NPS software verticals because no one uses it. Data teams invest a ton of time into making sure their BI platform is properly configured, but they're still too hard for a non-technical user to navigate. Instead, the business users just ask the data teams for 'quick data pulls' (which are never quick).

Zenlytic solves this problem with Zoë, our AI data analyst. Zoë is an AI agent that answers your data questions the same way a human analyst does: the user can just ask. One of our customers just told me, "Ryan, I don't need another tool that tells us what our sales were last week. We have 1,000 tools that do that. What's exciting about Zoë is that she answers really high-value questions that have a direct business impact. I just used Zoë to answer how increasing US tariffs could impact our gross margins." Zoë is a sophisticated data agent focused on solving problems rather than simply translating natural language to SQL.

Q: How does Zenlytic ensure data accuracy while integrating insights into workflows and delivering value across different industries?

Janssen: Zenlytic primarily serves users in marketing, sales (rev ops), and product design, with a strong presence across various industries. Our key verticals include SaaS, direct-to-consumer, and retail brands.

The key to actioning insights effectively lies in multimodality. For example, while a raw table of material costs may not be actionable, uploading a product Bill of

Materials (BOM) image and asking Zoë to summarize the most expensive materials is a clear, actionable insight.

To ensure Zoë's reliability and consistency, we've developed the Cognitive Layer, which sits between Zoë and the user's data. This layer governs Zoë's performance, writes all SQL queries on her behalf, and ensures data consistency. Additionally, it provides data governance, security, and seamless integration with the broader BI platform.

Q: Can you share a concrete example of a customer leveraging Zoë and the impact it had on their business?

Janssen: One user, a Fortune 500 retailer, used Zoë to determine whether to move one of their distribution centers. Zoë was able to factor in shipping times from potential replacement centers, total store vs. typical inventory levels, and more. This enabled the user to complete the study in just a few days instead of the weeks it would have taken to manually pull and analyze the data.

Another user utilizes Zoë live during leadership meetings. When questions arise about marketing ROI, user behavior, sales performance, or other metrics, they ask Zoë directly during the meeting using her voice functionality.

#6: In-Store Retail: How Technology is Revolutionizing Security, Efficiency, & Customer Experiences

Philipp Hoedl

Market Development

In-store innovations refer to the emerging technologies and strategies transforming physical retail experiences, making them more interactive, efficient, and customer-centric. Key innovations include the integration of AI, RFID, and robotics to improve security, inventory management, and operational efficiency. Smart shelves, AI-driven security systems, and autonomous robots are enhancing both store operations and the shopping experience. Immersive technologies like virtual and augmented reality are offering personalized and engaging experiences. Additionally, the evolution of Point of Sale (POS) systems, including mobile POS and contactless payments, is streamlining transactions while supporting sustainability. These innovations help businesses stay competitive, improve customer satisfaction, and drive growth.

Why it matters today

Despite the rise of e-commerce, physical retail remains a vital cornerstone of the shopping experience, offering unique benefits that digital platforms cannot fully replicate. In-store shopping allows customers to see, touch, and try products firsthand, fostering confidence in purchases and reducing the abandoned carts and high return rates often associated with online shopping. Sensory engagement — like feeling the texture of clothing or assessing the quality of home goods — bridges the gap between expectation and reality, creating a richer and more reliable shopping journey.

Physical stores also excel at encouraging impulse purchases through strategic product placement, showcasing complementary items that entice customers to buy more than planned.

Beyond transactions, these spaces act as community hubs, fostering personal connections and loyalty through face-to-face interactions. The authenticity of these engagements builds trust and long-term relationships that are difficult for online platforms to achieve. Furthermore, the instant gratification offered by physical stores — allowing customers to take home items immediately — provides an edge over delivery-dependent e-commerce. Additional services like click-and-collect and in-store returns for online orders further enhance convenience, while localized marketing and niche offerings strengthen their competitive advantage.

Statistics affirm the enduring relevance of brick-and-mortar retail: 80% of retail sales still occur in physical stores[13], with American consumers spending $7.05 trillion[14] in 2023 alone. Grocery stores, a significant contributor, generate $6.22 trillion[15] annually in the US, and projections indicate that 72%[16] of retail sales will still take place in stores by 2025. Supporting this resilience is a vibrant in-store retail tech sector. While funding dipped in 2024 to $1.23 billion from $1.86 billion in 2023[17], the industry boasts 20 unicorns, 62 IPOs, and steady acquisition activity.

Pioneering technologies such as smart shelves, AI-driven security systems, and immersive experiences are driving innovation, with global leaders like Plug and Play backing startups in the US, India, and the UK.

By embracing these innovations and optimizing the in-store experience, physical retailers can complement their online presence to create a seamless omnichannel approach. With their unparalleled sensory engagement, human connection, and immediate fulfillment capabilities, brick-and-mortar stores remain indispensable in the modern retail landscape.

[13] https://www.mailmodo.com/guides/in-store-vs-online-shopping-statistics/

[14] https://capitaloneshopping.com/research/online-vs-in-store-shopping-statistics/

[15] https://www.mailmodo.com/guides/in-store-vs-online-shopping-statistics/

[16] https://capitaloneshopping.com/research/online-vs-in-store-shopping-statistics/

[17] https://tracxn.com/d/sectors/in-store-retail-tech/__7QpeAS-3jdUkkrHlnBYpLyT7jhEVi0o54fJBSKlPJAU

Emerging trends

End-to-end AI vision applications

End-to-end AI vision applications in retail leverage computer vision technology to enhance customer experiences, optimize operations, and drive profitability. These applications range from retail heat maps that track customer movement to cashier-less stores and image recognition tools that offer personalized services. Virtual mirrors, recommendation engines, and footfall analysis tools further enrich the in-store experience by providing real-time insights into customer behavior and store engagement. Retailers can also utilize computer vision for inventory management, loss prevention, and personalized marketing, all of which improve efficiency and boost revenue.

The widespread adoption of computer vision in retail brings competitive advantages by automating various tasks and providing actionable data for decision-making. For instance, AI-powered systems can monitor in-store traffic patterns, predict demand, and optimize product placement. Additionally, AI-driven security solutions can reduce theft and fraud by detecting suspicious behaviors. As AI vision technology becomes integral to the retail industry's digital transformation, it offers significant potential for long-term growth and operational improvement.

Smart shelves & electronic shelf labels (ESLs)

Technologies like smart shelves and ESLs are transforming retail operations. Smart shelves use sensors, RFID tags, and IoT platforms to provide real-time inventory updates, reduce stockouts, and offer personalized recommendations, enhancing efficiency and customer satisfaction. Similarly, ESLs replace traditional paper tags with digital displays connected to a central database, enabling real-time price updates, dynamic pricing, and accurate information. These tools streamline operations, reduce labor, and support sustainability by cutting resource usage. Together, smart shelves and ESLs empower retailers to optimize inventory, improve customer experience, and make data-driven decisions, positioning them for a tech-enabled future.

Immersive technologies

Immersive technologies such as virtual and augmented reality (VR and AR) are reshaping the shopping experience. AR enables customers to visualize products in their homes or try on clothes virtually, enhancing engagement and decision-making. Experiential retail combines entertainment and shopping, creating immersive environments that foster loyalty and increase dwell time. Brands like IKEA and Huda Beauty use this approach to strengthen connections with customers through memorable, interactive events.

Point of sale (PoS)

The evolution of point of sale (PoS) systems is further transforming retail. Modern POS systems leverage AI and machine learning to analyze vast amounts of data, offering personalized recommendations, promotions, and insights into buying habits. Mobile POS systems provide flexibility, enabling transactions anywhere in the store, reducing overhead, and enhancing customer service.

The ongoing adoption of these technologies is transforming retail into a more interactive, efficient, and customer-centric industry. Physical stores, enhanced by these innovations, continue to play a vital role, offering sensory engagement, instant gratification, and human connection that e-commerce alone cannot replicate.

Startups Highlights

AiFi

Year: 2016

HQ: Santa Clara, CA, USA

Total fundraising & investors: $87M from investors, including Greylock, Plug and Play, & ALDI.

Description: AiFi leads in AI-powered autonomous shopping, offering solutions to automate stores of any size, from grab-and-go spots to stadiums and universities. Their products, AiFi Refresh, AiFi Build, and AiFi To-Go, streamline retail operations and improve customer experiences.

Why we like them: AiFi is exciting because it is at the forefront of transforming retail with its scalable, AI-driven solutions that streamline shopping experiences, improve inventory management, and allow retailers to expand their reach without the need for staff. With the largest global autonomous store network, AiFi is shaping the future of retail, supported by major industry partners like Qualcomm, HP, and Nvidia.

Veesion

Year: 2018

HQ: Paris, France

Total fundraising & investors: $11M from investors, including Aglaé Ventures & Odyssée Venture.

Description: Veesion is a developer of intelligent video surveillance software that facilitates the detection of gestures associated with shoplifting.

Why we like them: Veesion uses AI to detect and prevent theft in real time, reducing losses by up to 60%. Compatible with all camera types, it provides merchants with alerts for suspicious behavior, helping to effectively combat shrinkage.

Nomitri

Year: 2019

HQ: Berlin, Germany

Total fundraising & investors: $2.44M from investors, including FoodLabs.

Description: Nomitri's embedded visual AI technology optimizes the human pick and pack process, reducing errors and improving productivity in micro-logistics and supermarket operations.

Why we like them: By providing real-time visual quality checks, it decreases picking time, minimizes error rates, and offers a significant ROI, helping businesses streamline operations and save costs.

Bultr

Year: 2019

HQ: Burlingame, CA, USA

Total fundraising & investors: $73M from investors, including 500 Global, SOSV, & Tiger Global Management.

Description: Butlr provides a privacy-first ambient sensing platform with wireless thermal sensors that deliver real-time data on space usage, occupancy patterns, and environmental conditions, helping businesses optimize their operations across workplaces, smart buildings, retail spaces, and senior care facilities.

Why we like them: Butlr stands out for its scalable, privacy-conscious technology, offering businesses actionable insights without compromising personal privacy. Its AI-powered platform improves efficiency, enhances space utilization, and drives better decision-making, making it a valuable tool for organizations seeking to optimize their built environments.

DISPL

Year: 2019

HQ: Limassol, Cyprus

Total fundraising & investors: $500K from investors, including NL Platform.

Description: DISPL offers AI-powered audience analytics and smart digital signage solutions that enhance customer engagement, optimize retail and business environments, and improve operational efficiency through video analytics, personalized content, and data-driven insights. These technologies are particularly valuable across industries such as retail, hospitality, and media ownership, providing features like visitor insights, targeted signage, and automated ad sales.

Why we like them: DISPL's platform includes an array of tools like no-code templates, automated ad sales portals, personalized product recommendations, and interactive scenarios to boost sales and improve customer experience.

Businesses can integrate these features to monitor customer behavior, optimize store layouts, display dynamic content, and gain insights that drive better business decisions.

Ailet

Year: 2016

HQ: Dover, DE, USA

Total fundraising & investors: $2.6M from investors, including FinSight Ventures & Aii Corporation Oy.

Description: Ailet provides a platform for real-time shelf data analytics, leveraging image recognition technology to optimize in-store execution, price monitoring, and product availability across retail and pharmaceutical industries.

Why we like them: Ailet's solutions offer powerful BI insights, enabling businesses to maximize operational efficiency and revenue growth by turning shelf data into actionable insights, all through seamless integration and a user-friendly app.

Augmodo

Year: 2023

HQ: Seattle, WA, USA

Total fundraising & investors: $5.3M from investors, including Lerer Hippeau, Dunnhumby Ventures, & Simple Food Ventures.

Description: Augmodo provides real-time, spatial AI solutions for retail, tracking every product and store condition through passive smart badges, optimizing store operations, inventory management, and workforce efficiency.

Why we like them: Augmodo stands out by offering a highly scalable, low-cost solution with world-class privacy, enabling real-time insights without requiring operational changes, making it a cost-effective and non-intrusive tool for enhancing store performance.

Wayvee

Year: 2023

HQ: New York, NY, USA

Total fundraising & investors: $5M from investors, including Tetrad.vc.

Description: Wayvee offers real-time customer satisfaction (C-SAT) and engagement analytics for in-store retail, using AI-powered radio frequency technology to monitor emotional responses without cameras or surveys.

Why we like them: Wayvee's innovative, privacy-respecting technology provides instant, actionable insights into customer behavior and satisfaction, enabling retailers to enhance the user experience, optimize store layouts, and boost revenue with minimal overhead.

Case Study

Veesion x Duty-Free

Overview: Veesion, an AI company based in Paris, developed an advanced gesture recognition technology that uses existing surveillance cameras to detect real-time theft across retail sectors. The company's solution targets the global issue of shoplifting, which costs retailers over $100 billion annually. Veesion's technology has been deployed in over 2,500 locations worldwide, providing real-time alerts to security teams when suspicious behavior is detected. The company's proprietary technology, based on deep learning, not only helps reduce theft but can be adapted for various use cases, including marketing and worker safety.

Problem: In duty-free shops, especially in international airports, theft rates are high due to the store's open design and low staff-to-space ratio. These shops face a significant challenge with shrinkage, particularly in high-value items like cosmetics and perfumes, which are resold online. Despite the high level of theft, traditional security measures such as physical guards, EAS antennas, and RFID systems are not sufficient to address the issue. As margins are thin for retailers, controlling theft is crucial to avoid making a store unprofitable, yet less than 5% of thefts are detected in-store, and security budgets are being reduced in the current economic climate.

Solution: Veesion's AI-driven software uses existing video surveillance systems to detect theft-related gestures in real time, allowing security teams to respond proactively. The technology has been proven effective in reducing losses and improving security in a variety of retail environments, including cosmetics and electronics stores. By leveraging deep learning, Veesion's solution provides a cost-effective way to enhance security without requiring significant new investments in physical infrastructure. This technology not only helps prevent theft but can be adapted for broader uses, including marketing and workplace safety applications.

Expert interview with Brandon Barbello, COO at Archetype AI

Brandon Barbello
COO
Archetype AI

Archetype AI, founded in 2023 and headquartered in Palo Alto, CA, is revolutionizing the field of physical AI. Backed by $13M in funding from investors including Plug and Play, Hitachi Ventures, and Venrock, the company is developing Newton, the first AI foundation model designed to learn directly from sensor data. Newton's approach uncovers hidden patterns and insights from the physical world, paving the way for innovative applications and a deeper understanding of complex systems.

Q: What are your predictions for the evolution of brick-and-mortar retail in the coming years?

Brandon Barbello: We see the continued merger of the digital and the physical. The Physical AI wave will not leave brick-and-mortar retail untouched. Physical AI will enable retailers to provide more interactive and delightful shopping experiences,

as well as more tailored customer service and in-store help. Brick-and-mortar operations will become finely measurable through sensors and other data sources. This digital twinning will enable brick-and-mortar retailers to make operational decisions based on analytics that are just as deep as those available to e-commerce retailers from customers' interactions with websites.

Q: What ways is Archetype positioning itself to create value within this changing retail landscape?

Barbello: Imagine having a real-time digital twin of your operations, helping you understand the big picture of what's going on right now, as well as letting you query the full history of what's happened before. Imagine being able to "talk" to your store or your supply chain and ask it questions.

Archetype AI's Newton AI foundation model is able to interpret a wide range of sensor data in combination with other signals. Newton will make it possible, for example, to deploy an AI on-prem that can reason across a store's video feeds and point-of-sale system to understand customer behavior and close the loop of connecting their in-store experience with a walk-off or a successful sale. These insights can be output as charts, heatmaps, or narrative summaries — however, they are best consumable by the retailer's team - to inform how they iterate on serving customers. Likewise, Newton could incorporate data from their back-of-house and supply chain to inform end-to-end operational decisions.

We are building Newton to make it possible for any physical business to extract and operationalize insights from their real-world data without requiring them to have AI expertise or a large amount of training data.

Q: Could you share some insights into how your product has been implemented in real-world retail environments?

Barbello: Newton is currently in pilots across multiple industries. In retail, we are pioneering the ability to measure in-store customer behavior over time and generate insights and visualizations from these behavior patterns. This information is then made available to the retailer and brands together so they can refine how they sell a brand's products to different customer profiles.

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