RIGHT INTEGRATION STRATEGY - A CORNERSTONE FOR OMNI-CHANNEL RETAIL

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A Cornerstone for Omni-Channel Retail

Retailers are going through a challenging and exciting time. Challenging because competition is intensifying, profits are declining and customers are getting pickier. Exciting, because new technologies involving social applications, tablets and smart phones are opening up newer avenues to connect with customers.

Retailers increasingly view these new mediums as complements rather than a competition to their stores. It is expected that by 2015, 3 out of 4 retailers will start using stores as a delivery location for Omni-Channel orders.[1] To take this Omni-Channel experience to customers, retailers need to build a technology platform and have a team looking at their technology preparedness, while incorporating changes to business processes.

From an enterprise integration perspective, businesses will need to develop capabilities to support an Omni-Channel journey.

Introduction

If we go back 25 years, the focus of a retail organization was on their stores and getting the supply chain right - make the products available in the stores and help customers buy when they walked into their stores.

Today, with the advent of Internet, good network bandwidths, smart phones and tablets, the modes of customer interactions have changed. There are numerous apps and websites available to help customers find the right product, recommendations, offers and discounts at the click of a button anywhere, anytime. The boundaries of retail channels are eroding, a customer could be standing in a retail store and accessing information and offers available on the website.

There are multiple channels available to customers and they, at time's, access one channel while in the middle of another channel, like accessing a mobile app from a store.

Brick and Mortar (B&M) retailers also face a continuous challenge from e-commerce retailers, who work with lower overhead costs and provide best deals to customers on every purchase. Case studies of what the likes of Amazon and Netflix did to successful retailers like

Barnes & Noble and Blockbuster are well known.

Customer expectation is to get a website like enriching experience within the store.

With an Omni-Channel buying experience, B&M retailers can address both these challenges, via enterprise integration.

- Real-time integration capabilities between corporate and stores to support store associate mobility

- Expose enterprise functionality through Application Programming Interfaces (APIs) so that they can be accessed through mobile applications on the customers' smart devices

- Enterprise Service Bus to host various business services and processes

- Complex Event Processing (CEP) platform to enable a personalized experience for customers

- High volume processing environments like data grids to support real-time interactions involving heavy data movement

They need to continue to use physical stores as a focal point of their customer engagement and align all other channels to augment it. According to a recent Wipro-Economist (The Data Storm) Research report, lack of cross-channel capability dampens sales by 4.5%.[2]

Most large retailers provide B&M stores and e-Commerce as channels to their customers. Some retailers also offer mobile applications. However, these channels usually work in silos and retailers mostly have channel-specific content applications and, order & inventory management. Fulfillment operations are also limited, restricting customer options in case there is an "out of stock" situation. Customer transactions are limited to specific channels. Even though some retailers provide real-time offers, these are largely pre-defined and not customized. Thus, the majority of retailers have a multi-channel operation but most of them still do not provide an Omni-Channel experience to customers.

Creating an Omni-Channel Experience – Functional Building Blocks

Omni-Channel experience is much more than providing same price and products across channels. Many people confuse Omni-Channel with supporting multiple channels at best inventory and price points. With the customer being at the center of an Omni-Channel experience, the retailer needs to determine what kind of activities she/he might do through the entire engagement process. Accordingly, the retailer would need to enable these features in individual channels.

Single View of Product

The first step towards providing an Omni-Channel experience to customers is to establish a common product information system. This involves having a single definition of products for backend processes and also a common Content Management System across channels. Retailers need to invest in technologies like QR codes, store kiosks and mobile apps to provide a consistent digital experience.

Enterprise Inventory Visibility

Once there is a single view of products, retailers should build a common view of inventory across channels. This will enable internal fulfillment operations and support the "endless aisle".

Retailers need to make the right product available to their customers at the right time irrespective of the location of the product.

Apart from leveraging this for operational efficiency, this view of inventory can also be exposed to store associates and end customers. Retailers often have to deal with loss of sales when customers do not

get the products they are looking for, while the same products might be available at a different location. A single pool of inventory allows customers to check availability, find alternate locations of availability, place orders and pick up items from a location of their choice.

In-store Mobility

One major advantage which B&M retailers have over pure online retailers is that they can use the stores to provide a differentiating customer experience. The key to this lies in enabling store associates and customers themselves by providing more store relevant features on mobile applications. These may include access to customer profiles, inventory and order statuses.

Mobile applications of the retailers should provide social engagement, competitive pricing information, product reviews and recommendations to customers. They can also provide features like 'Click to Chat' or 'Click to Call' which will allow customers to get additional support and expedite buying decisions.

Personalized Engagement

One of the most important aspects of the Omni-Channel experience is to know the customer and contextualize the whole buying experience. To achieve this, retailers would need to have a common CRM system which provides a common view of the customers, irrespective of the channel of engagement. There should also be a common loyalty program which should be applicable for transactions made across channels.

Convergence of the retailer's business processes and channels will lead to emergence of an engaging customer experience across multiple channels.

Most customers today use smart phones and this provides retailers with the additional opportunity to capture real-time customer sentiments based on what products they are searching for or what promotions they are accessing. Based on the intelligence gained by analyzing customer profiles, past transaction data and current behavior, real-time context specific content and offers should be delivered to sales associates or customers in the store.

Seamless Channel Commerce

The core purpose of Omni-Channel experience is to provide customers with seamless commerce across channels. This means customers can start a transaction from any channel and take it forward to completion from any other channel of interaction.

To enable this, retailers would need to invest in systems for Unified Order Entry, Common Basket Management and Order Fulfillment. This will provide the transaction fluidity between channels which customers expect from today's retailers. The integration of Order Management and Order Fulfillment systems between channels will enable scenarios like 'buy online/mobile - pick up in store'.

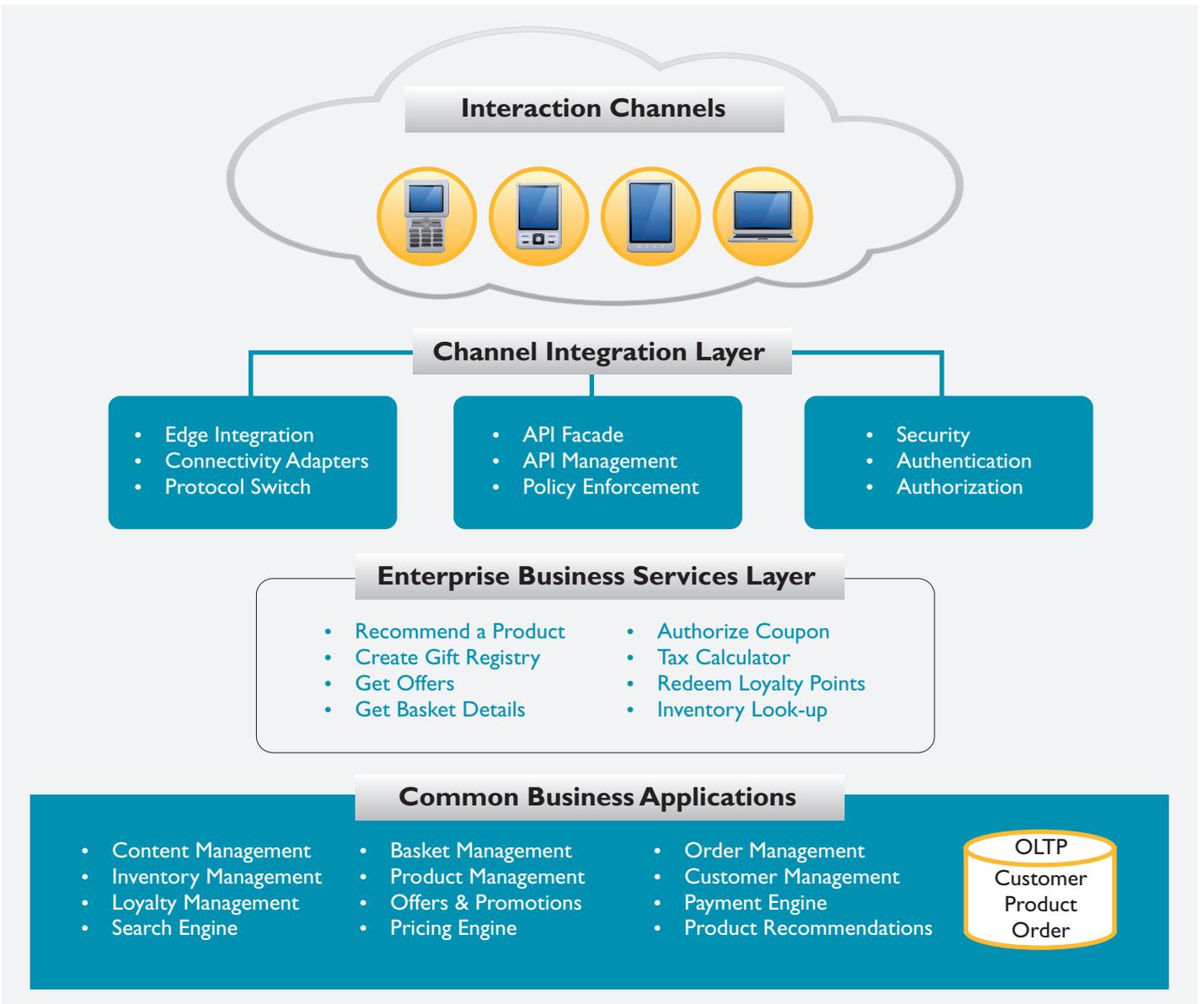# Enterprise Integration Platform to Support the Omni-Channel Business Model

To support the changing business model it is imperative for CIOs and CTOs to plan and build enterprise platforms from a technology perspective. However, with a retailer's shrinking IT budgets, they will have to find ways to reduce cost of operations to fund these new transformations. Some cost reduction avenues will come from these technology trends itself. For instance, explore options for supporting 'Bring-Your-Own-Device' for store associate mobile devices. Another option would be to move some applications on the Cloud in a Software as a Service (SaaS) model, which brings in huge cost reduction opportunities.

While drawing up the Omni-Channel strategy, retailers should in parallel plan for a supporting technology platform, which will have to provide a base for integration with Cloud-based applications and an increased number of mobile device-based applications.

The recommended Omni-Channel integration landscape would include the following four key aspects –

- Interaction Channels
- Channel Integration Layer
- Enterprise Business Service Layer
- Common Business Applications

Interaction Channels

Channel Integration Layer

• Edge Integration • Connectivity Adapters • Protocol Switch	• API Facade • API Management • Policy Enforcement	• Security • Authentication • Authorization

Enterprise Business Services Layer

- Recommend a Product
- Create Gift Registry
- Get Offers
- Get Basket Details
- Authorize Coupon
- Tax Calculator
- Redeem Loyalty Points
- Inventory Look-up

Common Business Applications

- Content Management
- Inventory Management
- Loyalty Management
- Search Engine
- Basket Management
- Product Management
- Offers & Promotions
- Pricing Engine
- Order Management
- Customer Management
- Payment Engine
- Product Recommendations

OLTP
Customer
Product
Order

Omni-Channel System Landscape

Interaction Channels

These are channels which the retailers will need to support, and include a wide variety of options like web, kiosks, smart phones, handhelds and POS registers. This is a growing list and varies based on the end user. However, based on the channel strategy, the relevant functionality should be seamlessly enabled across these channels.

Channel Integration Layer

The Channel Integration Layer acts as a façade between the end channels and enterprise business services. This layer is important for 3 key reasons –

- In the fast evolving technology environment user channels such as iPhones, BlackBerrys, Tablets, Phablets are getting added. The idea is to keep enterprise services free of these complexities and let the channel integration layer manage this.

- The users of business services will vary from customer mobile apps, store associate apps, third-party developers of price comparison sites to business partners. From a security point of

view, it is not recommended to directly expose the enterprise services to all these external consumers. The Channel Integration Layer takes care of the security aspects and allows only the authorized consumers to hit the enterprise services.

- Different end consumers might require different data and policies governing the interaction. This again can be handled at this layer.

Enterprise Business Services Layer

This layer can be a vital factor in the success or failure of an Omni-Channel strategy. The key here is to create business services which can be consumed by any channel. The channels individually do not need to worry about the backend business applications. They only need to invoke the right business service which, in turn, gets the response for the channel. Any new feature which the enterprise wants to bring in also gets added to this service layer and then the channels can adopt it at their pace.

To support the new functional capabilities a variety of business functions would require to be exposed through the business service layer.

Single View of Product	• QR Codes / Barcode Scan to Access Data • Product Reviews • Digital Asset Management • Web Content Management • Live Streaming
Enterprise Inventory Visibility	• Item Locator • View Store Inventory Online / Mobile • Ship from Store • Item Availability / Inventory by Store
In-store Mobility	• Access Customer Profile • Product Reviews • Mobile Point of Sale • Click-to-Chat, Click-to-Call • Tag Associate Notes to Customer Profiles • Price Comparisons
Personalized Engagement	• Customer Preferences • Location-Based Promotions • Customer Account Management • Crowdsourcing Merchandising Ideas • Customer Location Tracking / Arrival • Crowdsourcing Merchandising Notification Assortments • Personalized Communications /
Seamless Channel Commerce	• Omni-Channel Shopping Cart • Omni-Channel Commerce Services • Omni-Channel Checkout • Order Status Visibility • Real-time Order Alerts • Integrated Shipping Capabilities • Customer Self-service

Functional Areas and Business Services Exposed as Features

Common Business Applications

In most enterprises, the channels of interactions have evolved over time and most of them have different backend systems supporting them. This becomes a limiting factor for enterprises when they want to bring a common experience to the customer. The most important aspect in preparing for an Omni-Channel experience is to consolidate and harmonize the backend business processes and applications. This includes both the core business operations like Inventory Management, Order Management and customer value-added applications like Product Recommendations and Loyalty Management.

Another important aspect of this layer is to have a common Online Transaction Processing (OLTP), so that customers can switch channels and continue their transactions from where they left off. This will allow all the channels to work as a single cohesive conduit from customer's point of view.

Conclusion

It is important for retailers to identify, engage and reward customers across channels. A well-defined customer engagement strategy and identification of the role of each channel is an integral part of that.

According to RIS News and EKN's 6th Annual Cross-Channel Tech Trends Study 2012, the expected growth of revenues through online and mobile channels will increase much faster than stores. By 2015, online and mobile will start contributing up to 25% of retail revenue.

Enterprises already have parts of the system landscape discussed above. However, it might not be enough to support the new business models. So they should invest in defining a reference technology architecture based on their planned Omni-Channel journey. The CTO organization should look at this technology reference architecture and identify the gaps. The gaps would most likely be in the areas of enterprise business services and the channel integration layer. Most retailers have enterprise service bus-based integration platforms, but these would need to be augmented with a platform to build and host enterprise business services. This is achieved by products around BPM, Business Rules and Complex Event processing.

Another area which needs attention is the channel integration layer. This involves products around security gateway and Application Programming Interface (API) management. This is important to expose the enterprise business services to the end users through multiple interaction channels.

Omni-Channel adoption is a large transformation which involves both Business and IT. So it should be approached with a clear roadmap for adopting it for both process and technology platforms. A pragmatic approach will be to define an overall strategy and break the Omni-Channel journey into smaller initiatives.

About the Author

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