EXECUTIVE RESEARCH REPORT

DIGITIZING THE STORE

THE NEXT WAVE OF ONLINE AND OFFLINE CONVERGENCE

National Retail Federation®

The University of Arizona

demandware
move faster, grow faster
Connected consumers — constantly armed with technology and information — have fundamentally changed the shopping paradigm. Since no single channel or touch point defines the total customer experience, and today’s retail systems don’t move at the speed of consumers, retailers must rethink existing operational models and technology architectures. Brick-and-mortar stores and the legacy technologies that support their operations are on the cusp of a refresh cycle and will experience the most radical transformation to satisfy demands of the increasingly omni-channel consumer. This has triggered retailers to take a fresh look at how they approach all consumer-facing systems. Nearly 40% of retail executives we surveyed now believe that a single platform will simplify the technology environment over the next three years and provide seamless engagement and transactions throughout the shopping journey.

The National Retail Federation (NRF) teamed with research partner University of Arizona and industry partner Demandware to survey more than 200 retail business and technology executives in the US and Europe to quantify the convergence of POS and e-commerce technology and its impact on digitizing the store.

KEY QUESTIONS

- How are consumers driving retail IT changes?
- Why are traditional POS and e-commerce technologies converging?
- What factors are driving future single platform investments by retailers?
- What functionality must a single platform deliver to meet retailer needs?
- What should retailers analyze and address to determine the right technology path?
Digital Divas comprise 22% of fashion shoppers, yet represent 69% of purchasing power.

**LANDSCAPE**

**CONNECTED CONSUMERS DRIVE UNPRECEDENTED CHANGE**

Today’s technology enabled, always-connected consumers have seemingly unlimited knowledge, power, and expectations — and are therefore equipped to filter and prioritize where, how, and when they engage with retailers. How they interact with retailers continues to evolve quickly: not only are consumers changing how they shop across stores and online, even the digital component itself is changing as consumers rapidly integrate smartphones and tablets into shopping. For example, comScore reports that in Q3 2013, online consumers spent 44% of their time on retail sites via smartphones and another 15% via tablets. Conversely, personal computer share dropped from 49% in February 2013 to just 41% in September.

As another example, according to University of Arizona’s 2013 report, *Who are Digital Divas and Why Should Retailers Care?*, a connected and influential digital consumer — the “Digital Diva” — has emerged. “Digital Divas” comprise 22% of fashion shoppers, yet their purchasing power represents 69% of all fashion spend — a combination of their direct spend (29%) and influenced spend (40%). They visit an average of 3.4 destinations during their journey, primarily shopping at physical retail stores (70%) and retailer websites (51%) (see Figure 1). Brick-and-mortar stores are still important to Digital Divas, as they value the tactile nature of the in-store experience. And because Digital Divas shop across multiple channels — using an average of 3.7 technologies along with visiting multiple destinations — they expect fluid and highly relevant interactions, where their context with the brand is never lost.

Since no single channel or touch point defines the total experience, retailers must rethink existing operational models and technology architectures.

![Figure 1: Digital Divas are Connected and Influential](image-url)

Source: *Who are Digital Divas and Why Should Retailers Care?*. By University of Arizona, January, 2013
Only **26%** of retail organizations surveyed provide capabilities that allow consumers to interact and transact with the brand within the physical store via their mobile device.

TECHNOLOGY MUST SUPPORT CONSUMERS AND OPERATIONS SIMULTANEOUSLY

Retail leaders surveyed globally cited the following top priorities (in order of importance) that information technology must enable in the constantly changing face of retail:

1. Improve efficiency (automates processes and simplifies operations across channels)
2. Attract and retain new customers (operationalizes data and intelligence to provide relevant and personalized interactions)
3. Reduce enterprise costs (simplifies environment to remove redundancy and sustain margin)
4. Increase enterprise growth (supports new brand, channel, and geographic expansion with adequate technical and commercial scale)

While improving efficiency and reducing costs will always be operational priorities, the ability for information technology to support consumer strategies has risen towards the top. Almost half of our US (48%) and EU (47%) survey respondents stated that information technology must enable retailers to attract and retain new customers. In a world where consumers have ubiquitous broadband, active social networks, and multiple mobile devices, retailers must leverage technology as a competitive weapon and drive change further and faster.

CURRENT TECHNOLOGY CAN’T KEEP PACE

While consumers dictate and control the shopping process, it is not surprising that existing infrastructure, architecture, and applications have strained to keep pace. Loosely coupled legacy systems originally were implemented to solve specific problems for specific channels. The proliferation of channels with which consumers now interact commonly results in:

- Redundant data that increases total cost of ownership from system maintenance and operational inefficiencies
- Inaccurate customer information that manifests itself in order, payment, and service miscues
- Siloed systems that stifle retailers’ ability to respond to market dynamics and execute growth initiatives

These barriers also slow enterprise innovation — most notably within brick-and-mortar locations. For example, only 26% of retail organizations surveyed provide capabilities that allow consumers to interact and transact with the brand within the physical store via their mobile device. Adoption differs dramatically by geography — 31% of European retailers versus 22% of US retailers in our survey provide such capabilities.

Business priorities cannot be effectively executed with the limitations of current complex and disparate technology environments. With the risk of dissatisfied customers and lost revenue, retailers are defining a consolidated architectural approach to more effectively manage consumer engagement and transactions across channels.

OUTLOOK

DIGITIZING THE STORE – THE NEXT WAVE OF TECHNOLOGY CONVERGENCE

Since the advent of the electronic cash register in 1974, traditional store-based POS has managed nearly 100% of retail transactions. It took thirty years and the emergence of the internet for another technology — and channel — to chip away at the status quo. Based on a significant annual growth rate, Forrester Research predicts that e-commerce will grow to $262 billion in 2013 and reach $371 billion by 2017 in the US alone, when it will account for 10% of all retail sales

Perhaps even more significant, Forrester estimates that half (49.5%) of total U.S. retail sales today are impacted by the
Nearly 40% of retailers are considering a single consumer platform to manage interactions and transactions across channels.

Over the past 15 years, e-commerce functionality, architecture, and extendibility that were designed for online shopping has surpassed store POS applications. As a result, traditional POS, call center, and mobile technologies that directly interact with consumers are increasingly being supplanted by e-commerce to establish a single consumer transaction platform (see Figure 2).

The new retail reality will be better served by a single platform at the center of the consumer shopping experience. According to our survey, nearly 40% of retailers are considering a single consumer platform to manage interactions and transactions across channels (see Figure 3).
This single transaction platform operates as the common system of interaction to bridge the virtual and physical shopping worlds. It consolidates and manages key data elements, business rules, and functionality that historically lived in multiple systems to deliver a seamless shopping experience across channels (see Table 1). While merchandising, marketing, supply chain, and business administration applications continue to be the systems of record in many cases, the platform is the hub that directly supports customer engagement and flexible transactions throughout the shopping journey.

<table>
<thead>
<tr>
<th>Multiple Systems</th>
<th>Single Platform</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CUSTOMER INTELLIGENCE</strong></td>
<td>Single view of customer data (preferences, demographics, shopping history) increases accuracy and enables retailers to effectively execute dynamic segmentation and personalize interactions</td>
</tr>
<tr>
<td>Customer information managed in applications by channel are often inaccurate and redundant</td>
<td></td>
</tr>
<tr>
<td><strong>PRODUCT CONTENT</strong></td>
<td>Commerce and content combined to streamline workflow and allow users to synchronize product data across digital channels with speed and accuracy</td>
</tr>
<tr>
<td>Product images, attributes, and data created and managed in silos and frequently not accessible to store associates</td>
<td></td>
</tr>
<tr>
<td><strong>INVENTORY AVAILABILITY</strong></td>
<td>Accurate inventory visibility in real time across multiple locations enables key omni-channel capabilities like buy online and pickup in, or ship from, store</td>
</tr>
<tr>
<td>Inventory dedicated to specific channels with limited capability – or manual process – to order between channels</td>
<td></td>
</tr>
<tr>
<td><strong>ORDER VISIBILITY</strong></td>
<td>Order status, history, and details are exposed to associates and consumers from anywhere</td>
</tr>
<tr>
<td>Limited visibility of purchase or order lifecycle from one channel to another</td>
<td></td>
</tr>
<tr>
<td><strong>PROMO OPTIMIZATION</strong></td>
<td>New prices and promotions are quickly configured for redemption based on channel, device, or segment</td>
</tr>
<tr>
<td>Prices and promotions are specific to channel and difficult to redeem as applications don’t recognize codes</td>
<td></td>
</tr>
</tbody>
</table>

With simplified architecture, synchronized data, and real-time intelligence, retail leaders stated that a single platform should address the following top consumer-focused initiatives:

1. **Enhance customer experience** (provide seamless interactions no matter what channel or device with which they choose to engage)
2. **Standardize business processes** across channels (increase internal efficiency among traditionally disconnected business units and functions)
3. **Increase store associate productivity** (not only drive down costs, but more importantly arm associates to enhance interactions with customers and increase conversion)

**POS REFRESH TRIGGERS SINGLE PLATFORM INVESTMENTS**

There will be significant store investments as retailers aggressively break with tradition and launch new store formats, revamp aging locations, test new concepts, and bring digital capabilities into the four walls. 80% of retailers surveyed expect to maintain or increase store technology investments over the next three years.

Many of these investments are targeted at POS, with 70% of retail executives reporting that their organization is currently deploying or planning to refresh its existing software in the next three years (see Figure 4). This refresh cycle — which has historically occurred approximately every 12 years — has prompted technology leaders to rethink traditional store-centric software, along with other consumer-facing technology, and consider a single commerce instance across channels.
Given its more modern and flexible architecture, e-commerce software is emerging as the most logical approach to evolve and establish a single platform. These scalable applications handle robust functionality and data, and are already the backbone for many call centers and mobile optimized sites. The next frontier is traditional store-based POS.

While traditional POS software has been a mainstay in physical stores — enabling reliable and efficient transactions — it is proving difficult to extend functionality across channels because the legacy architecture is generally closed, requires heavy customization, and is designed for a single location. According to our survey, twice as many retailers globally plan to leverage e-commerce (38%) over traditional POS (19%) for their next-generation store software (see Figure 5). Furthermore, only 23% of retailers in the US and 13% of retailers in Europe are considering traditional POS for their next-generation POS software. This trend varies by retail segment, but clearly speaks to a tipping point in the store software market as retailers grasp that they must find a more flexible solution that knits together formerly disparate customer touch points.
Retailers rated guided selling and clientelling as some of the most important digital functionality within physical stores.

![Figure 6: Retailers Want To Embed Ecommerce Functionality Into Stores](image)

Assuming the convergence of shopping processes and technology across retail channels over the next three years, what functions typically found online should retailers make available to store associates on a mobile device?

Retailers already are extending robust e-commerce functionality into stores to leverage the same product, order, and customer data that is used for online browsing, purchasing, and service. For example, arming store associates with extensive customer intelligence makes them more effective brand ambassadors. The U.S. and European retailers surveyed rated guided selling (63% in US) and clientelling (50% in Europe) as some of the most important digital functionality to increase loyalty and conversion in brick-and-mortar locations (See Figure 6). With so many sophisticated analytics tools used in the digital shopping experience, not applying similar capabilities to the physical world would be a significant missed opportunity and direct hindrance to growth.

Retailers also rated inventory search (73% in the U.S. and 49% in Europe) and store fulfillment (60% in the U.S. and 50% in Europe) as important digital functionality in stores. With consumers weaving between channels throughout their shopping journey, it is no surprise that retailers want to expose inventory from numerous sources of supply and leverage stores to efficiently fulfill orders when appropriate. Endless aisle is an important byproduct of these capabilities, as store associates can prevent walked sales by providing customers inventory visibility across the enterprise and complete secure transactions on the sales floor.
To influence decisions and enhance service, retailers want to embed capabilities such as guided selling, clientelling, and endless aisle into browsing on the sales floor in addition to purchasing at the till. Infusion of these digital capabilities into the store has a major impact on traditional and handheld hardware investments. Our survey suggests that traditional hardware is the top investment priority for 54% of retailers, and handheld hardware is the top priority for 30% of them globally (See Figure 7). The in-store cash wrap may not go away entirely — store associates likely will still need a place to provide service, bag merchandise, and perform certain transactions — but the traditional terminals will be replaced by more nimble, open, and mobile alternatives.

NEXT STEPS

RETAILERS MUST PROACTIVELY ADDRESS KEY TECHNOLOGY IMPERATIVES

While many retailers believe that investments in a single transaction platform to digitize the store will enable them to move at the speed of consumers, they need to consider the following three overarching imperatives to take advantage of this unprecedented change that the retail industry is experiencing.

• **Understand Market and Internal Landscape:** Retailers must understand both the broader marketplace and current state of technology solutions, as well as the internal organization and key stakeholders.

  > **Navigate the Vendor Landscape:** One-third of the retail executives we surveyed report that their organization has not decided if a single platform will play a role in their technology strategy. The uncertainty is driven primarily by the nascent technology landscape and risk from significant organizational change. According to these retailers, the top challenge with a single consumer transaction platform is independent software vendors may not have a comprehensive or proven solution. Retailers should engage vendor partners to understand how their vision and roadmap aligns.
Wire Your Organization for Change: We have observed that organizational issues can further exacerbate uncertainty, as neither the e-commerce team nor the stores team wants to sacrifice current — if also imperfect and largely incompatible — solutions for their part of the business. Retailers should engage the business leaders within the company to gain consensus on a path forward and build shared requirements for a new common transaction platform.

Establish Technology Roadmap: Retail executives we surveyed also cited as challenges complex migration of legacy systems to the new environment and the need for significant capital investment for a “big bang” approach. The transformation to extend a singular platform across channels — particularly into physical stores — won’t and can’t happen overnight. Retailers need to develop their own technology roadmap that defines success, supports business initiatives, and defines a path with clear milestones. Three key technology components of particular interest include:

Consider the Cloud: Our survey shows that retail executives are currently considering both cloud (30%) and on-premise (19%) options for their POS software applications — while a full 51% have not formed a preference yet. Consumer engagement and transactions can no longer take place in isolation. Connectivity and security issues that historically hampered the ability to manage data and applications centrally in the cloud have diminished, and therefore the need to replicate and integrate this information in multiple data centers or backrooms is going away. Retailers should examine how to leverage the cloud to centrally manage consumer-facing systems, offload infrastructure maintenance, and provide elastic scalability for peak usage and growth.

Mobilize and Empower Store Associates: As noted earlier, even some of the tech-savviest consumers — the Digital Divas — still rely heavily on the physical store experience as part of their path to purchase, and store associates are the biggest brand ambassadors. Savvy retailers will move store associates from behind the register, arm them with the same information that consumers have, provide training and incentives, and empower them to leverage capabilities — hardware and software — as stores are digitized. Two-thirds of retailers surveyed indicated that all of their district/regional managers and store managers do or will use these mobile devices in the field over the next three years; only one-third, however, report that all of their store associates have access to these mobile devices. The data shows that retailers have yet to realize the full potential of their investment in mobile devices: currently only half (52%) use smartphones and one-third (33%) use tablets to access POS software in the field. However, anticipated adoption of such hardware is pivotal in the transformation to a single consumer transaction platform.

Invest in Wireless: 48% of survey respondents cited wireless connectivity as the major challenge they faced when using mobile devices in the field (followed by associate training and device theft and breakage). Connectivity concerns will dissipate as wireless becomes more pervasive, networks enhance reliability, and retailers leverage consumer-grade wireless to increase bandwidth. Retailers should leverage initiatives such as guided selling, clientelling, and endless aisle — all of which have the potential to increase service and revenue — to help fund wireless investments.

Drive Continual Innovation: Consumer demands are changing at a rapid pace and innovation is currency in the shopping experience. Innovation and speed are not one-time events but instead must become standard operating procedure — made possible by a flexible and scalable platform. Retailers need to create the ability for employees to experiment quickly and extend capabilities to channels, devices, and geographies without the traditional costs due to administrative and system complexity. As part of this internal evolution, retail executives need to drive speed into environments so businesses can iterate and innovate faster — the time from inception to delivery into live operation must accelerate.
METHODOLOGY AND RESPONDENT PROFILE

The National Retail Federation (NRF) collaborated with research partner University of Arizona, and industry partner Demandware, to survey retail business and technology executives to quantify the convergence of store and digital technology and its impact on digitizing the store. Survey data was collected from online panelists – 125 in the U.S., 38 in the U.K., 35 in France, and 33 Germany – during the fall of 2013. Organizations represented various retail segments, and individual respondents spanned business and technology leadership positions (See Figure 8).

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End Notes

1. “State of the U.S. Online Retail Economy in Q3 2013”, by comScore, November 2013 (see www.comscore.com)
2. “Who are Digital Divas and Why Should Retailers Care?”, by University of Arizona, January 2013 (see www.demandware.com)
4. “60% of U.S. Retail Sales Will Involve the Web by 2017”, by Amy Dusto, Internet Retailer, October 30, 2013 (see www.internetretailer.com)
National Retail Federation

NRF is the world’s largest retail trade association, representing discount and department stores, home goods and specialty stores, Main Street merchants, grocers, wholesalers, chain restaurants and Internet retailers from the United States and more than 45 countries. Retail is the nation’s largest private sector employer, supporting one in four U.S. jobs — 42 million working Americans. Contributing $2.5 trillion to annual GDP, retail is a daily barometer for the nation’s economy. NRF’s This is Retail campaign highlights the industry’s opportunities for life-long careers, how retailers strengthen communities, and the critical role that retail plays in driving innovation.

University of Arizona

Through a strong partnership with business and industry, the University of Arizona’s Retailing and Consumer Sciences program and Terry J. Lundgren Center for Retailing bring together the resources and expertise of academia and the retail industry with a shared goal of developing strong future retail professionals. Students have unique opportunities for research, career exploration and development, internships, professional in-class speakers and industry tours.

Demandware

Demandware, a leader in digital commerce, enables the world’s premier retailers to move faster and grow faster in the changing face of retail. Demandware’s enterprise cloud platform minimizes the costs and complexities of running global, omni-channel commerce operations, and empowers retailers to respond with speed and agility to new market opportunities and continually evolving consumer expectations.