How an API-First Approach Helps Retailers Build a Future-Ready Strategy

APIs are often mentioned as a way to realize digital transformations more easily. In this Mindshare, experts from MuleSoft and Diebold Nixdorf discuss how an API-first approach helps retailers in their digital transformation programs, and how it leads to more flexibility, faster innovation, and higher returns on investment for the entire IT ecosystem.

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HOW CAN DIGITAL CAPABILITIES BE USED TO HELP RETAILERS ATTAIN MORE FLEXIBILITY IN THEIR STORE SETUPS?

Today's customers expect consistency between the digital experience and the in-store experience. Every gap is considered a nuisance and brand loyalty is lower than ever before. In fact, studies show that every second customer will switch their brand after a single bad experience. Stores need to reflect this reality and remove all boundaries between the digital world and the physical stores to create a seamless customer experience. Know-Your-Customer initiatives should be paramount to combine the full lifecycle of customer engagement across the digital and the physical world. This means that retailers need to have information about their customers available in real-time to avoid waiting times, misunderstandings, and frustration. If retailers have all this available to get to a single view of the customer in real-time, then they gain a competitive advantage and can lead their market.

In the fast-changing retail environment, it's critical for retailers to have maximum flexibility when setting up stores, integrating with digital channels, and supporting new types of journeys. For me, digitization of stores goes beyond installing new touchpoint types such as self-checkout systems: it is about connecting all customer touchpoints – those in the store as well as ecommerce sites, mobile apps, and even the EV chargers in front of the store at the parking lot – and center those around the consumer journey. Of course, the IT landscape is a key enabler for this, as it connects touchpoints with consumer interaction locations and relevant data. The flexibility, scalability, and openness of this IT landscape in the end will define the success rate of a retailer.

IN WHAT WAYS DO APIS HELP RETAILERS PROVIDE CONNECTED, PERSONALIZED, MULTI-CHANNEL EXPERIENCES FOR THEIR CUSTOMERS?

APIs define standards that everyone can agree on. Standards are necessary to create a fly-wheel effect. Think about VHS video. Only once the industry aligned on that standard over competing ones, home movies and video recorders took off in sales and a whole new industry, movie rentals, was invented. APIs open a similar world. Retail experiences are not built solely on services that are developed by the retailer. Instead, you reuse existing APIs to compose a new experience. No retailer builds a map service by themselves, they instead use Google's integrations to Google Maps to guide their customers to their stores within the retailer's mobile app. And APIs are channel agnostic. Think about an API that provides order data to a customer. Retailers can use the same API today to include order data to a mobile app as they would use tomorrow for a web app for their internal service employees. This reusability and composability lead to faster time to market as retailers don't have to reinvent the wheel with every new project and help to scale into different channels.

A future-ready retail strategy requires a software platform that is as open as possible to exchange all data needed for the execution of today's and tomorrow's journeys, regardless of touchpoint or channel. A granular setup based on loosely-coupled microservices communicating via open, standardized APIs typically yields the best result. That is why Diebold Nixdorf has chosen an API-first software design for our retail cloud platform, which can be compared to a box of Lego building blocks. It provides a set of services that can be easily combined and securely connected to meet both consumer and staff journey innovations and IT requirements. This building process is leveraging standard packages which – thanks to cloud – are centrally operated but also installed on store level to ensure continuous availability for serving consumers.

HOW CAN RETAILERS BEST TAKE ADVANTAGE OF CLOUD SERVICES WHILE MAINTAINING NETWORK-INDEPENDENT IN-STORE OPERATIONS?

Today's IT departments follow a clear trend to the cloud. The benefits might seem obvious: easy-entry to managed "as-a-service" offerings, no costs for maintaining physical infrastructure, seamless scalability, etc. However, focusing on public cloud vendors can also mean a heavy lock-in into the cloud partner's ecosystem as well as high dependency on network connectivity. When building business critical operations and customer experiences, retailers should work with standards and open technology stacks that can be deployed independent of a specific cloud vendor. Hybrid deployment technologies that can be run on a server in-store or a local datacenter as well as in the cloud should be the preferred technologies. Software development should be the same no matter if you develop for an on-premises runtime in-store or a cloud infrastructure.

Using cloud services in POS software projects have a number of clear benefits. They increase speed of innovation, improve application scalability, ease deployment, and improve upgradability. They enable to drive solution configuration and setup in a use case oriented and hardware footprint optimizing way. Rather than an "all-or-nothing" approach, you can set a service level (e.g., promotion execution) for which functionality to use and where it runs exactly, such as in the cloud, on a local Edge server for offline availability, or both (hybrid deployment, including failover). However, the prerequisite for this is that this service can work independently from one another, using clearly defined abstraction layers such as APIs to communicate with each other. This same capability also allows retailers to run their in-store operations in a network independent way.

IN WHAT WAY DO APIS ENABLE FUNCTIONAL ENRICHMENTS BY THIRD PARTIES WHILE LEAVING THE CORE IP OF SOFTWARE SOLUTIONS INTACT?

The whole is greater than the sum of all parts. APIs should be seen as the parts retailers use to build modern customer experiences. The world is full of APIs. They provide a large toolbox of individual services and functionalities that can be composed to something unique. This unique result is a software solution like Diebold Nixdorf´s Vynamic® Retail platform. Its core IP has integrity. Let's use the analogy of a piece of art. Nobody would ever claim that Michelangelo's Mona Lisa is not his IP just because he might have used colors from a third-party vendor.

Using an API-based software platform, retailers can extend the functionality to stay on par with store innovations and new shopping journeys. By abstracting the core functionality from optional extensions via a set of open APIs, anyone, including the retailer's own IT organization as well as third-party software providers, can easily enrich existing functionalities. Another advantage is that it offers the opportunity to install additional packages with new ones. In fact, by having a core set of services that remain "untouched" you can leverage the scalability, speed and wisdom of the crowds that can use the public APIs to build their own functional additions.

WHAT ROLE DO APIS PLAY IN HELPING RETAILERS RETAIN VALUE FROM THEIR EXISTING SOFTWARE INVESTMENTS WHILE UNLOCKING INNOVATION AND INCREASING BUSINESS AGILITY?

Existing IT investments should be leveraged as much as possible on the road to innovation. APIs are the key to unlock innovation capabilities based on top of these investments. APIs free the data that is locked in silos and create the foundation for new digital experiences – both online and in store. Business agility may not be limited by the existing IT landscape but only by the retailer's vision how to modernize it. When APIs and advanced integration are combined properly, then new business initiatives can be launched in record time. At MuleSoft, our retail customers build modularized, API-based integration microservices that leverage connectors to their legacy landscape. Connectors and blueprints for best practice integrations called accelerators simplify the process of democratizing data access from legacy silos, and this way new experiences can be built while the investment into the existing IT stack can still be leveraged.

Existing IT investments should not limit your ability to innovate. APIs allow you to embed new software products into a given IT landscape and help to protect investments already made. They also offer you the benefit of continuous deployments by doing fast and frequent updates of specific software modules. Sometimes, however, IT investments have reached their end-of-life and need to be replaced due to given technical restrictions. From a business continuity perspective, it is then preferred to use a gradual "phase-in / phase-out" replacement. A modular software architecture consisting of a set of services based on open APIs allows software developers to connect new systems with legacy. New functionalities can even be run in parallel and tested out before doing a full roll-out. In other words: APIs are the key to more controlled migrations and a more reliable, up-to-date and stable IT environment.

THE TAKEAWAY

In the changing market landscape, and as the retail industry undergoes a digital transformation, retailers must find ways to transform and to extend their business models dynamically, including the ability to integrate new technology into their operations and consumer service offerings for implementing new staff and consumer journeys. An API-first approach represents a key enabler that allows retailers to prolong the lifecycle of existing solution implementations but offers an open door to new innovations in a flexible and cost-efficient way.