Industry Vision: Reimagining the Retail Store With Smart Machines

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One way to pursue digital business transformation is to create an industry-specific vision. This research explores ways smart machines will continue to transform the retail store and assist CIOs to enable strategic digital business transformation.

Key Challenges

- Identifying an optimum balance between automation, smart technologies and fewer, more-skilled associates is critical to fostering the trust required to execute upon this vision.
- Hypercompetitive marketplaces, and the pressures of digitalization, are challenging traditional sales and service models. This is resulting in margin erosion.
- Tasks that do not require associate interaction to improve service will be increasingly targeted for automation as a way to reduce costs while maintaining or improving customer service experiences.

Recommendations

Retail CIOs:

- Work with a team of retail business and IT leaders to create an industry vision for smart machines in your stores. Do it quickly and simply, without overthinking on feasibility.
- Research how other industries are utilizing smart machines to gain competitive advantage. Cost will be a challenge, so be sure to identify best practices, differentiation and overlap.
- Prioritize the opportunities for digitalizing the in-store workforce based on process improvements that will positively impact employees and consumers.
Introduction

CIOs expect that 37% of enterprise revenue will come from digital business by 2020, more than double what it was by late 2015 (16%), according to our 2015 CIO survey. To hit this target, CIOs will need to help their organizations change the basis of competition, create new markets and cross industry boundaries by creating an industry vision for digital business in retail (see "Create an Industry Vision for Digital Business"). This approach enables the enterprise to tilt the fundamentals of competition in its favor, without limiting digital business to narrow sequences of events and committing the enterprise to a vast building project. One possible industry vision is the utilization of smart machine technology in retail stores.

An industry vision depicts a multidimensional concept for executing operations digitally in a given industry. Creating an industry vision, and identifying the role the enterprise wants to play in it, enables the enterprise to tilt the fundamentals of competition in its favor.

An Industry Vision Changes Everything

An industry vision proposes nothing less than the complete redefinition not only of the enterprise, but the industry. It is one vision of many that could be possible for any given industry. The purpose of an industry vision is to stretch your thinking about what is possible. An industry vision should make all but the luminaries feel uncomfortable because it is a total rethink of how value is created and delivered.

Industry Vision Description: The Retail Store Associate and Smart Machines

The role of associates in the physical store continues to change as technologies such as cloud, mobile, social and big data (the Nexus of Forces) give rise to a new era of digital business. Traditionally a low-margin industry where labor is usually the second-largest cost (next to the cost of goods sold), retailers are pressured constantly to reduce their workforce costs. In this regard, smart machine technologies have already become a key theme of the retailer’s agenda as usage of workforce and other advanced analytics, real-time store monitoring platforms, real-time customer offer engines, and virtual customer assistants are becoming more commonplace. As margin pressures continue to rise as a result of increased wage pressures, retailers will be forced to re-examine existing labor models to include a substantially reduced number of sales associates without sacrificing the ability to deliver on customer expectations.

An optimum balance of skills and technologies will be required to provide a more accessible and data-driven work environment that is better able to exploit changing business conditions and impact the customer experience. This will include taking into consideration the cost of commissioning, maintaining and decommissioning smart machines alongside the overall costs of employee onboarding and training in an industry with typically high turnover in stores.

CIOs must act now, along with the business, to respond to the recent emergence of a new "superclass" of smart machine technologies that can perform a wide variety of work and dramatically alter the capital-to-labor ratio. These technologies include automation, deep learning, decision making, cognitive computing and other smart machine technologies, which can be
leveraged in conjunction with human associates. Along with disruption to labor strategies, Gartner research on this subject indicates that the convergence of smart machines and the Internet of Things (IoT), together with the Nexus of Forces, will drive the transformation of current retail business models and organizational structure, thus revolutionizing retail during the next few decades.

Retailers must come to grips with the fact that smart machines will be the catalyst for one of the most disruptive eras in the industry. It will impact all areas of the business, and retailers that fail to understand and act on the disruptive impact of smart machines, including the opportunities to leverage these technologies to enhance the business, will struggle to survive in the digital business world.

To succeed with this industry vision, CIOs must:

- Choose the right approach — for example, identify where stumbling blocks in in-store execution of cross-channel customer processes may be eliminated by augmenting or upskilling your associates in the retail store.
- Conduct an assessment of what smart technologies fit into your digital business strategy by mapping the entire customer process to identify where smart machines can augment or, in some cases, replace humans for rote tasks.
- Consider your overall roadmap to identify linkages that may occur in the future (for example, adding click-and-collect capabilities, real-time store monitoring platforms or beacons that will interact with smart machines).
- Identify examples for inspiration inside and outside of the retail industry.
- Use this research to provide the CEO and CTO with the IT architectural vision and model upon which a new industry scenario can be enacted for retailers.
- Based on your findings, run a small test pilot using smart machines in selected stores, and fine-tune the process of selection, implementation and measurement.

Analysis

Create an Industry Vision for Smart Machines in Your Retail Store With a Team of Business and IT Leaders

An industry vision for leveraging smart machines in the retail store should consist of four parts: concept, capabilities, assets and research.

Concept

An industry vision seeks fundamental change; therefore, it will affect many dimensions of the business and operations. For example, as digital business evolves via the IoT, retailers and their
employees will be charged with creating and sustaining digitalized cross-channel shopping experiences that enable customers to connect, collaborate, co-create and customize. To address the effects of consumerization on labor and, ultimately, the customer experience, optimization of the retail workforce is now a critical point of competitive differentiation. For example, the basic customer expectation of having informed and available staff. As retailers face mounting pressure on multiple fronts — to grow margins, deliver on customer expectations and control costs at the same time — CIOs must investigate ways to support the business through processes and technologies that facilitate new and smarter ways of working, as well as serving customers.

**Assets**

The CIO will need new assets to equip retail stores with smart machine technology, for example:

- Technology and information-related assets such as real-time store monitoring platforms, virtual personal assistants (VPAs) and virtual customer assistants (VCAs). Leveraging technology to offload back-office and routine work, and to allow associates to take on more meaningful customer-facing responsibilities, is a key element of digitalizing the workplace; however, an optimum balance must be found to gain the most business value, meet customer expectations, and grow and maintain employee trust.

- Associates armed with VPAs would have access to in-depth product knowledge and availability that typically would take years (if ever) to acquire. Through integration into a retailer’s product database, and equipped with the intelligence to learn and understand, a VPA can help associates answer questions, find products, book service calls, complete transactions and even design product combinations. Early examples of VPAs include conversational agents (such as Microsoft’s Cortana) and virtual scheduling assistants (such as x.ai’s Amy).

- VCAs — a subclass of VPAs, are another type of smart machine with applicability in retail. Newer uses of VCAs can facilitate customer interactions on self-service channels, such as mobile. Additionally, the use of voice-enabled VCAs in a kiosk, for example, can alleviate the need for some routine types of actions, answer customer questions or resolve issues quickly without the intervention of human associates. For example, Creative Virtual’s V-Person for Retail provides virtual customer assistance across mobile, social, Web and call center channels.

**Capabilities**

The CIO will need new key capabilities to make the smart machine store vision work:

- Digital Workplace Capability — The ability to promote employee effectiveness and engagement through a more-consumer-like computing environment. A retailer’s digital workplace environment must support and encourage new, more-effective ways of working, and, at the same time, raise employee engagement and flexibility. It should also specifically develop and exploit associate-to-consumer skills to maximize customer collaboration opportunities.

- Industry Fluidity Capability — The increasing impact of the IoT and consumerization is lowering boundaries between industries such that a company’s core competency will be leveraged to take advantage of value streams in other industries. There are early examples of companies...
finding new value by redefining their core competence and, in the process, transitioning to different industries or expanding their existing industry:

- GE is using its core competency of manufacturing machines as a means to becoming an information provider. This can improve utilization of the assets and resources of its customers as intelligence is built into its products to feed what it calls the "industrial Internet."

- Mercedes-Benz recently purchased two ride-sharing companies, using them as a gateway to reaching more consumers with mobility services, and competing with companies such as Uber and Lyft (see "Industries Will Become Fluid in the Era of Digital Business").

- New Attitudes and Skill Sets — Changes to the retailer’s cultural norms will be required to prepare for the arrival of smart machines in retail stores. Traditionally, physical stores have centered on humans being in control, and using computers to arrive at the best answers and decisions. Associates may be comfortable with some levels of automation that make work and life easier, but they are not yet experienced and prepared to work as partners with smart machines.

Research

Developments around digital business models are not static; they are changing rapidly and will expand into new areas. CIOs will, therefore, have to act now to maintain a research program and pilots designed to monitor and adopt smart machine strategies. The CIO will need to experiment continually with new digital business possibilities. This experimentation and pilot phase should build upon knowledge gained by mapping the customer processes, as well as consideration of:

- Metrics for the pilot — ideally that tie to customer and associate experience.

- Handling change with care (upskill and augment focus) so associates are reassured regarding large-scale labor cuts.

- Analysis of costs associated with smart machines (commissioning, upgrades to functionality, maintaining and decommissioning).

For example, Gartner research shows that the steps involved in creating solid customer experiences hinge on the consistent execution of retail basics. These basics include, for example, promising an item to a customer and then delivering on that promise.

Delivery of the basics has become increasingly complex as a result of how customers use technology to redefine their interactions with retailers. For large multichannel retailers, the store is, and will continue to be, the channel with the largest revenue contribution until at least 2025. Moreover, it will remain the primary execution channel for cross-channel processes as customers continue to find it the most convenient and preferred location for fulfillment. More than two-thirds (68%) of respondents in Gartner’s consumer retail shopping survey indicated that they simply preferred to pick the products off the store shelf when shopping (see Note 1). As a result, the store associate’s ability to help in-store customers find products that are in stock — or, in the case of cross-channel shoppers, to seamlessly enable the pickup of online or mobile orders in a store — is
placing new operational burdens on stores to support this customer priority. Therefore, it is of the utmost importance to identify which basics are most critical for customers within a particular retail segment to prioritize the alignment of people, processes and technology to better deliver in the areas with the greatest impact on customer experience.

A first step is to begin identifying which scenarios within the shopping process are ideal for replacement by automated and smart machine technologies, versus which processes are best delivered by humans aided with smart technologies.

Identify Examples for Inspiration

CIOs can better understand ways to leverage smart machine technology in retail by looking at companies that have already done so. These companies (see Table 1) use the vision as a kind of blueprint, and build it out gradually as they acquire the knowledge and ability to do so.

Table 1. Examples of Leveraging Smart Machine Technology

<table>
<thead>
<tr>
<th>Company</th>
<th>Country</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orchard Supply Hardware</td>
<td>U.S.</td>
<td>A collaboration between Lowe’s and Silicon Valley tech company Fellow Robots, launched OSHbot in its San Jose, California, Store. OSHbot can help customers find objects in the store, scan objects and provide customers a map to the store to lead them to the product. Store employees can also be assisted by the OSHbot, helping them with real-time inventory management and allowing them to connect with employees in other locations.</td>
</tr>
<tr>
<td>Rio Tinto</td>
<td>Australia</td>
<td>Rio Tinto teamed with Komatsu to create fully autonomous mining equipment for use in fully automated mines. They are much safer, provide faster time to market and ultimately provide competitive advantage.</td>
</tr>
<tr>
<td>Duane Reade</td>
<td>U.S.</td>
<td>Duane Reade has deployed virtual shopping assistants in its New York flagship store. The holographic assistant can engage customers and provide store information such as hours of operations, check-out information, as well as guidance on services such as &quot;doctor on the premises&quot; or getting a virtual makeover. The hologram assistant can also make suggestions and recommendations on leading-brand foods, drinks, cosmetics, hair and pharmaceutical choices available to customers, which could lead to more sales on the store floor</td>
</tr>
</tbody>
</table>

Source: Gartner (May 2016)

Choose the Right Approach

The cross-functional team (including the CIO) can take one of three approaches to create an industry vision for retailers.

1. Create an Industry Vision for Using Smart Machines In-Store That Leverages a Competitor’s Vision

If another retailer leads a vision that can’t be superseded, the CEO can still lead the organization to prosperity in digital business by providing a critical part of the vision. The CIO might judge the organization can create its own retail vision for smart machines in the store, which will prevail
because the enterprise has a more complete or compelling vision, or has the capabilities and assets that will allow it to move faster.

2. Partner Into Another Retailer's Smart Machine Initiative

If another company leads an industry vision that can’t be superseded, the CEO can still lead the enterprise to prosperity in digital business by partnering or collaborating to provide a critical part of the vision. For example, a competitor of an auto parts company might own the best 3D modeling technology in the industry, and thus prove indispensable to getting accurate 3D-printed parts. However, this approach allows that competitor to set the terms for the industry and leaves the enterprise vulnerable to being replaced if the competitor can develop or acquire a better solution. Partnership and collaboration also reduces the risk of new initiates for both parties involved.

3. Create an Entirely New Industry Vision

The CEO/chief strategy officer (CSO) might assess an industry vision such as "the associate-less store" and reject it for any number of reasons. The CEO/CSO should then lead the organization to create a new retail industry vision (see "The Art of the One-Page Strategy") and evaluate the opportunity to become the first retailer to pursue it. The organization can thereby, gain a first-mover advantage and set the terms for competition. Its vision would emphasize the retailer’s competitive advantages — for example, if it excels at customer service, it could design the vision around that aspect.

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"Create an Industry Vision for Digital Business"

"Reimagining Retail: Store Associates and Smart Machines Must Work Together"

"Smart Machines Will Be the Catalyst for One of the Most Disruptive Eras in Retail"

"Consistent Cross-Channel Policies Are Critical for Delivering a Positive Multichannel Customer Experience"

"Industries Will Become Fluid in the Era of Digital Business"

Evidence

We based this research on discussions with CIOs of retail organizations, secondary research into industry-specific visions for digital business and on our overall research into digital business.
Note 1 Gartner Consumer Retail Shopping Study

Gartner's 4Q15 large-scale consumer retail shopping study was conducted from 5 November 2015 through 21 December 2015 to help Gartner understand consumer trends on the use and adoption of, or attitudes about, different technologies that enable shopping across selling channels and in the retail store environment. The survey also sought to explore how these trends are evolving, and to compare and contrast country, gender and age group differences.

Gartner surveyed 5,054 consumers in five countries worldwide (U.S., U.K., India, China and South Korea), establishing country quotas to ensure at least 1,000 complete responses in each country. A nationally representative distribution for gender and age groups was targeted. The sample universe was drawn from a number of external consumer panels.

Qualified participants were at least 18 years old and had access to the Internet. The interviews were conducted in the respondents’ native languages.

The final results were weighted to be representative of each country’s total population — aged 18 to 74 — by age group and gender to correct for any biases in the results introduced by different proportions in the sample. During fielding, we ensured that a minimum quota per region and by income group within each country was reached to capture a nationally representative sample. Hard quotas on online user profiles obtained from a prior Gartner survey in emerging countries were implemented. Sample selection was done randomly in the panels’ databases.

The survey was developed collaboratively by a team of Gartner analysts who follow the retail market and was reviewed, tested and administered by Gartner’s Research Data and Analytics team.

More on This Topic

This is part of an in-depth collection of research. See the collection:

- Industry Visions for Digital Business Set the Terms of Competition