A close-up photograph of a person's hands holding a black smartphone horizontally. The screen of the phone displays a fashion catalog featuring a sequined dress. In the background, a blurred interior of a clothing store is visible, showing racks of clothes and a person in the distance.

The Hyper-Relevant Retailer

Around the World, Insight Is Currency, Context Is King

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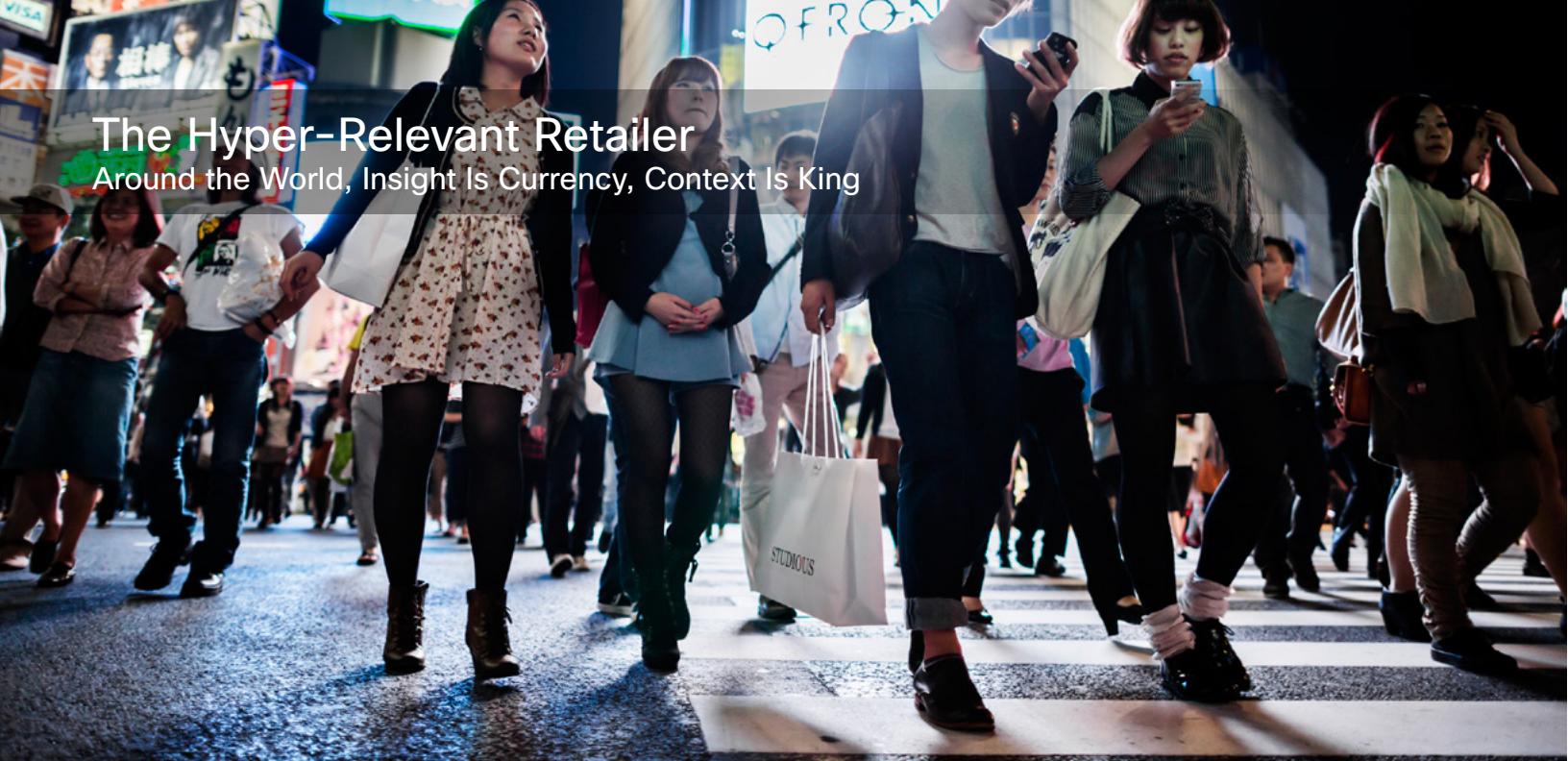


Key Insights

- As digital shopping experiences become the new mainstream, **retailers need to act quickly** to ensure they are not disrupted by innovative, online-only players or traditional competitors that adapt faster than they do.
- In particular, mobility and apps now represent a disruption similar in scope to what we saw with e-commerce in the late 1990s and early 2000s.¹ Throughout the world, new **digital customers expect a rich variety of interactive and contextual retail experiences**, channels, and options—but rarely find them in brick-and-mortar retail settings.
- Retailers have made important strides by creating more channels (omnichannel). However, these investments have resulted in growing operational complexity, and **retailers have not consistently achieved what consumers really desire**: greater efficiency, savings, and engagement, both in-store and out.
- Above all, **shoppers seek a hyper-relevant experience**, more so than a personalized one. Personalization occurs when a retailer knows who a customer is; hyper-relevance happens when a retailer knows exactly what a customer is trying to accomplish in a real-time shopping context.
- In a Cisco study spanning 10 countries, **respondents expressed great interest in 19 retail concepts powered by the Internet of Everything (IoE), particularly in emerging markets.**
- Such concepts offer the hyper-relevant shopping experiences that today's customers expect. To provide them, however, **digital transformation is essential**, starting with a technology foundation that enables hyper-aware, predictive, and agile responses to fast-changing customer demands.
- By building dynamic infrastructure, agile business processes, and analytics that turn data insights into value, **retailers can capture a profit improvement of 15.6 percent**, according to Cisco Consulting Services. If they don't act fast, that value will go to competitors.

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Introduction

Disruption Waits for No One

Whether in New York or New Delhi, Sydney or São Paulo, today's retail landscape is fast changing, and the imperative to innovate transcends borders. In this climate of disruption, digital transformation is critical for responding to this competitive change. Every retailer must be an agile, mobile, and innovative technology company. This will enable retailers to connect with their customers in novel ways, know them as never before, and offer them real-time savings, efficiency, and engagement—both in the store and online.

Many of today's global retail challenges are being driven by the demands of an increasingly mobile and digital consumer, creating unprecedented complexity for retailers and brands. This is true in emerging markets, where a surging, increasingly urban middle class grows more connected, mobile, and tech-savvy every day³; and it is true in developed markets, where digital behavior increasingly defies traditional demographic assumptions.⁴

Mobility and apps now represent a disruption similar in scope to e-commerce in the late 1990s and early 2000s. In the fourth quarter of 2014, year-over-year total discretionary retail spending rose 3 percent; e-commerce rose 9 percent; and mobile commerce rose 33 percent.⁵ Clearly, all retailers must respond to a fast-evolving competitive landscape or be outpaced by industry changes. Many must acknowledge that their current strategies are not working and begin to reimagine their organizations.

In every country, new digital customers expect a rich variety of interactive and contextual retail experiences, channels, and options—but rarely find them in most physical retail settings. Increasingly, those experiences come from outside the traditional realm of retail, where a new class of innovative, digital disruptors has stepped up to challenge more established brick-and-mortar retailers.⁶

About This Study

To better understand competitive retail dynamics and help guide retailers' strategies, Cisco undertook a comprehensive, three-pronged research project, the fifth annual installment of our retail industry analysis. It comprised:

1. A **survey of more than 6000 consumers** (all having Internet access)² in 10 countries: Australia, Brazil, Canada, China, France, Germany, India, Mexico, United Kingdom, and United States.
2. **In-depth interviews** with industry thought leaders—analysts, authors, and innovators including **Leslie Hand**, vice president, IDC Retail Insights; **Michael Olmstead**, director, Plug and Play Retail; and **Doug Stephens**, founder, Retail Prophet
3. An IoE retail **economic model** drawn from an analysis of the data and lessons learned from Cisco customer engagements.

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IoE Defined

IoE is the networked connection of people, process, data, and things. Cisco projects these connections to surge from 15 billion devices today to 50 billion by 2020. With a total Value at Stake of \$19 trillion from 2013 to 2022, the Internet of Everything represents a profound market transition. Cisco defines Value at Stake as the potential bottom-line value that can be created, or that will migrate among companies and industries, based on their ability to harness IoE over the next decade.

Retailers must offer their customers the right engagements, the right technologies, and the right experiences.

Digital disruption is the effect of digital technologies and business models on a company's current value proposition, and its resulting market position. By its very definition, disruption upends entrenched habits and ways of thinking—and disruptive innovation is both destructive and creative.⁷ Traditional retailers have an enormous opportunity to drive their own disruption—if they embrace digital business transformation through new analytics capabilities, business processes, and foundational architectures.

In “[Digital Vortex, How Digital Disruption Is Redefining Industries](#),” a study from the Global Center for Digital Business Transformation (an IMD and Cisco initiative), retail was among the industries most at risk for digital disruption. As such, it is also among those most in need of digital transformation—defined as a journey to adopt and deploy digital technologies and business models to quantifiably improve performance. A digitally transformed organization is *hyper-aware, predictive, and agile*[]—with dynamic processes enabling it to adapt and thrive in an environment of near-constant change. For a retailer, that means meeting the rapidly evolving demands of increasingly mobile customers with compelling retail experiences, in-store and out.

Already, many retailers have made important investments in omnichannel capabilities. However, they will need to go further. By merging the physical and virtual, and by fully digitizing both operations and customer experiences, they can offer a value proposition that online-only retailers cannot match. They can turn their physical stores into platforms for innovative, *hyper-relevant* shopping experiences, rather than merely a legacy channel doomed to obsolescence.

The stakes are high, and disruption waits for no one.[] In the United States alone, Target, Radio Shack, Office Depot, and Barnes and Noble are just a few of the large companies that have announced store closings or downsizing plans in 2015.⁸ In China, Tesco, Walmart, Lotus, and Metro Group are among retailers that have closed stores in recent years.⁹

The Internet of Everything: Driving Disruption and Opportunity

Much of the disruption—and opportunity—in the retail industry arises from the next wave of the Internet, the Internet of Everything (IoE). (See sidebar for definition.)

IoE is altering the competitive dynamics in nearly all industries—particularly retail, which accounts for \$1.5 trillion of the total private-sector IoE-enabled Value at Stake. Furthermore, our economic analysis estimates that for a \$20 billion retailer, the total gross annual value opportunity associated with IoE is \$312 million annually, representing a \$219 million net margin increase and a 15.6 percent improvement in profitability.¹⁰

Out of the total IoE Value at Stake for the retail industry—\$179.6 billion—a disappointing 55 percent went unrealized in 2013, placing retail last among all industries Cisco analyzed.¹¹ Quite simply, retailers are not transforming fast enough.

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In today's world, *insight is currency and context is king*. To capture IoE Value at Stake, retailers will need a window into the shopping behaviors of their individual customers, along with a greater ability to take action when, where, and how the situation demands. Such a capability implies delivering value—whether greater efficiency, savings, or engagement—to the consumer in real time throughout the shopping lifecycle. After all, the same consumer can be a different shopper, depending on the context of each shopping journey.

In the IoE Era, a New Retail Reality Prevails

Exponential Change Creates a Maze of Shopping Journeys

The IoE era, with its surge of new connections, is altering the retail playing field in unprecedented ways. Expanding from 15 billion connections today to 50 billion in 2020 will drive exponential change and complexity. The question now is, what does exponential change fundamentally mean to a retailer?

To illustrate the nature of the change impacting the industry, we will examine how the shopping journey (product research, purchasing the product, receiving the product, and obtaining support) has evolved from the period before e-commerce, through omnichannel retail, and on to the IoE era. [Figure 1] Shopper interactions once added up to just a small handful of possible shopping-journey options: in-store, through a catalog, or prompted by print or broadcast-media advertising. The advent of e-commerce expanded this number to approximately 40, particularly as new support channels were introduced. Now, IoE promises more than 800 unique variations of possible shopping journeys as consumers embrace many new avenues for accomplishing shopping tasks throughout this lifecycle. [Twitter icon] As

IoE Retail Value at Stake

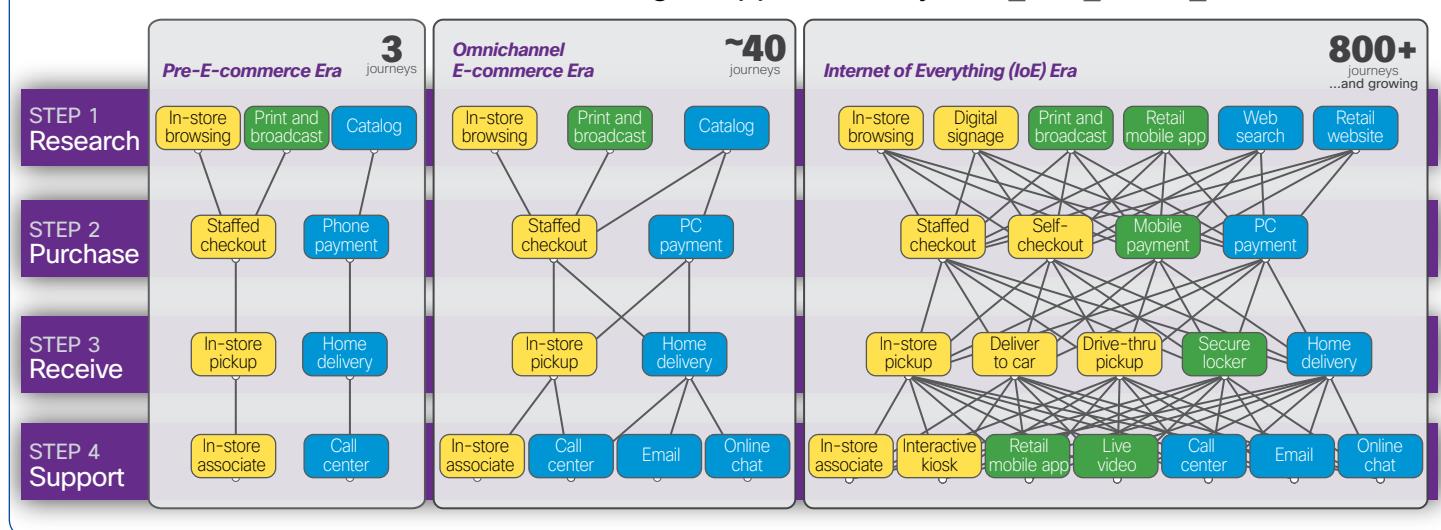
Retail is the industry with the greatest unrealized potential from IoE. In 2013, Cisco analysis showed that retailers realized only 45 percent of the IoE Value at Stake for the industry. Retail has a major opportunity through digitization and in adopting IoE-enabled solutions.

Figure 1

Today's consumers have access to an ever-growing range of shopping journeys.

The Evolving Shopper Journey

■ Store ■ Non-Store ■ Both



Source: Cisco Consulting Services, 2015

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“Mobile is an opportunity to add a helpful layer of media, information, and tools for the customer’s in-store journey. It should be viewed as additive, not competitive.”

Doug Stephens
Founder, Retail Prophet

technology innovations (such as wearables and augmented reality) increase and consumers’ digital lifestyles evolve, these shopping journeys will multiply further.

This complexity is not only unprecedented, it is increasingly unmanageable for firms using classic retailing strategies. The question that emerges for retailers is: where do we place our innovation bets?

Mobility and Apps Shape Shopper Behavior

Making the right innovation bets will begin with a deeper understanding of mobility and apps, which are key drivers of the exponential complexity facing retailers today. Increasingly mobile consumers are very clear about their preferred shopping journeys and how to use technology to optimize each step along the way.¹² For an individual customer, any technology “innovations” that do not directly support this objective are at best extraneous and at worst a reason not to shop with a given retailer. Enabling customers to achieve their shopping journey in a way that maximizes value, such as by enabling speed or lower prices, is key to winning in the IoE era.

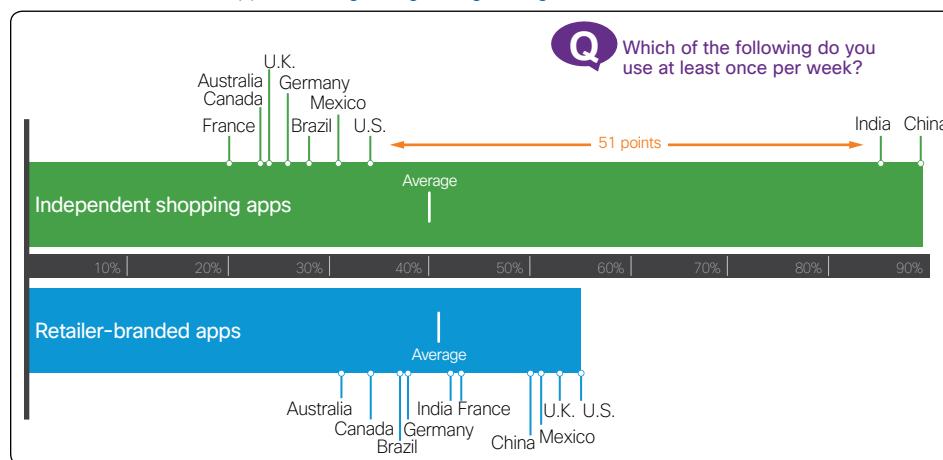
Already, social media, mobile payments, and new devices are converging to enable a pervasive connected-shopping lifestyle all over the planet. This year, Deloitte projects 83 percent of all Internet usage globally will be through mobile devices.¹³ In the next three years, worldwide e-commerce sales through mobile devices are expected to top \$638 billion. That mobile-only figure is about equal to the entire global e-commerce market just one year ago.¹⁴ To keep pace with their

tech-savvy customers, retailers will need to respond to the needs of mobile shoppers, in-store and out, with a much faster pace of innovation—or, they will risk losing out to online-only disruptors. In 2013, Suning, China’s biggest retail chain, took all year to generate sales of \$17 billion, while e-commerce giant Alibaba sometimes produced that amount in just two days.¹⁵

Responses to Cisco’s global survey reflect the torrid pace of change and mobile sophistication in retail [Figure 2]:

Figure 2

Consumer use of retail apps is strong and growing stronger.



Source: Cisco Consulting Services, 2015

- Chinese and Indian survey respondents scored highest in the use of independent shopping apps,¹⁶ at 89 percent and 85 percent, respectively. [Twitter icon] This was high above the global average for independent shopping app penetration of 40 percent. The United States was next highest, at 34 percent. French

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respondents showed the lowest adoption of independent shopping apps (20 percent), followed by Australia and Canada (23 percent).

- U.S. respondents scored highest in the use of retailer-branded apps (55 percent), compared with the global average of 43 percent. The United Kingdom (53 percent) and Mexico (51 percent) were next highest; Australia and Canada lagged at 31 and 34 percent, respectively.

It is important to note that even among countries with the lowest app adoption overall, the percentages remain significant. Australia, Canada, France, and Germany may trail countries like China and India, but one-third to one-half of their shoppers are using apps, and the trend is not likely to reverse. Moreover, in emerging markets, higher adoption of independent shopping apps represents a call to action for traditional retailers to expand their online presence. In the developed world, retailer-specific apps are ahead; but given the fast pace of changing customer behavior, all retailers will need to rethink their digital strategies.

In Australia, for example, a Frost & Sullivan study revealed that, despite solid interest from consumers, less than 30 percent of retailers offer a mobile-optimized website, and only 21 percent have developed a mobile app for shoppers.¹⁷

In short, shopping behavior that was once considered the sole province of what Cisco has referred to as Über Digitals—those early adopters who drove consumer technology trends—is rapidly becoming mainstream. Apps and mobility are ever more prevalent in all countries, and retailers will need to respond with experiences that leverage IoE technologies, in-store and out.

Moreover, in some countries, shoppers are adopting so-called mega-apps, such as China's WeChat, at an accelerating rate. Other countries, such as India, may soon follow in embracing these platform plays.¹⁸

By consolidating disparate apps, mega-apps offer convenient access to entertainment, shopping, movies, transportation, payments, and so forth. For traditional retailers, it is yet another sign that their customers are accustomed to a new dimension in convenience and efficiency, one that they will expect in the store as well.

Even in a mobile and digital age, however, the in-store experience maintains significant interest among shoppers:

- In Cisco's survey, Mexico (65 percent) featured the strongest response among those who enjoy shopping in the store “to a great extent,” followed by Brazil (47 percent), China (48 percent), and India (46 percent). The United Kingdom was lowest, at 22 percent, followed by France (28 percent) and Australia (31 percent).



 Smartphones Power New Retail Interactions

For more insights, please visit
<http://cs.co/retailSmartphone>

“What’s happening now is that the media is no longer pushing me to a place to buy the product, it’s actually becoming the place I can buy the product. It’s becoming the portal for commerce. And I would argue that the store in many respects could be the most powerful form of media that a brand actually has at its disposal.”

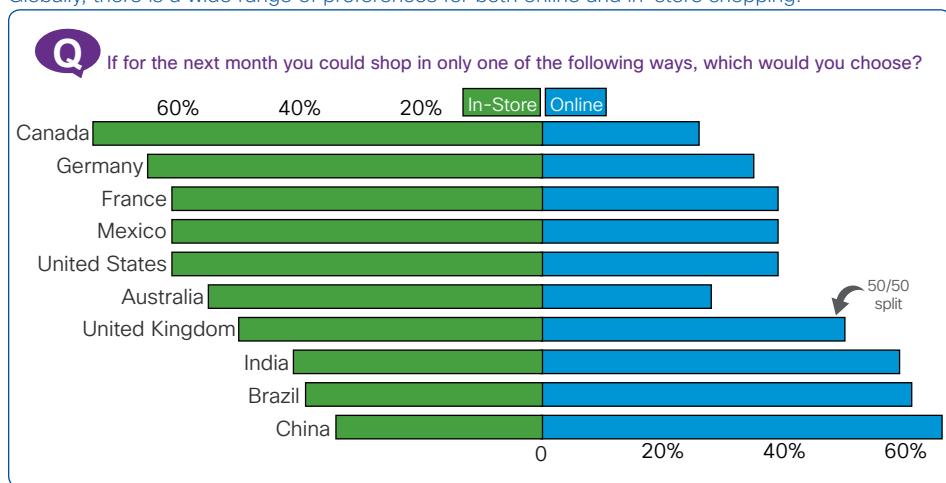
Doug Stephens
Founder, Retail Prophet

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Figure 3

Globally, there is a wide range of preferences for both online and in-store shopping.



Source: Cisco Consulting Services, 2015

- Sixty-six percent of Chinese respondents prefer shopping online “to a great extent.” [Twitter icon] This was the highest total for any country surveyed (however, their enjoyment of in-store shopping also remains high). China was followed by Brazil (57 percent), Germany (55 percent), and India (50 percent). Australia (24 percent), Canada (26 percent), and France (29 percent) were lowest in their enjoyment of the online experience.

- When asked “If for the next month you could shop in only one of the following ways, which would you choose?” China, Brazil, and India favored online, the United Kingdom was evenly split, and the other countries preferred in-store shopping. [Figure 3]

Understanding the New Digital Shopper

Customers Demand the Utmost in In-Store Experiences

The exponential explosion in shopper journeys and complexity is challenging today’s retailers in myriad ways. To provide guidance to retailers seeking new sources of differentiation, Cisco tested 19 IoE-enabled shopping experiences, spanning all stages of the shopping journey and encompassing many maturing digital enablers, including video, mobility, and analytics. Globally, consumers made clear they are very interested in using these technologies to get more value.

As part of a wider digital transformation enabling dynamic capabilities, each retailer will need to assess which digital experiences work best for its customers. Nevertheless, the concept tests present a clear path to innovation and an imperative to act: given the inroads made by mega-apps, e-commerce portals, and a variety of disruptive players, stores must offer a highly compelling and unique experience that cannot be delivered by these new rivals. Back in 2011, in the first installment of Cisco’s annual [retail industry research](#), we coined the term “mashop,”¹⁹ meaning a consumer experience that brings the best of the in-store experience to the web, and the best of the web experience to the store. This concept has proven prophetic as shoppers have dramatically increased their receptivity to connected shopping experiences enabled by IoE. They now attach significant importance to factors such as deals, product selection, and convenience, irrespective of the channel used.

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Traditional retailers need to act quickly to ensure they are not disrupted by innovative, online-only players. Moreover, their in-store experiences will need to be highly compelling if they are to counter current trends in shopping behavior. For example, “showrooming,” or visiting a physical store to examine an item before buying it online, is a serious issue for many retailers.²⁰ Showrooming is essentially a mashop experience gone wrong—consumers are using connectivity and a mobile device in the store to fulfill a deal-seeking objective that a particular retailer cannot (or does not want to) accommodate. However, when the in-store experience is compelling, showrooming can become “webrooming,” in which consumers browse online and buy in the store. With IoE-enabled experiences in place, customers can be guided toward a final in-store purchase, with greater convenience and value, as they touch, feel, and try on their products.²¹

These concept tests are only a cross-section of what is possible, but they provide a clear guide to the kinds of compelling experiences that will resonate with today’s digital, mobile, and tech-savvy customers—turning showrooming into sales.

On page 10 we have illustrated our respondents’ interest level in the IoE-enabled concept tests, along with the financial opportunity from each of three value proposition categories: efficiency, savings, and engagement. Our economic analysis

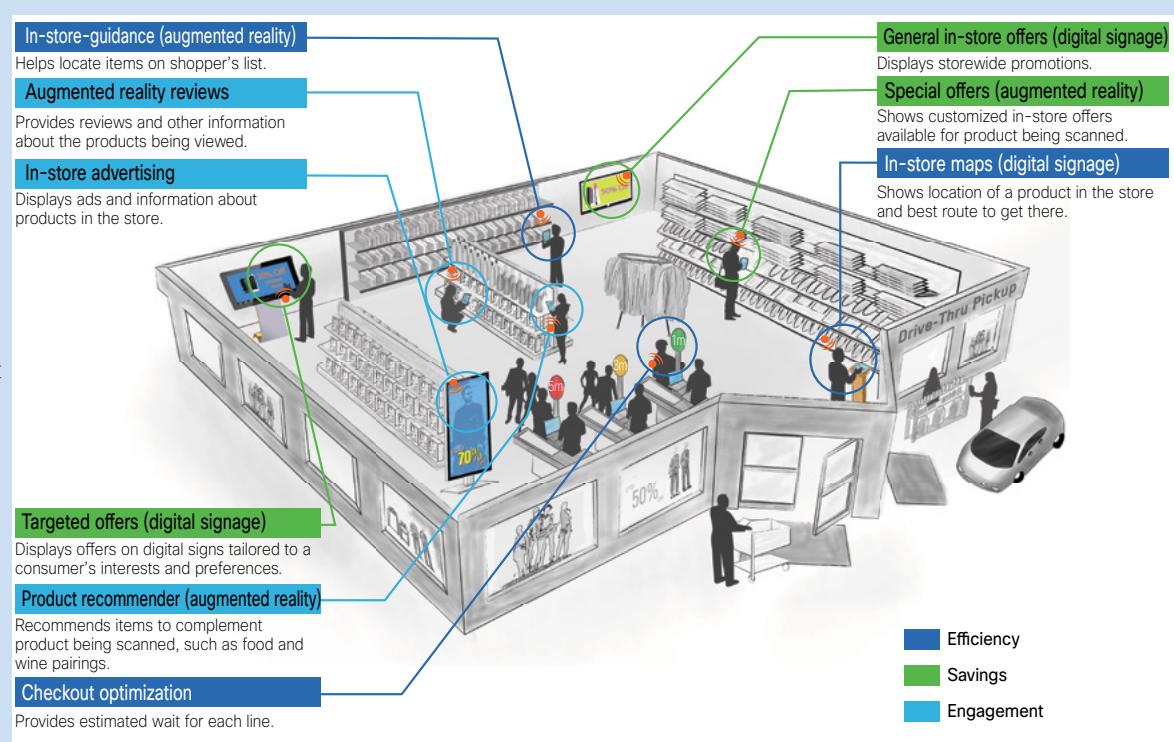


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<http://cs.co/retailContextual>

Cisco Consulting Services surveyed consumers about their thoughts on 19 IoE-enabled retail solutions, including those shown here.

Shopper efficiency contributes almost 67 percent of the gross annual Value at Stake of \$312 million (an annual opportunity of \$208 million).

Retail firms can also derive significant value from consumer **financial savings** (\$59 million) and **shopper engagement** (\$45 million).



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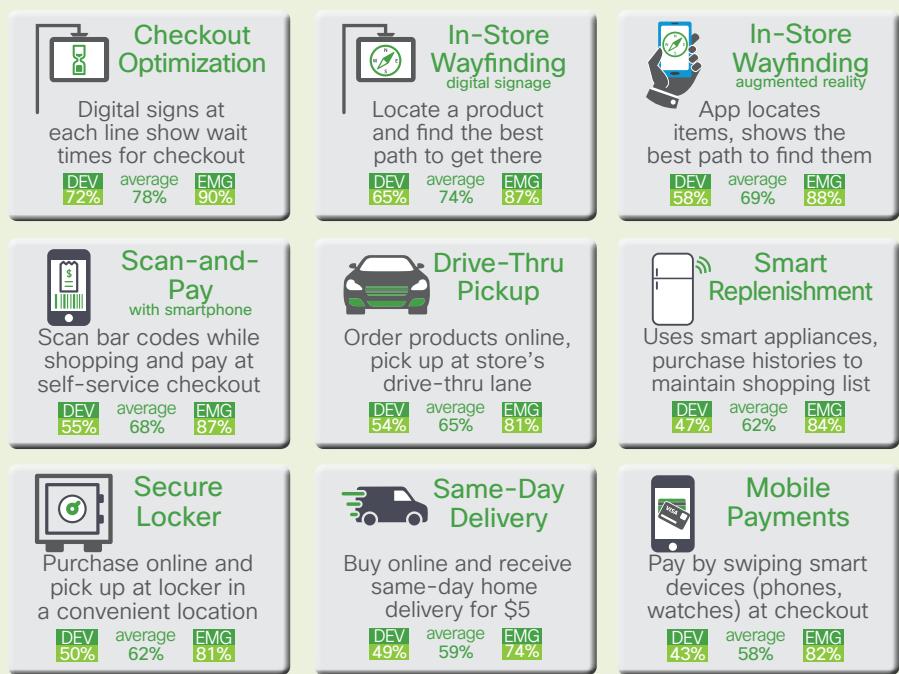
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Cisco tested 19 IoE-enabled concepts, ranked here by the percentage of users who are “somewhat” or “very likely” to use them (across developing and emerging markets*) and grouped by value category. For a \$20B retailer, this value represents \$312M in annual gross benefits, a 15 percent profit improvement.

EFFICIENCY

Digital solutions that reduce hassle, accelerate time to purchase, help resolve problems, ensure dependable execution, etc.

67%
of Value at Stake



Reviews augmented reality

App displays user reviews, ingredients, recipes
DEV 52% **average** 65% **EMG** 85%

In-Store Advertising

View advertisements and information about products in the store
DEV 49% **average** 62% **EMG** 82%

Product Recommender augmented reality

App suggests products to go with customer's selection
DEV 44% **average** 58% **EMG** 80%

Top-Ten Rankings

See the most popular products in the store at any given time
DEV 40% **average** 56% **EMG** 80%

In-Store Entertainment

Watch entertaining or informative videos (TV news, sports)
DEV 34% **average** 46% **EMG** 64%

ENGAGEMENT

Ways to learn about new items, be entertained, or explore additional products or services

SAVINGS

Discounts, promotions, rebates, and rewards

19%

Special Offers augmented reality

Special offers, discounts on items customer is considering
DEV 68% **average** 78% **EMG** 93%

General Offers

View general offers available to everyone in the store
DEV 75% **average** 81% **EMG** 90%

Targeted Offers digital signage

View personalized offers
DEV 60% **average** 71% **EMG** 89%

Targeted Offers smartphones

View personalized offers
DEV 49% **average** 63% **EMG** 83%

QR Codes

Scan a QR code from digital sign to access special offers
DEV 48% **average** 61% **EMG** 80%

*Developed (DEV): Australia, Canada, Germany, France, U.K., U.S.; Emerging (EMG): Brazil, China, India, Mexico

Source: Cisco Consulting Services, 2015

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revealed that roughly two-thirds of the total potential opportunity comes from applications that deliver greater efficiency for consumers.

This is a key finding from Cisco's earlier published [research on IoE in retail](#), which focused on just the United States and United Kingdom. The prominent role of "efficiency" as a value proposition in shopper sentiment (nearly as prominent as that of tangible financial savings) carried over to all other countries surveyed. Similarly, the relatively lower value attached to experiences that created greater shopper "engagement" (e.g., education about new products, entertainment-oriented content) was also consistent across countries. China was a notable exception in this regard: like their counterparts elsewhere, Chinese respondents value savings and efficiency immensely, but also attach a higher degree of importance to engagement than shoppers in other countries (see sidebar, page 15).

Help Wanted: Digital Experiences that Enable Savings, Efficiency, and Engagement

The IoE-enabled concepts that Cisco tested span all stages of the shopping journey and address many maturing digital enablers, including video, mobility, and analytics. Consumers around the world indicated they are very interested in using virtually all of these technologies to get more value.

This finding reinforces the complexity challenge facing retailers. Which kinds of experiences should they prioritize? What happens when next-generation innovations such as wearable computing devices, augmented reality, and the connected home reach the tipping point and add many new shopping journeys?

As shown on page 10, digital experiences that deliver greater efficiency promise the greatest value in most countries.

Disruptive innovators (see sidebar) have successfully targeted consumer savings, which has exacerbated margin compression for retailers in some categories. Some retailers, by contrast, are investing heavily in solutions to engage consumers, bring them into the store, and attempt to cross-sell and up-sell to them. With more relevant interactions, retailers have an opportunity to drive greater customer loyalty.

Consumers have always been preoccupied with savings. It is no surprise that the concepts related to savings and discounts were of greatest interest to our survey respondents. Efficiency, however, is a close second. When asked about the areas in which they would like to see improvements, 35 percent of our respondents identified the process of selecting and purchasing goods (for example, having the products they want in stock and an efficient checkout process), showing a need for greater ease and efficiency. By contrast, only 17 percent sought improvements that would create a more personalized shopping experience. (Chinese respondents, however, favored a more personalized method of engagement. See page 15.)

Disruptive Innovators

Efficiency

Same-day / same-hour delivery ([Flipkart](#), [Google Express](#), [Amazon Prime Now](#))

"Sharing economy" delivery models ([Grofers](#), [Instacart](#), [Postmates](#))

Drive-thru product pickup ([Curbside](#), [Loblaws](#), [Tesco Click + Collect](#))

Delivery to the trunk of the customer's car ([Audi Connect](#), [Cardrops](#))

Reducing out-of-stocks ([Shelfie](#))

Estimating queue times ([Waitbot](#))

Smartphone checkout ([Tesco](#))

Smart lockers ([Walmart](#), [UPS](#), [Amazon Locker](#))

Connected home / intelligent replenishment ([hiku](#), [Peel](#), [Ali-smart](#))

Mobile payments ([Paytm](#), [Sprig](#), [Apple Watch](#))

Savings

Rebates, reward points, deal notifications, couponing ([Ibotta](#), [Shopular](#), [SnipSnap](#), [Gilt](#))

Engagement

Interactive store ([The Dandy Lab](#))

Dynamic video displays triggered by sensors ([Burberry](#), [Glass Shop Wall](#))

Embedded/disposable beacons, in mannequins or pasted onto products ([Iconeme](#), [Indian Terrain](#), [Estimote](#))

Product recommender ([Next Glass](#), [Shopwise](#), [Stitch Fix](#))

Augmented reality-assisted product finder ([Alive](#), [LikeThat Decor](#), [Snap Fashion](#))

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Hyper-Relevance Defined

Hyper-relevance is a new paradigm that enables consumers to receive what they want, when and how they want it. Hyper-relevance is made possible by new IoE-enabled solutions and innovative business models that deliver value—efficiency, savings, or engagement—in real time throughout the shopping lifecycle. It requires an analytics-driven approach that applies intelligence to the context of the consumer (where he or she is, what he or she is looking to accomplish), thereby allowing retailers to dynamically provide the most suitable experience.

Hyper-Relevance: a New Paradigm for Retail Success

Respondents believe that experiences must be efficient, contextual (that is, reflecting a shopper's individual situation, real-time environment, history, and so forth), relevant to real-time needs, and easy to use. In the retail environment, such situational awareness is essential to creating a better customer experience. Retailers must increase customer value throughout the shopping journey, demonstrably providing a combination of efficiency, savings, and engagement at every stage. This new paradigm is called *hyper-relevance*. (See sidebar for definition.)

Doesn't personalization equate to relevance? Not exactly. A real-time, personalized message, for example, might address a shopper by name, suggest some popular new products related to a favorite hobby, or even note an upcoming birthday. Yet none of that is relevant if the shopper is at that moment comparing products to fix a pressing plumbing problem at home. It may be the same customer, but in effect, it is a very different shopper.

Hyper-relevance reflects the context of the shopping journey at a particular time and place, informed by circumstance. In short, personalization occurs when the retailer knows who the customer is; hyper-relevance arises when a retailer leverages data-driven insight to help shoppers accomplish what they need to do in a precise moment—whether that is maximizing loyalty points, getting through a checkout line quickly, or obtaining help from a store associate. [Twitter icon]

It is important to note that personalization, done right, is not at odds with hyper-relevant outcomes. On the contrary, personalization—recognition of the customer individually, greeting him or her by name, making suggestions about what he or she might like—can be a big factor in improving engagement with customers. However, it is the deeper, real-time context of hyper-relevance that creates the distinction from personalization.

Personalization can be overt, whether by greeting a shopper by name or mentioning a favorite hobby. Hyper-relevance, on the other hand, can be virtually imperceptible to the consumer. Nonetheless, it may result in a more satisfying experience that delivers the desired levels of efficiency, savings, or engagement. Hyper-relevant experiences, unlike personalization, may even be anonymous. [Twitter icon] They can rely, for example, on information about the location, position, or web-browsing history of a smartphone connected over a retailer's Wi-Fi network, or via a Bluetooth beacon—without using any data about the individual holding the device. In fact, many consumers in our study registered a preference for anonymous experiences: those that deliver efficiency, savings, and engagement, along with reassurances that they can retain their anonymity in the store (if they so choose). Such options were found to be important factors in consumers' willingness to share information with retailers.

Hyper-relevance relates to the environment in which a shopper is operating at a specific time. Imagine a scenario in which a shopper is hurrying through a retail

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space. Sensors in the store can determine that one particular shopping cart is traveling 20 percent faster than the average. Through the application of analytics, the retailer could even know that the shopper is a mother who usually buys diapers and baby formula. Yet in the real-time context of that moment, a coupon for diapers may not be relevant—and may even feel intrusive. Expecting her to devote time to reading an irrelevant offer on her phone, or asking her to sign in to an application at just the wrong time, only gets in the way of what she is actually trying to achieve in the store at that moment. This is precisely the kind of intrusive “personalization” that can create negative shopper sentiments.

Emerging Markets: Leading the World in Demand for Hyper-Relevance

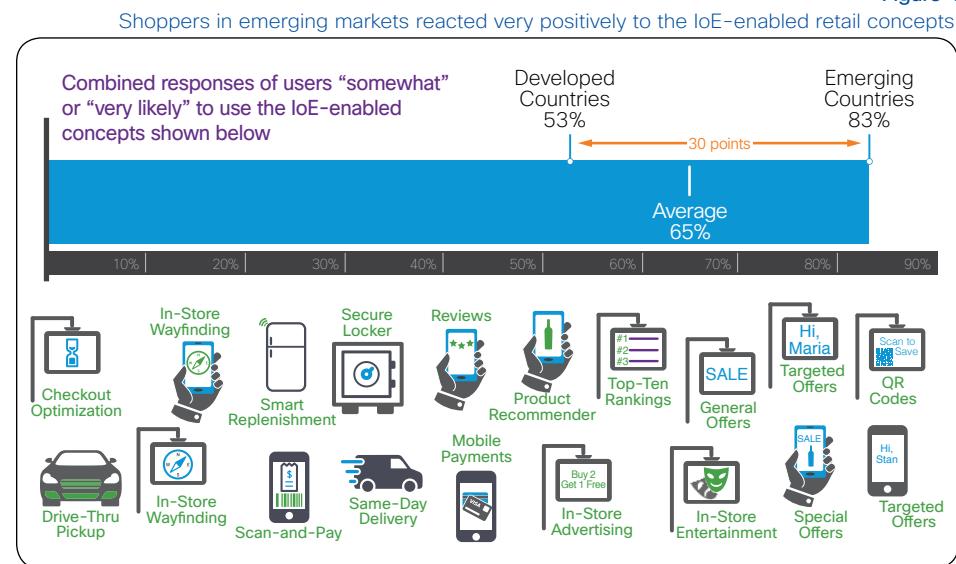
Our research findings create a compelling case for retail innovation in emerging markets. Our survey respondents included about 600 consumers in each of four emerging markets: China, India, Brazil, and Mexico. Chinese respondents showed the highest interest levels for all 19 of the IoE-enabled retail concepts we tested, followed in most cases by India, Brazil, and Mexico.²¹ [Figure 4]

To remain competitive, retailers that do business in these countries will need to create the kinds of digital experiences that resonated in our survey—and understand the larger forces behind this hunger for cutting-edge retail interactions.

In recent years, sweeping social, economic, and technology mega-trends have transformed the developing world in profound ways. This impacts many industries, as populations become more urbanized and connected, and many more people ascend into the middle classes. In recent years, we have seen the power of mobile connectivity and social media to drive rapid political change in some developing nations.²² Moreover, such technologies are impacting many other aspects of life. For the retail industry in particular, the increased purchasing power and mobile connectivity of the developing world's surging middle class represents a compelling call to action in many markets.

- By 2020, the number of people in Brazil and Mexico earning \$50,000 per year is expected to increase by 50 percent from 2010 levels.²³ (In contrast, the U.S. middle class is, by some measures, shrinking: from 56.5 percent of the population in 1979 to 45.1 percent in 2012²⁴.)

Figure 4



Source: Cisco Consulting Services, 2015

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IoE Retail Value at Stake

"Smart store" operational analytics increase employee productivity through workforce management and operational alerts, and also improve in-store customer engagement by deploying sales associates where most needed. For a \$20 billion retailer, this represents a reduction in operating expenses of \$132 million, or 2.7 percent.

Analytics enhances not only the customer experience, but also operational efficiency and employee productivity. For example, video analytics can help monitor stock on store shelves and send real-time alerts to restock when necessary. This improves employees' efficiency, and avoids lost revenue and lost customers due to stock depletion, contributing \$70 million in revenue for a \$20 billion retailer.

- In 1950, 40 percent of Latin America's population was urban; in 1990, it was 70 percent. Today, about 80 percent live in cities. (In comparison, the European Union is 74 percent urbanized.)²⁵
- Between 2014 and 2019, the number of online buyers in Mexico is expected to increase from 10.1 million to 21.1 million.²⁶
- Of the 78.1 million social media users in Brazil, eight in 10 are between the ages of 18 and 34.²⁷ Nevertheless, older Brazilians use social media more than, for example, their counterparts in developed countries.²⁸
- In a survey of Mexican shoppers, three in four (and 80 percent of millennials) said their purchases are influenced by social networks.²⁹
- In China, about 1 billion people could enter the middle class by 2030; that is nearly 70 percent of the nation's projected population.³⁰
- About 70 percent of Chinese Internet users provided product feedback on social media networks, compared to less than 20 percent in the United States.³¹
- The number of Indian Internet users is projected to increase 147 percent from 2013 to 2018, with 86 percent of those users logging on to social media sites.³²
- By 2020, India will become the world's youngest country, with a median age of 29. Many will be living in cities. Two-thirds of urban-dwelling Indians aged 18 to 34 have already used a mobile device to purchase a product.³³

The rapid adoption of mobile technologies in emerging markets has created a tech-savvy and tech-hungry mass of shoppers. Online, they are used to hyper-relevant experiences that drive value, convenience, and engagement. Empowered by mobile devices, many appear poised to "leapfrog" the traditional retail experience altogether.

However, as our survey results emphasize, they are also ready to embrace a new dimension to the in-store experience, one that delivers the kinds of digital experiences they demand. Forward-looking retailers can innovate to blend the best of online and brick-and-mortar worlds. In fact, the physical store can still offer unique value. For example, 78 percent of Chinese shoppers question the authenticity of items sold online; 70 percent wish they could test products before purchase; and 48 percent fear that products shown online will differ from what is delivered.³⁴ (Such preferences for the store are not limited to emerging markets: in a 2014 survey of French consumers, for example, 76 percent favored physical stores for examining potential purchases of homewares and 74 percent for trying on clothes.³⁵)

Innovative retailers in all emerging markets have an opportunity to drive new customer loyalty and revenue. However, beyond technology, they will need to understand the cultural complexities of each country.

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China: on the Cutting Edge of Shopping Trends

By 2018, China will become the world's largest retail market.³⁶ With its young, upwardly mobile, and tech-savvy population, the nation can be seen as a "living lab" for retail innovation. Important trends that may affect many other countries can be observed in China today. Multinational retailers can consider China as an important testing ground for their most cutting-edge concepts.

In our survey, Chinese respondents stood out in notable ways:

- They showed the highest interest in all 19 retail concept tests.
- Forty-five percent are using a smartphone to help them shop in a store, compared to 21 percent of their global counterparts.
- Sixty-six percent prefer shopping online over shopping in a store, compared to a global average of 56 percent.

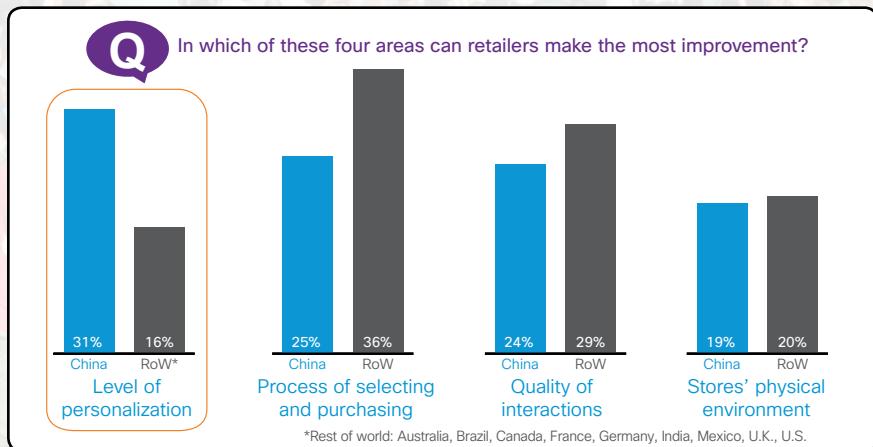
Moreover, China was the one country in which personalization drove the greatest interest for improving the store experience (more so than efficiency or savings). For Chinese shoppers, a more personalized shopping experience is crucial. This was evidenced by Chinese respondents' strong interest (often more than one-third higher than that of other geographies) in "Engagement"-focused concepts such as targeted offers, product reviews, and product recommenders.

These concepts offer a direct, personal connection in the store. Chinese consumers clearly view the intersection of personalization and engagement (i.e., "show me more things I might like") as a core aspect of a hyper-relevant experience.

The good news for retailers in China is that in order to receive such personalized experiences, these shoppers are quite willing to share their personal information, offering retailers a potential trove of data and customer insight:

- Sixty-one percent will share their likes, dislikes, interests, and hobbies, compared to 43 percent globally.
- Fifty-four percent will share information from products they are using, compared to 35 percent globally.
- Thirty-eight percent will share their reviews on social media, compared to 13 percent globally.

Chinese shoppers favor a personalized shopping experience.



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To an important extent, hyper-relevance depends upon understanding such cultural nuances. Multinational retailers, in particular, will benefit from cultivating partner ecosystems that help them “localize” their strategies.

Clearly, consumers in all markets want hyper-relevance. Yet many retailers currently lack the ability to deliver it. In the next section, we will examine some of the key elements of digital transformation that will enable retailers to provide true hyper-relevance.

What Retailers Must Do To Provide Hyper-Relevance

Think Digital Behavior, not Demographics

To offer customers true hyper-relevance, retailers will need to understand just who those customers are. That is not as simple as it once may have seemed. Today, we are entering a period that has been referred to as “post-demographic consumerism”³⁷ in which consumption patterns are no longer defined by traditional demographic segments such as age, gender, location, income, family status, and the like. This presents a significant challenge to retailers already grappling with growing complexity in their operations.

While it is commonplace to attach certain technology-related shopping behaviors and expectations to, for example, luxury buyers, this demographic looks less and less like it did 10 years ago, with younger, more connected buyers increasingly driving global growth.³⁸ As for younger consumers, Cisco’s research reveals that Gen Y is also far from monolithic.³⁹ On one hand, Gen Y continues to accelerate the shift to online channels (faster than any other group): 32 percent make more than half of all purchases online as they seek convenience and greater access to information. However, 44 percent globally would shop only in stores for the next month if they had to make a choice, and 78 percent indicated they enjoy shopping in the physical store “somewhat” or “to a great extent.”

In short, retailers must engage with consumer segments that are increasingly fragmented and ephemeral. The sheer number of journeys is growing exponentially, and the change is occurring faster than ever before. For an individual consumer, however, the journeys are also dynamic. Consumers in all markets are constantly shifting to other journeys as new innovations emerge—faster than retailers can respond. Compounding this, the velocity of innovation is increasing as IoT dissolves traditional barriers (for example, through the low cost of app creation, crowd-sourced funding models such as Kickstarter, and so forth).

Since every retailer—and every market—is unique, there are enormous variations across categories. It will be important for each retailer in each country to define its own segments, and then be prepared for the rapid evolution of new “microsegments.” Successful retailers will focus on digital behaviors—not age- or income-based demographics—as they create exciting new shopper experiences. [Twitter icon]

“... I don’t think personalization is important unless it’s contextual.... The only way that I think personalization is ever going to have an impact is if it is relevant to the consumer, is contextual, and makes sense in that moment.”

Michael Olmstead
Director, Plug and Play Retail

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Moreover, they will gain the agility to adapt as those customer segments and behaviors continue to change.

Win Customer Trust, and Make Security a Strategic Differentiator

For hyper-relevant experiences to succeed, the trust consumers extend to brand marketers and retailers will be of immense importance. [Earlier Cisco research](#) on retail consumers identified a “trust cliff” in which consumers were reluctant to share certain types of information. This year’s survey affirms the continued presence of the trust cliff, with similar numbers (China showed the strongest willingness to share personal information; see page 15). A critical mass of consumers has little or no reservation sharing “basic” information about themselves, their past purchasing behavior, or their interests and hobbies. Beneath this is the trust cliff—the areas where consumers are not convinced they can trust a brand or retailer with their information. This includes factors such as the consumer’s location, purchases from other retailers, and so forth. [\[Figure 5\]](#)

According to our survey, however, more than 20 percent of consumers globally are open to sharing this information, with shoppers from emerging countries—especially China and India—significantly more willing to share. Another, bigger question, of course, is how to convince the remaining majority of consumers to do the same. This is the battle for the middle of the trust cliff. Many consumers also feel there are “no-go” areas, such as personal financial information and information about family.

When asked which benefits they most want in return for providing personal data to allow tracking of their in-store behaviors, consumers cited promotions and offers (selected by 55 percent globally), faster checkout times (40 percent globally), and guaranteed availability of favorite products (33 percent globally). While 24 percent would not be willing to share any personal information, 77 percent said they would be somewhat or much more accepting of retailers tracking in-store behavior if it were “anonymized” so it could not be linked to the individual.



These preferences reflect a call for convenience and value in the shopping journey, and a large emphasis on a hyper-relevant customer experience—not hyper-personalization, which can be perceived as intrusive. The impact of anonymization on the likelihood to use the solutions underscores the

“There is a huge opportunity to leverage the Internet of Everything to improve the amount of knowledge we have about the consumer and tie together what they do online, with what they do on a mobile device, with what they do in-store to better contextualize and personalize our interactions with them.”

Leslie Hand
Vice President, IDC Retail Insights

Figure 5

Retailers should focus on the middle of the “trust cliff.”



Source: Cisco Consulting Services, 2015

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"In the near term, retailers need to try piloting and implementing the capabilities of the Internet of Things and Internet of Everything to learn how they add value to the consumer experience."

Leslie Hand
Vice President, IDC Retail Insights

IoE Retail Value at Stake

IoE-enabled solutions can drive EBIT (earnings before interest and tax) gains of about 15.6 percent for a typical retailer with annual revenue of \$20 billion and an EBIT margin of 7 percent. This represents a gross annual opportunity of \$312 million. Assuming annual IoE technology and implementation costs of \$93 million, the net annual EBIT opportunity is \$219 million.

differences between hyper-relevance and personalization (which, by definition, cannot be anonymous).

Retail competitive dynamics in the next five years will be governed by who wins permission from consumers to leverage "middle of the trust cliff" types of data. This data is essential to IoE-enabled solutions, as it drives such critical elements as proximity marketing, targeted promotions, and in-store analytics. These will ultimately deliver hyper-relevance to consumers.

Security is another key element to winning customer trust. In recent years, security breaches have become a major concern for retail executives in all markets, as some heavily publicized cases have illustrated. The average cost of a data breach for such companies in 2014 was \$5.4 million, up from \$4.5 million in 2013.⁴⁰ The long-term impact on a company's reputation and its relationship with its customers is harder to quantify. Yet by reassuring customers, security can become a competitive differentiator.

In today's dynamic threat landscape, cybersecurity solutions for retailers need to work together intelligently to protect the networks, devices, applications, users, and data that make hyper-relevance possible. Such solutions must offer advanced threat protection across the entire attack continuum, and be capable of dynamically responding before, during, and after an attack.

With dynamic security measures in place, retailers will be in a better position to maintain the trust of their customers. However, retailers' security strategies must be relentless and constantly evolving. Only then will they reassure nervous customers, thwart the efforts of global cybercriminals, and drive new competitive differentiation.

Treat Customer Insight as Currency

Online retailers gain key insights from the rich data created by the "clickstream" as consumers browse, research, and purchase products online, generating important insights into their likes, dislikes, and interests. Online retailers then use this data to gain a better understanding of each shopper's journey. Retailers can now, in effect, bring this clickstream into the physical world and gain real-time insight into constantly evolving microsegments within their customer base. However, while web analytics in retail is now commonplace, in-store analytics remains a relatively unexploited opportunity.⁴¹

In-store analytics promises significant payoffs in terms of operational excellence (e.g., staff optimization, planogram compliance, loss prevention), but represents only part of what is possible. Solutions that analyze customer density and dwell time, line-abandonment rates, or visitor path-tracking provide a deeper understanding of customer behaviors and preferences in the store and lay the foundation for true hyper-relevance.

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One key to capturing unrealized value is “going to the edge.” Much of the IoE Value at Stake for retail will be generated by innovations that depend on real-time analysis of data that is captured at the “edge” of the business—from sensors, RFID tags, IP cameras, access points, beacons, mobile devices, and even weight and motion sensors and ambient condition sensors for moisture and weather.⁴² The challenge is to turn this mountain of data into relevant insights that can trigger real-time decisions and action that will be of value to the store and the customer.

With a traditional data warehouse model, it might take days or weeks to transmit data back to a central repository, sort out what is relevant, and extract insights that improve operations or customer interactions. Analytics are too often constrained by a nightly batch-processing model for a store’s data. By that time, of course, the customer has left the store and the opportunity to add value is gone.

By analyzing data at the edge of the network, where it is generated, retailers can sort information in real time to capture fleeting opportunities and create insights to make contextual offers, reduce frustration at checkout, ensure items are in stock, or otherwise improve customers’ experience while optimizing store operations. This is the relevance consumers truly value, according to our study.

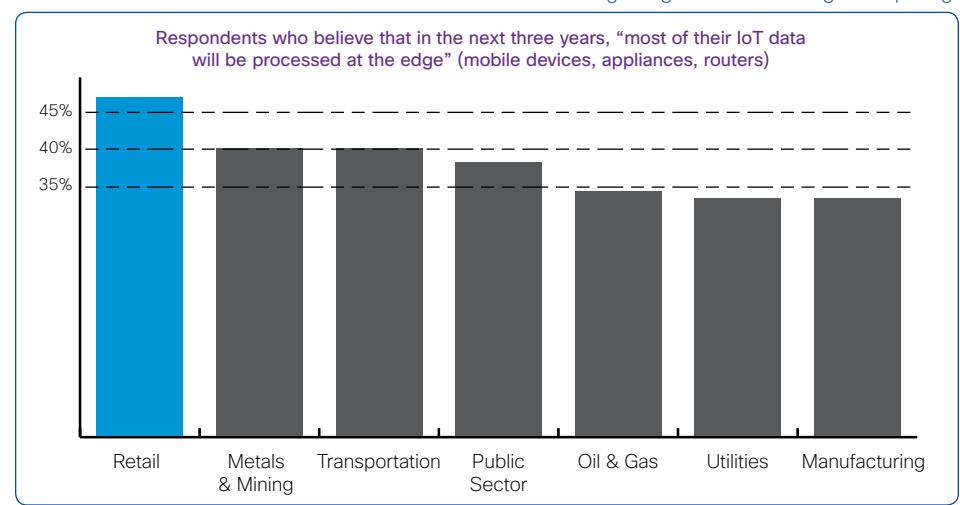
For their part, retailers appear to understand the potential possibilities or implications of edge analytics. In a Cisco study, nearly 50 percent of surveyed retailers felt that most of their Internet of Things (IoT)⁴³ data would be processed at the edge within the next three years. [Figure 6]



For more insights, please visit
<http://cs.co/retailAnalytics>

Figure 6

Retailers lead other industries in recognizing the onset of edge computing.



Source: Cisco Consulting Services, 2014

The Power of Analytics

Many of the IoE-enabled concepts we tested are powered by data and analytics—particularly real-time data from the edge of the network. These are some of the financial opportunities for a typical retailer with \$20 billion in annual revenue:

Checkout optimization: Data from parking lot and store cameras, shopping-cart

sensors, and traffic pattern analysis can help predict checkout wait times, and automatically open or close registers when needed. According to Cisco Consulting Services economic analysis, the potential margin impact is \$11 million, enabled by a \$3 million revenue uplift (based on revenue gain of \$38 million) and an \$8 million OpEx reduction.

Targeted offers: These rely upon data from previous purchases and location within the store to deliver relevant and contextual offers at the right time and place, via digital signage or smartphone. Revenue uplift is \$357 million, yielding \$25 million in margin contribution.

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Another 88 percent of retailers believe that during the next five years, IoT will “somewhat” or “significantly” increase the amount of data that needs to be transmitted by their network. Retailers thus foresee significant growth in the amount of data they will be able to capture from the store and shoppers using IoT solutions. This data will play a foundational role in the ability of retailers to provide hyper-relevant shopping experiences using analytics.

Architect Dynamic Experiences

Given the complexity they confront, retailers now need to respond dynamically. Manual processes will not be able to keep up with complexity and change—or provide hyper-relevance. Retailers will need new strategies to meet the rising customer demand for IoE-enabled solutions that this survey has illuminated.

In short, a retailer cannot design a linear process when the available options are exponential. Once the “dark assets” (e.g., shelves, shopping carts, displays) of an organization are connected, the processes can become dynamic and automated—and capable of managing exponential change.

In Cisco’s IoT study, retailers said they believed it was possible to fully automate up to 50 percent of their existing manual operational processes. However, many retailers don’t have a clear view of their business processes, often because those processes are embedded in business applications such as enterprise resource planning (ERP) systems. As a result, they lack visibility into what is happening in their environment at any given moment.

Once IoE and analytics solutions enter the store, the retailer has an opportunity to instrument a dynamic process. Through IoE, process becomes an intelligent system that responds to a given situation and connects with both machines and people to enable critical, real-time responses and decision-making.

We already examined a scenario in which a shopper was moving quickly through a store. Another shopper might be switching checkout lines, indicating frustration, or perhaps researching another retailer’s price on a mobile device in-store, highlighting a potential lost sale due to showrooming. In each case, the contextually aware retailer can set dynamic processes in motion—automatically—and deploy resources accordingly at pivotal moments (of decision, of consumer emotion) along the shopping journey.

We have identified three key IoE attributes that retailers must possess to deliver hyper-relevance and to build a dynamic infrastructure and processes:

- **Hyper-aware:** By implementing and automating IoT technologies such as sensors, beacons, and RFID tags, retailers can capture value from the intelligence and automation that is now available to them. This is the way to gain true visibility into what the customer is experiencing in the store. For example,

“The only way you can predict inventory is if you predict demand. And the only way to predict demand is to predict the right purchase behavior . . . It’s all going to come back to predictive analytics.”

Michael Olmstead
Director, Plug and Play Retail

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connected store shelves and shopping carts can contribute real-time data about which products are being examined, ignored, or purchased.

- **Predictive:** By overlaying intelligence and analytics on top of these technologies, retailers can gain real-time anticipatory insight into what is happening, and what to expect. If the parking lot is filling up but the store is nearly empty, staff can be redeployed before a bottleneck occurs; and if one product is selling particularly fast, stock shelves can be replenished immediately.
- **Agile:** Agile infrastructures and organizational models are critical to the kinds of dynamic experiences that we discussed.⁴⁴ When business processes can change dynamically, human, technology, and product resources can be brought to bear in real time with tremendous efficiency. In a store scenario, this could involve well-informed store associates offering advice, stock clerks ensuring product availability, and checkout moving smoothly. All such elements must work in concert—and in real time—for true hyper-relevance to occur.

These capabilities will go a long way toward answering a critical question: How does the customer experience your store, your online properties, and, more broadly, your brand? Many retailers probably can't answer that question with any real authority. Increasingly, they will need to know. The way to do so is by implementing dynamic processes in the retail organization. This will drive critical differentiation as retailers are empowered to offer the kinds of hyper-relevant experiences that customers now demand.

Conclusion

By architecting the dynamic infrastructure and process changes outlined above, retailers can begin the digital transformation of their business models and customer experiences. The resulting innovation at speed and scale will set them apart from their competition, and ultimately enable them to win in a challenging new environment.

To get their strategy right, retailers must understand evolving customer behaviors and heed the “guardrails” in terms of what consumers—of all ages and levels of technology adoption—want and do not want. Moreover, retail decision-makers will need to develop new partner ecosystems and business models that drive innovation and enable hyper-relevance. To capture the full return on investment for digital projects, such changes will need to be addressed from the top down, not implemented in a piecemeal fashion.

The retail concepts that we tested are great examples of the kinds of experiences that shoppers increasingly demand. However, they are simply examples of what is possible. The true key to retail success lies in taking a more holistic approach to digital transformation in the Internet of Everything era.

IoE Retail Value at Stake

By employing an agile IT infrastructure model, retail firms can further save 7.5 percent on IT costs.

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The retail concepts that we tested represent examples of the kinds of experiences that shoppers demand. But the true key to retail success lies in taking a *holistic* approach to digital transformation in the Internet of Everything era.

Retailers must gain the ability to drive hyper-relevance through the intelligent combination of IoE capabilities—to enable whatever kinds of innovations and experiences will be critical for their market or shopper segments. That may mean intervening in a potential “showrooming” situation to drive home a sale, offering a real-time savings offer when dwell times lag, or sensing when a frustrated customer needs a faster, more efficient checkout. It will also require adapting concepts that are only beginning to capture consumer interest (wearables and augmented reality offer a mere hint of innovations to come). Regardless of the experience or innovation, the foundation for ongoing digital transformation and dynamic capabilities must be in place.

In short, retailers cannot meet exponential change with linear thinking. The definition of success will continue to change as shopping behaviors evolve. Having dynamic and agile capabilities will enable the retail organization to stay ahead of fast-changing consumer behavior and adapt accordingly. Only then will they be able to step into any shopper situation with real-time efficiency, savings, and engagement.

In summary, here are five keys for retailers to consider:

- **Forget everything you thought you knew about the digital consumer.** Traditional customer segments fail to comprehend emerging digital behaviors and can actually stand in the way of successful innovation. Fortunately, IoE and analytics provide the platform to truly understand customers—not just their names or purchasing histories, but their current context and ever-changing digital behaviors.
- **Focus on innovations that deliver hyper-relevance for consumers.** The new digital consumer has created a “hyper-relevance” quotient—based on convenience and value—that requires a revolutionary change in business models. As we have seen, for example, a growing proportion of global consumers are embracing mobile shopping apps; the in-store experience must reflect that level of efficiency and shopper engagement.
- **Go to the edge to gain an edge.** Analytics enables retailers to provide experiences, offers, and interactions that are contextual, relevant, and timely. Retailers need a technology strategy that captures data at the “edge” of the network—from mobile devices, sensors, video cameras, and the like—and analyzes it locally, in real time, to respond to fast-moving opportunities.
- **Build a dynamic infrastructure and create agile processes that allow you to deliver hyper-relevant experiences.** Hyper-relevance begins with hyper-awareness through the deployment of pervasive sensors at critical spots in the shopping journey and in the store environment itself, along with the foundational architectures that make it possible.

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- **Look to emerging markets as a living lab for new customer experiences.**

Given their enthusiasm for digital experiences, emerging markets present a great opportunity for retailers to test new concepts. To ensure their innovation bets pay off, retail chains, including multinationals, can gain additional customer insight by creating a partner ecosystem with regional businesses. By “localizing” their strategies, they will gain new visibility into regional preferences, and better tap a widening market outside major urban areas.⁴⁵

These steps can bring retailers into the IoE era as they gain an opportunity to drive new innovation and satisfy customer demands for hyper-relevance; without them, retailers risk falling behind both old and new competitors. Retailers must offer their customers the right engagements, the right technologies, and the right experiences (informed by real-time insight and context). After all, in today’s retail environment, insight is currency and context is king. Through true digital transformation, retailers will create strategies that enable them to thrive, disrupt, and win.

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