

Improve Customer Retention  
and Experience with

# AstroFarm



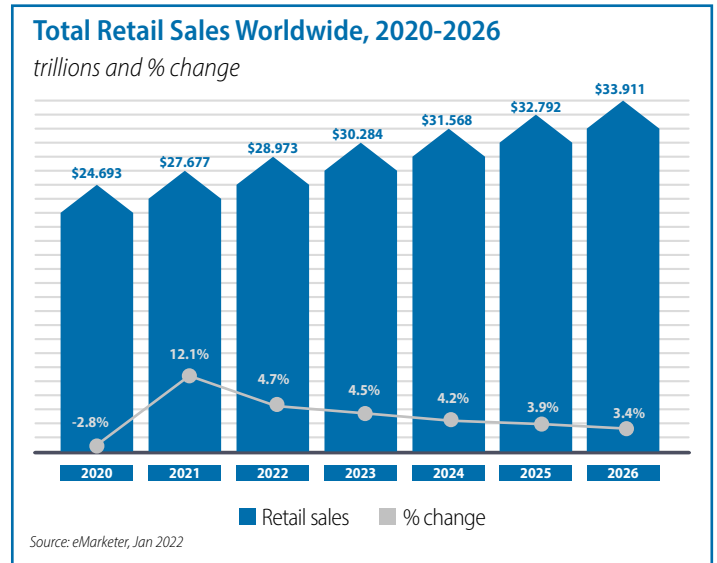
# The Retail Industry: Key Facts and Figures

The retail industry is poised for strong growth despite COVID, inflation, supply chain disruption, wars, and other challenges.

In 2023, global retail sales are projected to grow 4.5%, exceeding \$30.3 trillion by the year's end.<sup>[1]</sup>

Despite the impact of the economic fluctuations on US and global markets, retail sales are expected to rise to around \$33 trillion by 2026.<sup>[2]</sup>

With this growth, the retail industry is expected to have a greater share of e-commerce, a shift in consumer preferences, the use of omnichannel shopping, and more personalized shopping experiences. Let's deep dive into it.



# The Rise of E-commerce

Can you believe there was a time when the only option to shop was in-store? When the world was forced to stay indoors due to the COVID-19 pandemic, online shopping took off and its popularity only seemed to grow. According to eMarketer research<sup>[3]</sup>, e-commerce revenue accounted for more than 20% of total retail sales in 2022 and is expected to have a share of 23.6% by 2025. Though China accounts for 50.2% of ecommerce spending, regionally, Latin America and Southeast Asia will see ecommerce growth sales rate of about 20%. As a result, companies are realizing that expanding their audience requires more effort. The emphasis has shifted to developing a digital presence that can capture online sales.



## Ever-changing Consumer Preferences

According to Deloitte outlook<sup>[5]</sup>, over the next decade, consumer socio-demographic shifts are anticipated to happen at a remarkable rate. Executives feel that this will be a key challenge in the near future and will create expanding and diverse consumer needs and desires. Consumer trends indicate that they will be older, be increasingly mobile, reliant on digital technologies, and potentially less financially secure. This highlights the evolving landscape of consumer demographics and behaviors, which retailers must understand and adapt to in order to effectively cater to the changing preferences and expectations of their target audience.

**66%** of respondents conduct online research before shopping in-store more often now than before COVID-19.

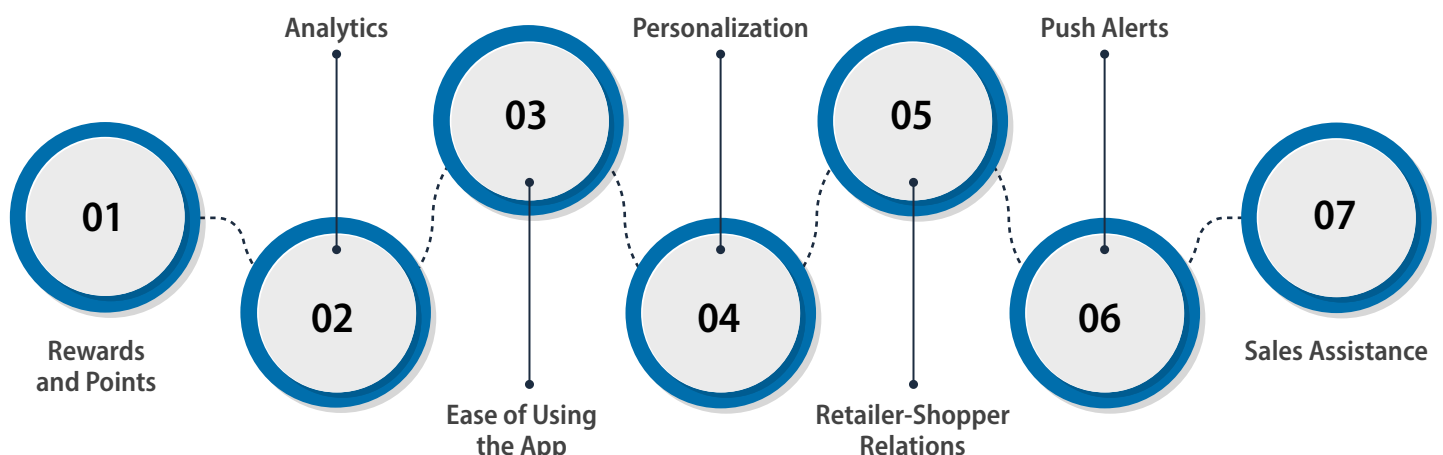
## Increasing Significance of Retail Mobile Apps

Apps have drastically impacted the average user's shopping experience and are now a vital shopping tool for consumers worldwide.

Retail apps that offer personalized suggestions and user-friendly interfaces encourage the consumer to complete a purchase and improve engagement too. Apps can target each individual shopper, which in turn, enhances their shopping experience.

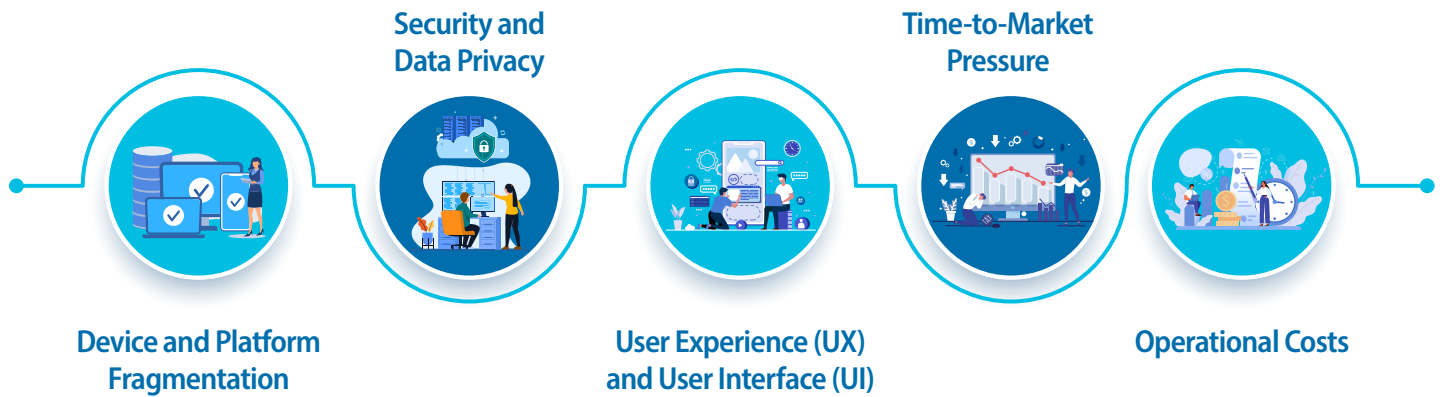


## Reasons to use a mobile app for retail business



# Challenges for App Developers

The retail industry has undergone significant changes, and retailers must adapt to the latest digital technologies to remain competitive. Providing the best service online is crucial to meeting the ever-changing needs and expectations of consumers.



## Device and Platform Fragmentation

The retail industry often requires apps to work across multiple devices, operating systems, and platforms, such as smartphones, tablets, mobile web browsers, and even wearables across various operating systems like iOS and Android. Ensuring consistent performance and user experience across this fragmentation is a critical challenge for testers.

## Security and Data Privacy

Retail apps often deal with sensitive user data, including personal information, payment details, and transaction history. DevOps must ensure robust security measures to protect against data breaches and compliance.

## User Experience (UX) and User Interface (UI)

Users really don't want laggy apps. Ensuring consistent UX and UI design across different devices, platforms, and screen sizes can be challenging, and app testers and developers need to thoroughly test the app's usability, navigation, and performance to ensure a positive user experience.

## Time-to-Market Pressure

The retail industry is highly competitive, and there is often pressure to release apps quickly to capture market share. Managing time-to-market pressure while ensuring thorough testing and quality assurance can be a challenge for app testers and developers.

## Operational Costs

For companies with geographically distributed teams, there is a need to either ship or procure devices for each location. As an alternative, organizations end up renting devices from public device farms. But both of these solutions result in high operational costs for the organization. Moreover, not using purchased devices may lead to a lost return on investment as they eventually go unused and become wasted resources.

## Why AstroFarm is a Perfect Fit for Retail Apps

AstroFarm, a private device farm solution, can be very effective for organizations that have geographically dispersed teams.

AstroFarm allows you to leverage devices that your organization owns, optimize their usage, and enhance team productivity by providing device access across different geographical locations. Testers, QA, and DevOps can easily log into the AstroFarm console, select a device and start testing without any time restrictions. Besides unlimited device access, there are several reasons why AstroFarm is an ideal fit for your organization.

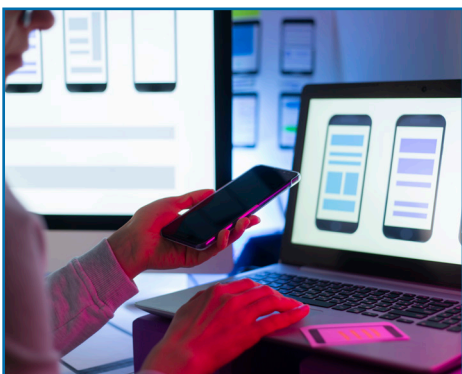


### Support for Various OS and Models

AstroFarm is the ideal solution for organizations that need to test their apps on devices that are specific to your organization. AstroFarm supports Android (Android 4.0 and above) and iOS/iPadOS (12 and above) devices. Easily enroll mobile devices, tablets, rugged devices, and even the currently popular wearables for testing and detecting device health and performance in real time during a test execution.

### Ensured Data Security

The available devices in AstroFarm are either company-owned or contributed by employees. Access to these devices is restricted to team members, and the company handles upkeep and maintenance internally, eliminating the need for any third-party involvement. As a result, it significantly reduces the possibility of external data breaches. AstroFarm complies with all global standards of security, including SOC Type 2 and ISO 270001. In terms of privacy, it is compliant with GDPR, Cyber Essentials, and CCPA. Personally Identifiable Information (PII) such as the username and password are encrypted and protected.



### Robust UI/UX Testing

With AstroFarm's **Macro Recording**, testers can capture and automate mouse clicks, mouse moves, text input, scrolls, etc. These actions can be automated to test the performance of visual elements. Test the stability of the test case (macro) itself or perform basic load testing for performance monitoring. With **Remote Screen Pop-out**, test UI/UX on multiple devices at once without switching between them. Users can also drag and drop APK/IPA files to the devices, take screenshots, maximize and minimize the screen, and overlay the view tabs on the main console for a comprehensive, full-scale view.



## Decrease your time-to-market with Automation

Implementing automation in various aspects of the retail app development and testing process can help accelerate time-to-market by reducing manual efforts, minimizing errors, and streamlining workflows. AstroFarm can help you increase your test coverage with integration of tools like Appium, Selenium, and Cucumber. If you have a CI/CD pipeline defined in Jenkins, users can easily procure devices with APIs and begin testing right away.

## Shift to Sustainability

Adapt sustainability in all aspects of your organization with AstroFarm. By adopting a **reuse and reduce** approach, organizations can minimize e-waste by adding devices to AstroFarm and withdrawing them when necessary, thus ensuring continuous device flow and optimal usage. AstroFarm's device logs and performance view can help monitor device health and identify the need for timely device repair or withdrawal, contributing to a sustainable and efficient device management system.



In summary, AstroFarm by 42Gears offers a comprehensive and flexible solution for the retail industry to securely test their applications on devices, optimize UI/UX testing, streamline device management, and optimize release cycles. Our solution ensures sustainability, faster time-to-market releases and ultimately leads to improved customer satisfaction and experience in the retail industry.

# Get in touch and start your free trial today!

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