

# Why It's So Hard for Retailers to Build a Workforce Enablement App (and How to Do It Right)

Enable workers with real-time data to improve employee productivity, happiness, and retention, as well as the customer experience.

# Workforce Enablement: Why it's Worth the Investment

If you're not enabling your workforce, you're losing money. Take, for example, employee turnover. The average turnover rate in the retail industry is slightly above 60%, according to the National Retail Federation. This high turnover rate translates into more than 230 million days of lost productivity and \$19 billion in costs associated with recruiting, hiring and training, according to Human Resources Today.

When employees have the digital tools to help them provide a great customer experience and make their own jobs easier, you mitigate problems like burnout and job dissatisfaction. Today's retail workers are digital natives, with access to unprecedented levels of post-internet age technology. You need modern, digital enablement for the modern worker.

A well architected and [offline-first](#) worker app will help your staff, and your business, accomplish key objectives:

- **Improve the customer buying experience:** Frontline staff that are equipped with a mobile-first app are armed with real-time information, like what's actually in stock, and can also make suggestions based on customer buying history.
- **Increase employee productivity:** According to Deloitte, workers spend as much as three hours of their time each week looking for information they need. Imagine the impact regaining those hours could have on worker productivity!
- **Track and improve performance/sales/buying experience through data analysis:** The potential of workforce enablement apps extends beyond just identifying what items are in stock at which stores. They can also gather valuable data to reveal key patterns in everything from customer purchase habits and peak shopping times to individual worker metrics, like the number of successful sales. With those data insights, you can better allocate workers, assign workers based on strengths, stock items based on buying trends, and more.

## Challenges to Building Your Retail App

A modern, innovative retail workforce enablement app sounds great. But for already strained IT teams, building this kind of intuitive app from the ground up is often challenging.

### Gaining a single view of your data is essential, but complicated

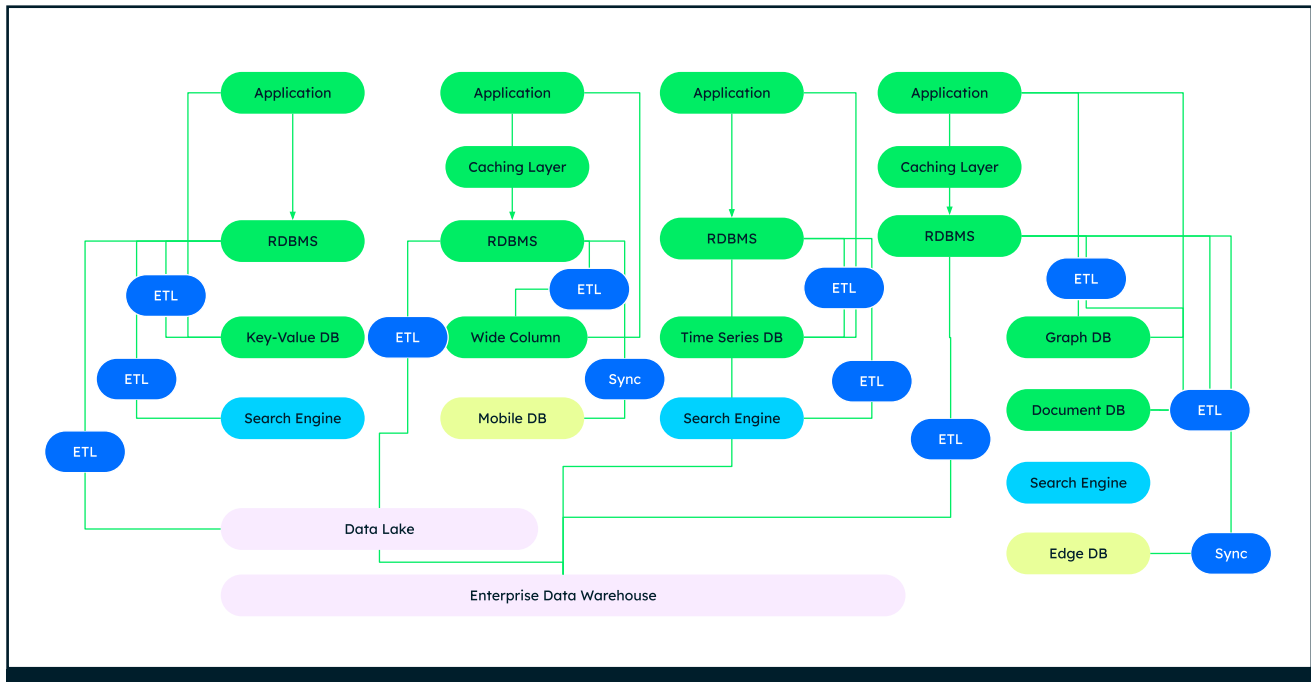
Accurate and up-to-date data is the key to everything, from real-time inventory views to personalized customer interactions. It's also the information backbone that feeds powerful mobile workforce apps. But the volume and variety of data across omnichannel shopping experiences is difficult to collect and process in real time, especially when many retailers are using legacy systems that are decades old and make it nearly impossible to have a single source of truth.

A typical retail technology stack, assembled over decades, relies heavily on relational databases, backed by several supporting database, data

warehousing, and analytics technologies all trying to ingest and process data from across the business.

The data from all these systems ends up soiled, requiring time consuming ETL maneuvers to bring it together in one place or move it in and out of separate analytics suites. Without a single source of truth, built on a flexible data foundation, meaningful business insights and real-time analytics capabilities are very hard to achieve. Your mobile workforce app displays out-of-date information, or worse, no relevant information at all.





**Figure 1:** As shown in this typical retail tech stack, legacy architectures are often made up of specialist NoSQL and relational databases, and additional mobile data and analytics platforms – all resulting in siloed data, slow data processing, and unnecessary complexity.



## AO.com Uses MongoDB to Get a Single View of Their Customers

[AO.com](https://www.ao.com), one of the UK’s leading online electrical retailers, chose MongoDB, and its document data model, for their single view application because it supports any type of data, and can be further enriched at any stage without expensive schema migrations.

“MongoDB Atlas has been rock solid since launch. We are running a replica set in AWS Ireland, with the ability to scale up and out on demand, with no application downtime. This is especially valuable as we are currently managing millions of orders and customer objects in the single view platform, and are now planning to add clickstream data, which will significantly grow the data under management.”

**JON VINES, SOFTWARE DEVELOPMENT TEAM LEAD AT AO.COM**

## Real-time analytics are powerful, but elusive

Retail workers need access to real-time data to know what's out of stock, who made a purchase for pick up, and more. Real-time analytics, not near-time or the day-after, also enable truly personalized experiences. But to analyze data

in real time without lag, retailers need a modern application data platform capable of concurrently supporting both operational and analytical workloads without sacrificing performance.

## Legacy infrastructure is holding retailers back

More than 20 years ago, the Association for Retail Technology Standards (ARTS) established a relational data model known as ARTS Retail Operational Data Model to identify, define, and describe retail entities and relationships. Despite the age of this system, many retailers are still using it today.

Even if you're not using the ARTS data model, building a mobile app on top of a relational database requires a large investment of time and money to create Object Relational Mappers and Microservices to:

- Enable mobile checkout procedures which require several data elements from the enterprise data estate (product catalog, pricing, inventory, etc.)
- Optimize for real-time inventory and interaction with all systems
- Centralize omnichannel sales data to ensure a single view of transactional data

- Provide omnichannel sales data to frontline workers for cross-sell and upsell opportunities
- Propagate real-time price adjustments to all parts of the retail ecosystem including frontline staff devices

With rigid legacy systems, you're facing slow adoption for mobile-first strategy and a complex, frail infrastructure. This increases the risk of potential downtime and loss in revenue. Plus, the older and more established a retailer is, the more disparate data sources and legacy systems are likely in use.

IT teams will spend more time managing data silos and supporting old systems and applications than enabling mobile platforms to support new applications and empower frontline staff. It's also more complex to support cloud-readiness and global scalability of both the application and data without creating additional separated silos and separated applications per region.

## Building an offline-first app is necessary, but tricky to execute

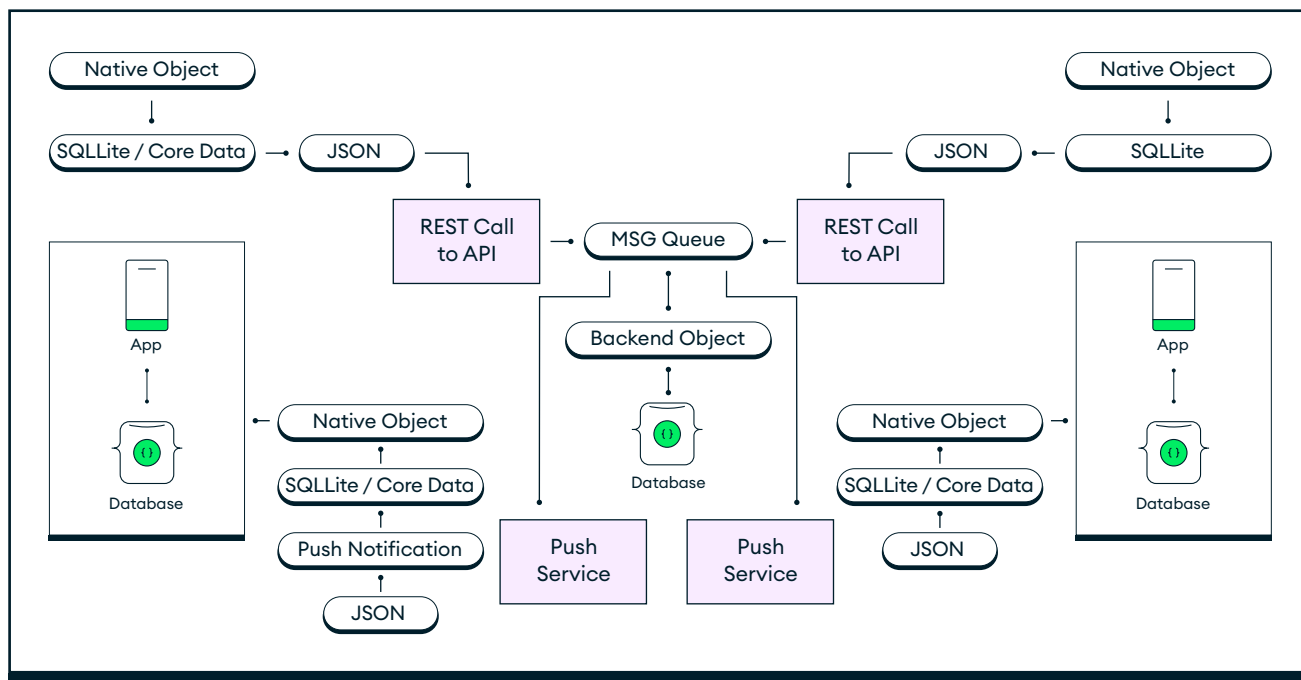
Retail employees are always on the move, which means they may have varying access to wi-fi or cellular service. Networks have variable latency and connectivity is unreliable. Apps can also shut down or mobile devices can be restarted anytime. Impact on battery life and data usage matters on a mobile device. All of these usage disruptions can lead to inconsistencies in data, and poor retail worker and customer experiences.

To have a true impact on productivity, workers need an app that's built with an offline-first architecture. But achieving that is easier said than done in

most cases. What may have initially seemed simple to build is significantly more complicated in practice, uncovering common challenges that come with building any piece of software: security, performance, stack expertise of current staff, and the ability to hire support engineers.

Building an offline-first app requires significant amounts of complex custom code. In many cases, it slows development, is prone to bugs, is expensive to build, and results in a difficult-to-control user experience – all factors that could lead to lost productivity and worker dissatisfaction.





**Figure 2:** The challenge of data synchronisation. The creation and maintenance of data synchronisation code is complex and reduces developer productivity.

## 7-ELEVEN®

### 7-Eleven

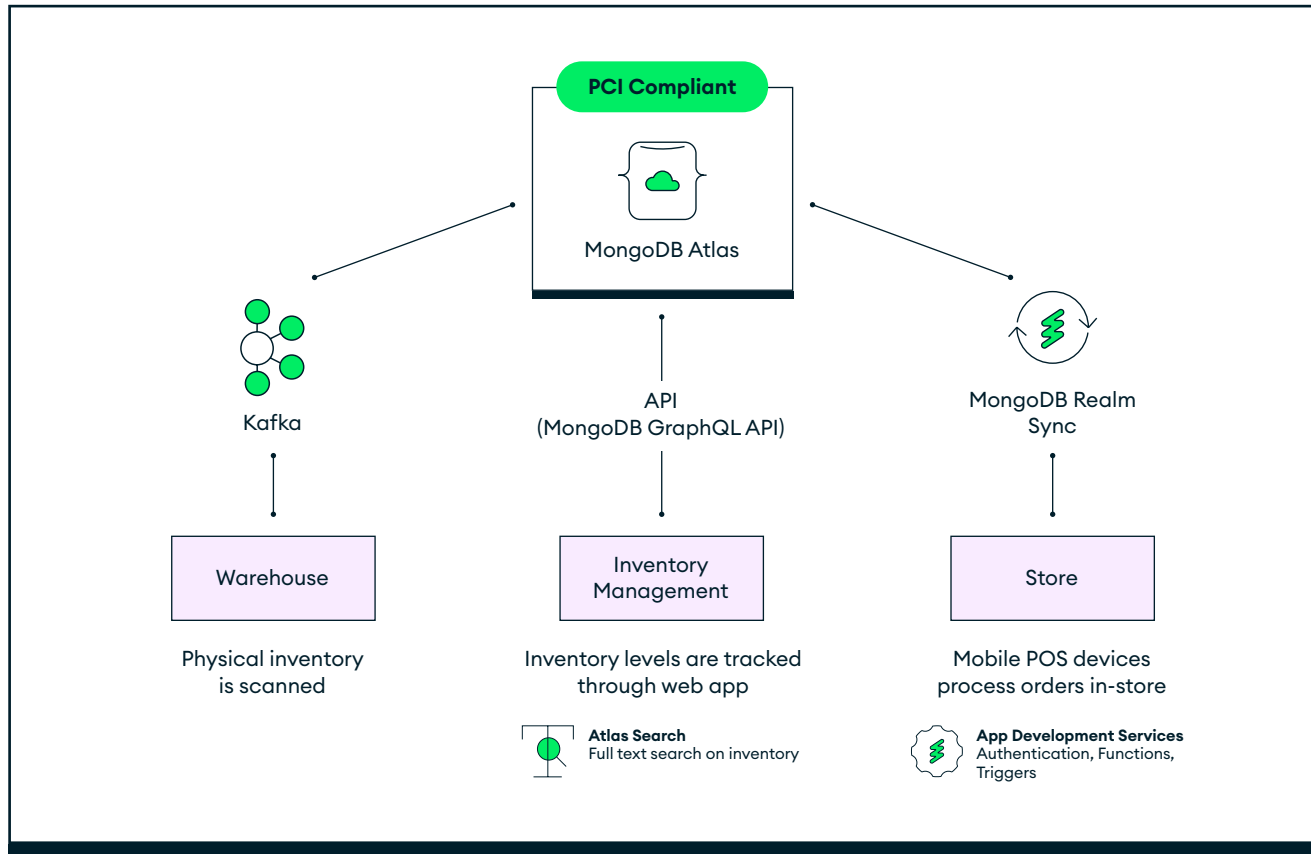
Using MongoDB as their data platform, 7-Eleven created a mobile application that runs on iOS and Android devices, and is a fully featured application that allows customers to browse an up-to-date, store-specific catalog of products, local to where they are for delivery. It's integrated with the in-store point of sale and perpetual inventory systems, eliminating manual backend reconciliation.

“What we’ve created is really innovative. Since rolling this out to all 8,500 stores in North America, we’ve been able to sync data across more than 20,000 devices on a nearly real-time basis. [Managers] can start using devices immediately, rather than waiting 2-3 minutes to download the data on initial startup, like they used to. Data accuracy – especially around inventory when sales happen or shipments arrive – has really improved.”

**SRIKANTH GANDRA, DIRECTOR OF DIGITAL TECHNOLOGY FOR 7-ELEVEN**

# MongoDB Realm: The Answer for the Modern Workforce App

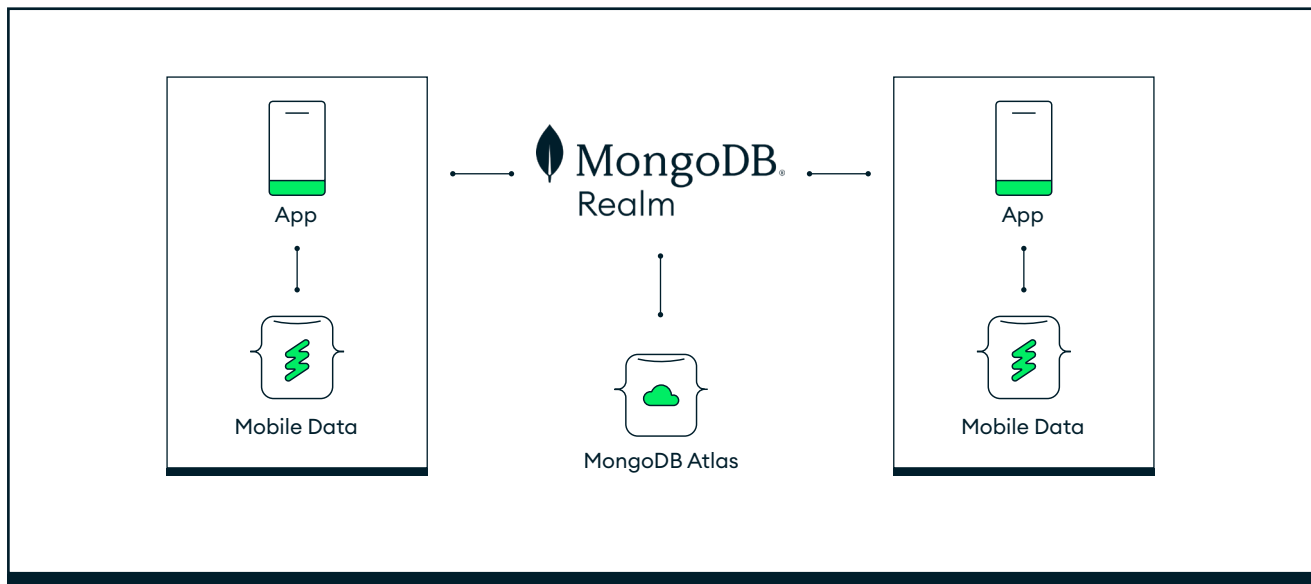
[MongoDB Realm](#) helps you overcome these challenges by delivering the flexibility, scalability, and offline-first capabilities needed to build an app to empower your workforce.



- **Build offline-first apps that work anywhere.** Realm Mobile Database is used by more than 100,000 developers and counting, and is the simplest way to build an app that runs fast and works offline. Use Realm to persist data on-disk, and enjoy an object-oriented data model that saves you from writing thousands of lines of code.
- **Keep data up to date, everywhere.** [MongoDB Realm Sync](#) makes it effortless to sync data between Realm Mobile Database and the

cloud, so you can say goodbye to writing and maintaining error handling and networking code. Use Realm Sync to easily keep data updated across users, devices, and your backend.

- **Simplify code and scale effortlessly.** Use fully integrated application development services like functions, triggers, and authentication to build a production-ready app in a fraction of the time. With [Atlas](#) – MongoDB’s fully managed cloud database – on the backend, you can stop worrying about scale as app usage changes.



**Figure 4:** Simplification with MongoDB Realm. MongoDB Realm abstracts the complexities of mobile data synchronisation allowing developers to focus on value add features.

#### Simplification with MongoDB Realm:

- Removes the need for custom data synchronisation code
- Enables offline-first app development by handling network loss and recovery automatically
- Automatic bidirectional synchronisation of data to/from the cloud with conflict resolution

MongoDB Realm is a part of [MongoDB's application data platform](#). MongoDB helps retailers gain additional advantages when it comes to building best-in-class retail apps, including:

- **Real-time personalization.** MongoDB brings the core components of real-time analytics into one platform. You can pull “cold” historical customer data from data lakes on cloud object stores and instantly combine it with real-time customer interaction data, without impacting performance.

- **Unlocked data silos.** Online, in store, and everywhere in between, MongoDB's document data model enables you to integrate data from multiple siloed systems, allowing distinct types of data – geospatial, graph, key value, relational, document, [time series](#), and search history – to be accessed together.
- **Access to leading cloud providers.** With [multi-cloud](#) on MongoDB Atlas, take your data to Google Cloud, AWS, Microsoft Azure, and 80+ cloud regions around the world, bringing scalability and elasticity to the application layer, while avoiding vendor lock-in.
- **Reliable data security.** With enterprise data security features built in, MongoDB and MongoDB Atlas give retailers the power to address security and data privacy, meeting sophisticated privacy requirements without compromising on performance.



## Conclusion

Building the best workforce enablement for your organization starts with the right data foundation. MongoDB Realm delivers all the functionality and flexibility needed to truly transform your workforce, without adding more complexity to your infrastructure.

Want to learn more about building your app on MongoDB Realm? Visit [mongodb.com](https://mongodb.com) for additional information.



You can also visit our [Retail hub](#) to find out how we are helping retailers throughout the industry.

