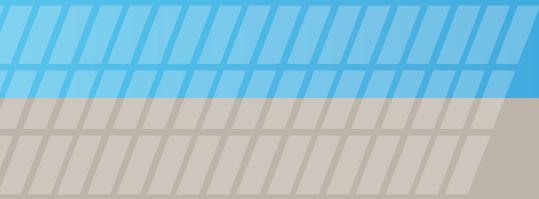


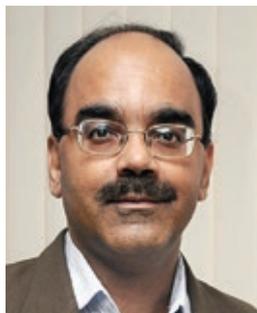
Forum

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Foreword



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President & Global Head,
Retail, CPG, Travel, Transportation &
Hospitality

Welcome to the fourth edition of Forum, the TCS Retail thought leadership journal.

As we step into a world of hyper-connected customers, retailers are forced to rethink every aspect of their business to stay relevant to these new customers. As Toba Beta, prominent writer and economist said, *"In order to survive in a world of instinct, its alternative is to hunt or being hunted. Reject this, then be prepared to be hunted."*

Retail, among other industries, undergoing a digital metamorphosis to avoid being 'hunted', bears testimony to this philosophy. Retailers are making significant advancements in the shift from the Internet economy to what we call the 'Digital Consumer Economy'. The digital five forces—Mobile and Pervasive Computing, Big Data and Analytics, Social Media, Cloud Computing, and Artificial Intelligence and Robotics are maturing and accelerating this tectonic shift.

While change is all pervasive across the retail value chain, brick-and-mortar stores are the key target for being hunted. Several store formats are disappearing and many leading retailers are closing down stores and shifting their investments to online channels. Stores have to rediscover and make themselves relevant to both the customer and the enterprise. While the customer journeys are redrawn, the role and significance of the store will have to be redefined. Even as digital disruption percolates brick-and-mortar stores, there is lack of clarity on this transformational approach and the path to achieving it.

'Digital Reimagination' is the key to survival of stores. In this edition, we introduce to you our approach to Digital Reimagination™, leveraging the digital five forces to reimagine retail. We share our perspective on the changing role of brick-and-mortar stores and the need to embrace sound resurgence and transition strategies to move from mere survival to revival. Given that almost every stage of the customer's shopping journey has undergone change, we discuss how retailers can reimagine their business models and processes to engage and connect with the new digital customer. In addition, we share our recommendations on developing a universal store commerce solution to deliver on the promise of a seamless omni-channel experience. We also discuss how stores need to reflect a true state of digital dexterity to be successful in this digital era. We hope you find these recommendations useful in building your roadmap to 'digidexterous stores'.

Additionally, we are happy to share our point of view (PoV), 'Global Retail CIO Agenda 2014: Taking on the Digital Paradigm Shift'. Based on a TCS commissioned Forrester survey of 192 global retail CIOs and executives, the PoV highlights how retail CIOs are exploring new digital opportunities and leveraging innovation to win over customers and overcome the existing operational silos.

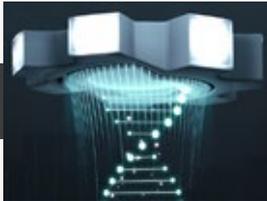
As the industry gears up for a digital transformation, we will continue to present our analysis from different perspectives, both strategic and operational. We look forward to receiving your suggestions and feedback at tcsretail.forum@tcs.com.

Warm regards,

Pratik Pal

Table of Contents

4



Reimagining Retail

The Digital Imperative

9



Restore the Store

Strategies for Brick-and-Mortar Survival and Resurgence

13



The Dawn of Digidexterous Stores

A Perspective on the Future of Stores

19



Universal Store Commerce

More Than a Digital Experience

24



Global Retail CIO Agenda 2014

Taking on the Digital Paradigm Shift

Reimagining Retail

The Digital Imperative



The new digital customer

“Every century or so, fundamental changes in the nature of consumption create new demand patterns that existing enterprises can’t meet.”¹ If pure play online was the game changer of retail two decades ago, in recent times, digital technology has brought about seismic shifts in the customer shopping cycle, changing the way retailers interact with their customers.

For instance, consider the process of product discovery. Earlier, finding the right product depended on the customer’s familiarity with the product or just serendipity. The salesperson was usually the authority on the product, with considerable influence over the sales conversion process. Today, product discovery begins well ahead of the purchase process as customers research the product online, sifting through reviews or listening to social media chatter. With 79% of online shoppers spending 50% of their online shopping time researching products², product information can be obtained anytime, anywhere, and from anyone.

The proliferation of new retail channels has led to increased competition, especially from pure online retailers, who are squeezing the profitability of brick-and-mortar stores through aggressive pricing and price transparency. Showrooming brings the threat of online directly into brick-and-mortar stores as customers can immediately make price comparisons and choose the best price. Shoppers are no longer compelled to fulfill a purchase in a brick-and-mortar store, forcing sceptics to question the very existence of stores.

Changes in purchasing behavior are occurring across the customer lifecycle, right up to the feedback process. Earlier, customers wrote in or called the business call center to complain or give feedback but today the ubiquitous digital customer is more vocal across social media, web chats, and mobile surveys. Retailers now need to monitor several channels to understand their customers and manage their reputation.



Clearly, the traditional ‘funnel’ purchasing model based on a linear customer journey is no longer relevant.

While the fundamental stages of the customer journey remain the same, the purchase decision process is more complex, and spaghetti-like with many touch points, loops, diversions, and switchbacks.

The imperatives for digital age retailing

The retail industry has reached a turning point, and is facing a tsunami of change. While the business drivers for retailers continue to be the traditional—an increase in profitability and revenue, stickier and more loyal customers, and better employee effectiveness and productivity—the digital customer wants anytime, anywhere shopping, good deals and lowest prices, superior customer service, and ease in doing business. How then can retailers create a win-win situation that benefits both themselves and their customers?

To balance customer expectations against the industry’s desire for growth, market share, and customer loyalty, it is becoming imperative for retailers to re-architect every aspect of their business, be it customer experience, supply chain, store operations, marketing or merchandising. Incremental changes are no longer adequate.

Introducing Digital Reimagination™

Digital—the same force which is changing customer behavior—will become the savior for the retailer. Digital Reimagination™ is the process wherein organizations reimagine their business models, business processes, customer experience, channels, and workspaces, by leveraging the digital five forces, namely mobile and pervasive computing, Big Data and analytics, cloud, social, and robotics and artificial intelligence (AI) (refer Figure 1). The concept of Digital Reimagination™ is fundamentally different from digitization. It is not about taking an existing process and digitizing it nor is it about leveraging one digital force at a time.

¹McKinsey and Company, ‘Creating value in the age of distributed capitalism’ (September 2010), Accessed February 2014
http://www.mckinsey.com/insights/strategy/creating_value_in_the_age_of_distributed_capitalism

²HubSpot, ‘20 Revealing Stats, Charts, and Graphs Every Marketer Should Know’ (May 2012), Accessed February 2014
<http://blog.hubspot.com/blog/tabid/6307/bid/32985/20-Revealing-Stats-Charts-and-Graphs-Every-Marketer-Should-Know.aspx>

Digital Reimagination™ is more than a 'bolt-on' digital transformation strategy—it is a tectonic change in the way business is done or the customer is served, by leveraging a combination of the digital five forces. Digital Reimagination™ can be applied to both internal and external processes. In retail, digital reimagination is the only way to stay relevant.

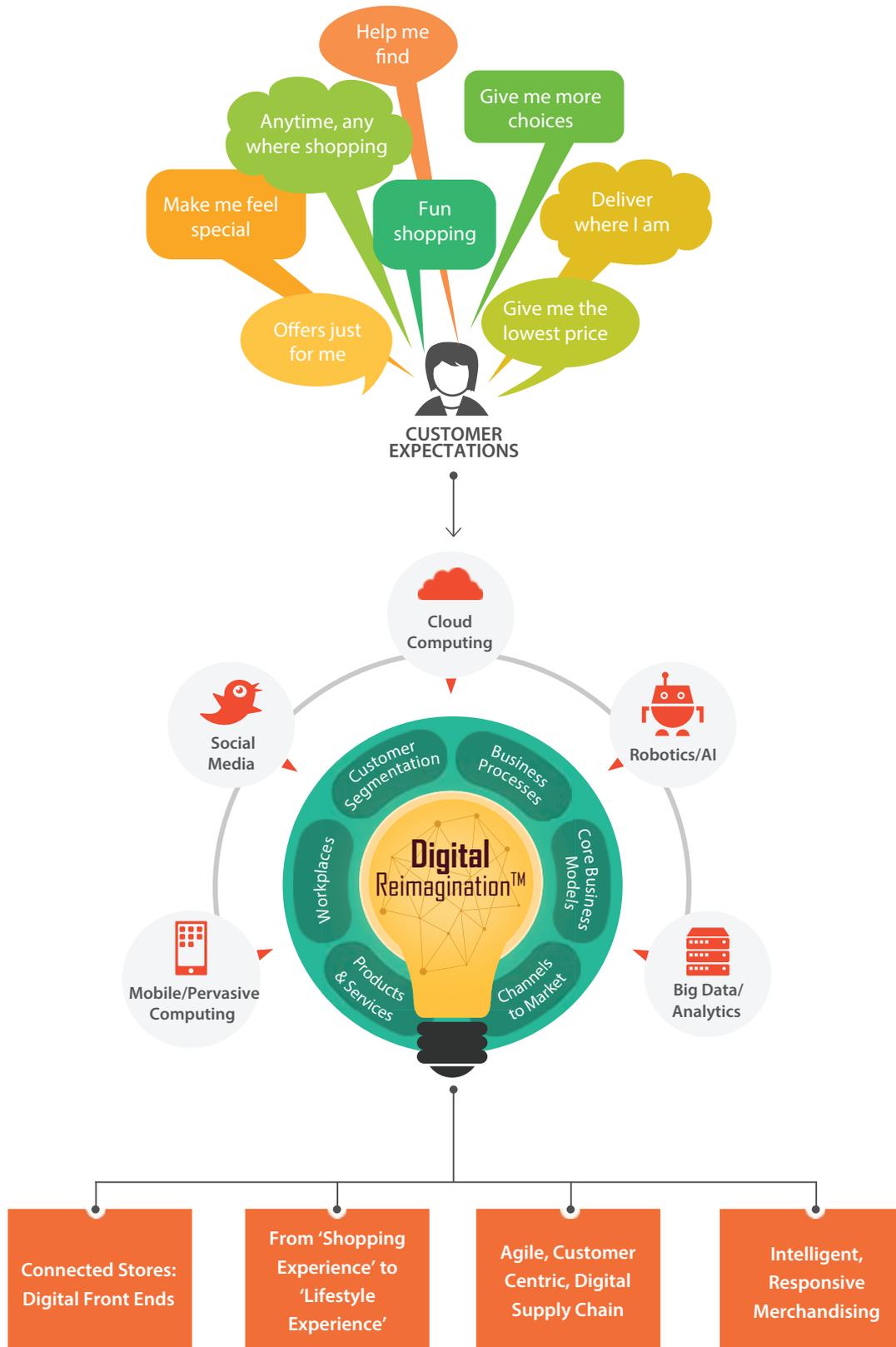


Figure 1: Digital Reimagination™: Redefining retail by leveraging digital five forces

Reimagining stores

With several store closures, the question being asked is what must stores do to stay relevant. There is fear that robots will take over the responsibilities of store associate, and threaten their livelihood. Instead of perceiving the digital forces as a threat, retailers can leverage Digital Reimagination™ to recreate the customer journey at the store. Every aspect of the in-store experience—from product discovery to check out—can be redefined and made more compelling. This can help convert show-rooming to webrooming.

Recognizing customers as they enter the stores, delivering rich search experiences with technologies like augmented reality, immersive digital displays, connected fitting rooms, way finders, shoppable windows, self-help tools in the store, are some examples of how digital forces are redefining the in-store shopping experience. Home Depot, the home improvement retailer, offers its customers the 'Store-in-my-Phone' mobile app³, which allows customers to use their mobile phone to navigate the store, locate items, or find store associates. The checkout process can also be reimagined from fixed lane checkout to eliminating checkout altogether with Customer POS (C-POS), where customers use their own device to checkout.

Even the workspace at the store offers the potential to be reimagined. From the time the day begins at the store until the time the store is closed, there are several tasks which need to be completed and millions of customers who need to be served. Store workspace needs to be reimagined with predictive and intelligent operations, powered by the forces of analytics and mobility.

Today, the store associate is right at the end of the value chain, with little information or tools to provide a superior customer experience. However, it is at the store that the customer spends the maximum time and the point at which the retailer can influence the customer. This situation is very similar to the airline situation where the crew, which spends the maximum time interacting with customers, has the least information about them. Airlines are addressing this by enabling their crew with customer engagement solutions.

Empowering store associates with information about the customer (profile attributes, transactions and interactions, their likes and dislikes), in-depth product information, and other relevant information using mobile, enables collaboration and sharing of experiences among store associates.

Reimagining buying and merchandising

Empowered customers and tough competition from online retailers are shaking the traditional tenets of merchandising. Hence, there is a clear need to re-visualize the process of merchandising and digitally revamp it. Competitive price management is one such key process which needs to be reimagined. Traditional retailers make 1–2 price changes a day. According to an analysis by Profitero, a U.K.-based price intelligence firm, Amazon implemented more than 2.5 million price changes every day during the month of November 2013,⁴ to woo millions of Black Friday shoppers. To combat this and to leverage the falling cost of implementing price changes and new prescriptive analytics tools, retailers need to reimagine the pricing process with the following aspects in mind:

- How can they collect and analyze competitor information?
- How can they make pricing decisions quickly?
- How can they implement price changes quickly?

Several retailers are already exploiting the digital forces to attain competitive advantage in pricing. For example, Sears is using Big Data to set prices in near real time and move inventory by giving loyalty shoppers customized coupons.⁵

Another key merchandising process that needs to be reimagined is the merchandise buying process. Traditionally, buyers go into the field and source the right designs for products. This process can be digitally reimagined. For example, at a fashion show, buyers can take a picture and digitally annotate it to evaluate fabric and color options, search for additional information like sus-

³The Home Depot, Home Depot Apps, Accessed 30th June 2014
http://www.homedepot.com/c/SF_Mobile_Shopping

⁴RetailWire, 'Amazon's Price Changing Machine' (December 2013), Accessed February 2014
<http://www.retailwire.com/discussion/17222/amazons-price-changing-machine>

⁵CIO Journal, 'How Sears Uses Big Data to Get a Handle on Pricing' (June 2012), Accessed February 2014
<http://blogs.wsj.com/cio/2012/06/14/how-sears-uses-big-data-to-get-a-handle-on-pricing/>

tainability, and also share information with colleagues for quick feedback. Buyers can leverage social media to understand trends and listen to feedback from fashion bloggers. Analytics on cost information and sales forecasts can be used to optimize buying. Concepts of gamification can be applied to select the best vendor for the merchandise.

Reimagining supply chain

Superior cross-channel inventory management and responsive supply chains can be facilitated by Digital Reimagination™. Supply chains, hitherto optimized for stores, must be digitally reconfigured to be more responsive to anytime, anywhere delivery. Both internal data (historical sales data, seasonal trends) and external data (weather conditions, occurrence of natural disasters) can help improve supply chain responsiveness.

A robust and demand-driven supply chain powered by Big Data and analytics can be used to track and monitor real-time inventory. Cloud can be used to share order information with all the players in the supply chain. Social media can be used to improve communication with supply chain partners and understand customers' desires and wish lists. Emerging technologies like the Internet of Things and 3D printing can be instrumental in reducing the product lifecycle.

Conclusion

The balance of power is shifting from retailers to customers, as the latter grow more connected and demanding. Forward thinking retailers are already incorporating the needs of this new and evolving customer into their operations and processes spanning all customer touch points. Digital Reimagination™ involves tapping the digital five forces of mobile and pervasive computing, Big Data and analytics, cloud, social and artificial intelligence (AI) and robotics, to redesign all processes—customer facing or at the back end—to enhance customer experience at different stages of the shopping journey.

The power of Digital Reimagination™ can be realized only by redesigning processes and workspaces keeping in mind the digital forces and not just by digitizing existing processes. Further, the power lies in leveraging a combination of the forces, multiplying the power of digital. By doing so, retailers will not only be able to design and deliver a superior customer experience, but also drive profitable growth.



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Restore the Store

Strategies for Brick-and-Mortar Survival and Resurgence



Emulating nature's tactics for store resurgence

The prospect of endless product aisles and the convenience of buying anytime, anywhere are luring even the most steadfast in-store shoppers to switch loyalties to the online model. eCommerce retail growth is expected to outpace brick-and-mortar sales growth over the next five years, reaching \$370 billion in sales by 2017.¹ As big-box retailers attempt to recover from the onslaught of online behemoths, 'showrooming' by shoppers spoilt for choice seems all set to drive the last nail in the brick-and-mortar stores' coffin. Are clicks really killing bricks? Globally, retailers are struggling to keep stores alive and relevant. However, merely striving for survival is aiming too low; instead, brick-and-mortar retailers need to shift focus from survival to revival. The key to resurgence of the physical store may lie in the successful emulation of nature, which has developed survival mechanisms to overcome several challenges. In this article, we present ideas on how pure brick-and-mortar retailers can emulate nature's tactics in order to stay relevant and succeed in the digital world.

Tactic #1: Run faster and in the right direction



When faced with a threat, the first and most intuitive tactic of any creature is to run fast enough to outpace the predator. Faced with the threat of high operating costs of brick-and-mortar stores, one of the strategies that retailers apply is to go for aggressive cost cutting in a specific area. While this might seem to be the right approach, cutting costs in one area without sufficiently preempting the possible adverse impact on other areas poses a high risk. For example, a token reduction of inventory can lead to stock-outs and service loss, while a cursory reduction of store staff may adversely impact customer service and the in-store customer experience.

With customers tightening their purse strings and same-store sales remaining flat or even dipping, instead of baulking at high operating costs, retailers must proactively identify ways and means to keep these costs low. Many retailers have been able to identify the right levers and move in the right direction, making store operations more efficient and competitive. In order to succeed, the speed of change must be as fast as the customer expects it to be, and more importantly, needs to be faster than competition.

Tactic #2: Adapt to blend into the environment



The digital natives, that make up a large fraction of today's customer base, are increasingly opting for channels that provide an immersive experience. This growing trend poses a threat to physical stores. In response, smart retailers have attempted to camouflage the physical store experience with a Web-like experience. A few of the digital transformation initiatives that have found their way into stores include mobile point-of-sale (mPOS), mobile apps for price comparison, in-store browsing terminals, augmented reality trial rooms, NFC payments, and customer mobility.

However, the retailer's core line of business, volume of transactions, brand image, and positioning need to be considered before deploying technology solutions to keep pace with evolving digital trends. For instance, the efficacy of mPOS systems will need to be thoroughly validated in high volume grocery retail stores. Augmented reality-based trial rooms will need to be evaluated before full-scale implementation, especially when shoppers travel to a brick-and-mortar store looking for a sensory and tactile experience. Similarly, while self-checkouts may reduce staff cost for retailers, they should only be introduced after carefully administered trials in select retail outlets, taking into consideration the fact that customers are generally used to being assisted at checkout.

¹Online Retail Forecast, 2012 to 2017 (US) by Forrester Research Inc.

Tactic #3: Choose your battles wisely



Despite the purported threat by online retail, several big brick-and-mortar stores still remain undeterred. Some have adopted certain aspects of online channels, while others have tested the waters and identified innovative solutions that minimize the disruption to their existing brick-and-mortar retail model. There are yet others who continue to sit on the fence with no immediate plans of adapting to omni-channel retail. It may not be practical to resist change forever, and therefore, undecided retailers may need to think of attractive propositions that maximize their footprint.

Retailers can learn from their contemporaries who have bucked the trend. For instance, German discount supermarket chains such as Aldi and Lidl have continued to hold their own against leading customer-centric multichannel retailers such as Tesco, Sainsbury's, and Carrefour. They have both focused on various alternate measures to minimize customer defection to other retailers that provide multichannel options. Rather than adopting cutting edge technology or a transactional website, both the retailers have focused on maintaining the threshold on price, service, and assortment consistently.

In another instance, Primark, the popular British budget fashion retail chain, recently partnered with ASOS, a pure Web-only fashion and beauty retailer. After prolonged resistance to establish an online presence, Primark finally set up a Web store to sell a limited edition online for the first time. This approach has allowed the retailer to test the omni-channel waters without committing to any significant investment in revamping its infrastructure.

Tactic #4: Befriend the enemy



For retailers, this simply amounts to identifying innovative ways for physical retail stores to co-exist harmoniously in a multichannel environment. In such a scenario, stores will cease to exist as just nodes of transaction for customers and will assume multiple roles that address various aspects of omni-channel retail. The role of the store is to be able to partner with the customer at any point across the purchase lifecycle—beginning with the discovery stage, moving on to browsing, leading to a sale at the transaction stage, and finally on to a continued relationship through after-sales engagement.

The new-age store is expected to be a crossover between the erstwhile store and a fulfillment center. This presents the need to identify and deploy operational capabilities that did not exist in the traditional environment, and adapt the ones that did.

Processes like in-store picking, or packing and dispatching are now done at stores. The picking process requires the store associate to perform the role of a picker in a distribution center. There are various aspects including labor scheduling, pick path optimization, inputs to planogramming modifications and/or truck-to-shelf processes that need due consideration, along with many other interdependent aspects of the store landscape. Also, the store planogram is developed with the primary intent of driving higher customer sales. With in-store picking coming into the fray, relevant adjustments will need to be made to the planogram. All these factors need to be considered while adapting to the new environment.

Conclusion

Retail brick-and-mortar stores are at the cusp of what could either be a journey to recovery or a downward spiral to extinction. Pure brick-and-mortar players need to rise to the challenge. Despite sceptics writing the obituary for physical stores, there is immense potential for its sustained relevance, and more importantly, its resurgence. Aiming for store resurgence is one thing; in order to succeed at it, retailers need to consider the following:

- Technology and operations must complement each other. Cutting edge technology employed at the customer interface without appropriate optimization of store operations may provide short-term gains but may not be sustainable or cost-effective in the long run.
- The store does not exist in isolation; it is the most visible part of a very complex value chain. Only a holistic approach that addresses all areas—from the parking lot to the sales floor and the back room—can provide a balanced solution.
- The success of the retail ecosystem is highly dependent on the store's operational efficiency and effectiveness. Seamless customer experience across all channels can only be given a physical manifestation inside the brick-and-mortar store.
- To the customer, the retailer's brand is a single entity and does not consist of multiple channels. While contribution from physical stores may have reduced, it is important to note that physical stores continue to influence sales in other channels. This needs to be considered before making changes to the store operations.



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The Dawn of Digidexterous Stores

A Perspective on the Future of Stores



Innovate: The alarm bells have gone off

It has been two decades since Amazon and eBay set the cornerstone for multi-channel retail. Although Amazon has emerged as the dominant player online, fuelled by strategic initiatives such as Amazon Prime, Amazon Locker, Amazon Fresh, and deliveries by drones, CEO Jeff Bezos believes it is still 'Day One' for the company and the alarm clock hasn't even gone off yet.¹ However, in the case of physical stores, the alarm bells have gone off long back.

Unlike online retailers that are quick to introduce innovative strategies, brick-and-mortar stores are reluctant to reinvent themselves. Some of the major deterrents for innovation in stores are the complexity of introducing change, complacency with legacy systems, and concern over huge investments. Yet, there is still hope for a new dawn. This article explores the opportunities for building 'digidexterous' stores—stores powered by intelligent digital technologies—that will raise the bar for customer engagement and experience.

Becoming the doyenne of channels

Despite being far more tech-savvy than previous generations, Generation Y, the 80-million strong cohort of Americans between the ages of 18 and 35, has not forsaken shopping in stores for online purchasing.²

Although online and mobile commerce are poised to become the new status quo, stores still continue to woo and hold a special place in the hearts of customers. According to recent research, retailers that enjoy both online and physical presence have reported an average 22% percent growth in sales, whereas online only have registered only a 13% percent growth.³

With customers looking at innovative delivery options, online retailers can no longer afford to be just 'pure play online'. Even colossal internet players are exploring the option of having an offline presence. Testimony to this is Amazon forging partnerships with local establishments to set up Amazon Lockers on their premises that allow

customers to pick up or return shipments at their own convenient time, rather than wait for deliveries at home or at the workplace. Likewise, Google Shopping Express offers same day delivery of a shopping basket that comprises online purchases made from multiple local retailers.

Unlike online retailers who may have to strive hard for physical store presence, brick-and-mortar retailers don't have to struggle as much—the latter can double up as fulfillment centers for cross channel orders, allowing customers to purchase online and pick up items from the store.

By leveraging tools and technologies that fuel digital channels, stores can provide advanced search optimization and display product information in seconds to the customer. Similarly, retailers can implement sophisticated personal pricing programs by leveraging the GPS feature of the customer's smart phone. For example, if a customer is browsing the lifestyle products section for a long time, he/she can be sent a personal discount on an exclusive range of wallets or handbags.

Stores have the potential to become the central distribution center for multi-channel retail, thereby shrinking delivery time, reducing overheads such as warehouse costs, and facilitating complete control on inventory. The fulfillment centers of online retailers cannot match the wide store network of physical retailers.

Leveling the price war



If showrooming gave pure play brick-and-mortar retailers a cause for anxiety, the increasing trend of webrooming levels the price war.

More and more retailers now offer price matching against major competitors' dotcom prices. With advanced pricing techniques, real-time feeds, and

¹Fast Company, Amazon Fresh Is Jeff Bezos' Last Mile Quest for Total Retail Domination, Published August 05, 2013, Accessed September 2013 <http://www.fastcompany.com/3014817/amazon-jeff-bezos>

²Tech-Savvy Gen Yers Still Flock to Stores, Published May 16, 2013, Accessed September 2013, <http://uli.org/press-release/generationyretail/>

³Pure-play sales growth dramatically slows as the majors catch up: Why the online retail honeymoon is over, Published April 2014, Accessed May 2014 <http://www.smartcompany.com.au/marketing/sales/41362-pure-play-sales-growth-dramatically-slows-as-the-majors-catch-up-why-the-online-retail-honeymoon-is-over.html#>

complex price analysis techniques based on various parameters—product category, size, color, stock availability, shipping, and so on—stores are better equipped to combat the price war. They can take informed decisions instead of blindly honoring price match offers. BB&T analyst Anthony Chukumba gathered pricing data on several items from glassware to cookware and small appliances at both Amazon and Bed, Bath & Beyond. On a basket of 30 such items Bed, Bath & Beyond's prices were 6.5 percent lower even without a 20 percent discount coupon.⁴

The concept of personalized pricing will become the 'new normal' at stores. Price will be driven by multiple dimensions like time of the day, the customer profile, the store, market needs and demand, stock, and social reactions. Two different customers shopping in a store may pay different prices for the same item; or the same customer may pay more in the morning as compared to a later time in the day. With such concepts around pricing in retail emerging, the price war between online retailers and physical stores is more likely to end in a draw.

Erasing the checkout line

Quick checkout continues to be the Holy Grail for retailers and customers alike. Several retailers are wary of replacing legacy technology to achieve this, fearing high costs and a major overhaul of business processes. However, real customer empowerment lies in liberating customers from long queues. Mobile Point of Sale (mPOS), customer POS, robotic shopping carts, and Scan and Go solutions are already shifting the checkout from tills to anywhere on the sales floor. For instance, Tesco is conducting a pilot run of a new, high-speed retail checkout solution that performs a collective scan of all the items in the customer's basket.⁵

In the future, POS terminals may pave the way for an invisible array of network sensors, RFIDs, image processors and customer devices, enabling a 'no stop'

checkout, and making 'walk in, pick item, and walk out' a reality. Consequently, a completely new set of standards for security and privacy concerns will need to evolve.

Transforming in-store shopping to shoppertainment

From merely being nodes of transaction, stores need to transform into a curated spot meant for the creative exchange of ideas with entertainment embedded into the shopping journey. Some retailers have already stepped into the 'future store' mode. For example, Nike FuelStation offers a whole new immersive in-store experience—interactive touchscreens offer information on products, treadmills record running styles and help customers select the right shoe. An element of fun is the motion sensing installation that tracks customer's movements and creates a 'digital avatar' that can be shared with friends through social networks.⁶

Similarly, Burberry is attempting to convert its stores into a seamless digital world. Its flagship store in London has been designed to recreate the online experience with streaming videos of Burberry runway shows played on giant screens. The store's fitting room mirrors turn into screens that display information about the garment as well as play videos of models walking the ramp wearing that garment.⁷

The advent of disruptive technology has just begun. New breakthroughs in neuroscience and nanotechnology will dramatically change the way people shop. Already, there are devices available to read brain waves and synthesize them, which may lead to customers shopping in a store being offered the price they had in mind. This is similar to intuitive bargains or being provided with just the right amount of service expected. Although this appears surreal, it may become a reality in the not-so-distant future.

⁴Bed, Bath & Beyond Trumps Amazon! The Revenge of Old School Retail, Published August 2013, Accessed January 2014
<http://finance.yahoo.com/blogs/breakout/bed-bath-beyond-beat-amazon-prices-153102415.html>

⁵Tesco collaborates with NCR to redefine the customer experience, Published May 2014, Accessed June 2014
<http://www.ncr.com/newsroom/resources/tesco-redefines-customer-experience>

⁶London's Interactive NikeFuel Station Breaks Digital Design Boundaries, Published March 2012, Accessed May 2014
<http://www.psfk.com/2012/03/nike-fuel-station-london.html#>

⁷Burberry designs flagship London shop to resemble its website, Published September 2012, Accessed June 2014
<http://www.theguardian.com/fashion/2012/sep/12/burberry-london-shop-website>

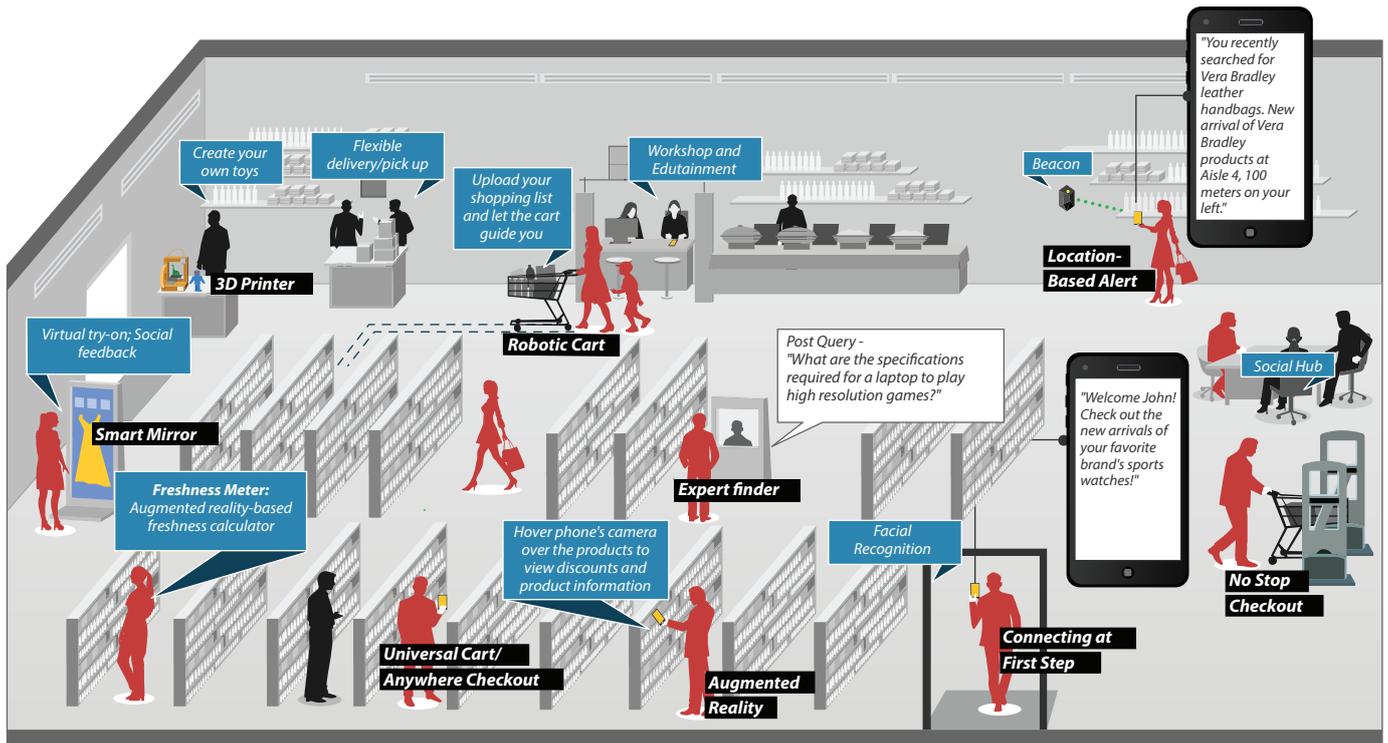


Figure 1: Digidexterous stores: Using extreme personalization to build symbiotic relationships with the digital customer

Making extreme personalization possible

Retailers are turning to Big Data analytics to power their extreme personalization initiatives. However, instead of systems delivering customized messages and content to customers, personalization can be better delivered when put in the hands of an in-store associate.

For instance, consider a scenario where an in-store sales person can view product recommendations for a customer based on past purchases. When these recommendations are clubbed with the store associate's intellect, and verbal and non-verbal cues from customers, recommendations become truly meaningful.

For stores, personalization will mean thinking beyond instant gratification, converting monologue to dialogue, transactions to interactions, and customer sales to customer value. By being customer-centric, digidexterous stores can help build a symbiotic relationship between store entities and the new age digital customer (refer Figure 1).

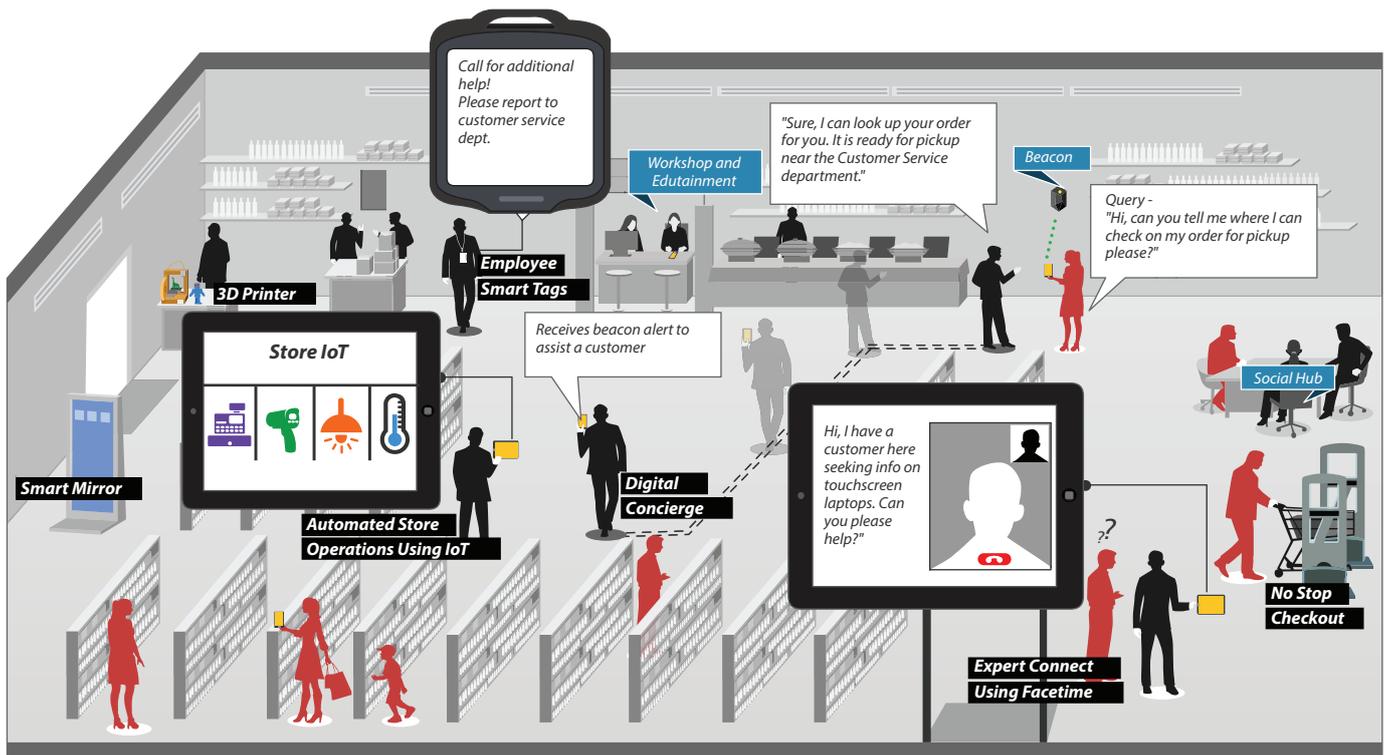


Figure 2: Digidexterous stores: Capitalizing on emerging technology to create an empowered workforce

Empowering store personnel

Store associates often go by intuition rather than well supported insights to engage with customers. Interpreting numbers from complex reports or handling customer queries on stock or products has been a blind spot for them. Predictive and prescriptive analytics powered by Big Data can help associates identify stock-outs in advance, react to external events, or have real-time control and greater visibility of in-store activities.

The Internet of Things (IoT) is set to radically transform the way today's stores operate. IoT can be used for in store inventory and customer tracking. For instance, Starbucks recently deployed 'smart' coffee machines, which connect to the cloud, enabling tracking of customer preferences down to the individual level.⁸ IoT can also be used to constantly monitor and track customer behavior and movement within the store. By enabling various devices such as the customer's mobile phone, store wi-fi, digital signages, and store associate's mobile phone to communicate with each other, IoT can help

push the relevant information to the customer. For instance, the automatic dimming of lights when there are no activities or intelligent store shelves displaying a special promotion to privileged customers will revolutionize in-store shopping.

Fluctuation in customer footfall often leads to understaffed or overstaffed situations. Wearable devices can be the next big thing in workforce optimization. For example, store associates wearing smart tags can be tracked by the store manager based on their location, workload, and tasks assigned. Associates can also get real-time notifications, paging and deployment alerts based on other activities happening in the store.

It is inevitable for retailers to capitalize on emerging technology to create an empowered workforce, build stronger relationships with customers, and create a store that is future-ready (refer Figure 2).

⁸Starbucks Links Coffee Makers to Web Fueling \$27B Market, Published October 2013, Accessed June 2014
<http://www.bloomberg.com/news/2013-10-22/starbucks-links-coffee-makers-to-web-fueling-27b-market.html>

Conclusion

The future of retailing is already here with the emergence of digital technologies such as mobile, social, location services, augmented reality, Big Data, and gamification. If one were to evaluate which of the retail channels is capable of consuming all of these digital elements, the scales might tip in favor of stores. Where else can you imagine having sophisticated digital displays streaming rich information except, of course, Times Square? Where else can you envision a perfect synergy of digital interactions and the human connect? It is no longer a matter of choice. Stores must embrace digital technologies and flourish, or remain complacent and face peril.

“If you do not change direction, you may end up where you are heading” – Lao Tzu



Srjana Balraj is the Head of the Stores Practice at Tata Consultancy Services' (TCS) Retail unit. With over 13 years of experience, she is an expert in diverse areas such as next generation stores, interactive kiosks, mobile checkout, mobile payments, and in-store customer experience solutions. She leads the Point of Sale (POS) Center of Excellence, as well as services for the Digital Reimagination™ of Stores, TCS Mobile POS Solution, EMV Chip-and-PIN, and other store applications.

Srjana strongly believes in the power of stores and has led many consulting studies on the transformation of traditional stores to meet with the growing digital trends. She works closely with TCS retail products team and innovation labs to develop digital solutions for stores.

Universal Store Commerce

More Than a Digital Experience



True omni-channel enterprise: Is integrating multiple technologies adequate?

In today's connected world, both digital and physical store channels have to work seamlessly across multiple touch points to deliver exactly what the customer wants. Omni-channel customers do not differentiate between channels; they expect similar and consistent interactions across channels, including stores. However, delivering a seamless in-store customer experience is a big challenge for retailers because the commerce capabilities at stores is not as personal, efficient, and agile as online digital channels. Current stores' legacy systems do not offer real-time visibility of customer's online interactions and single view of the enterprise information. An estimated 6.5% of retail revenue is lost because of the lack of a clear omni-channel strategy.¹

To stay competitive, the physical store has no option but to digitally morph itself into a real-time online channel with virtual and physical merchandise, delivering next generation omni-channel fulfillment. Therefore, it is not surprising that every retailer aspires to build a true, future ready omni-channel platform; one that can help maximize the current investment, yet is flexible enough to accommodate future technology innovations.

The focus of the retail industry is now increasingly going beyond omni-channel integration by breaking channel-specific technology constraints and limitations and moving towards creating a single universal commerce enterprise. Broadly speaking, online or Web (eCommerce), mobile (M-commerce or Mobile App) and store (POS/mPOS/kiosks) channels are built on different platforms and ecosystems. Hardware-dependent legacy systems and processes at stores along with monolithic siloed architecture and rigid functionalities make it hard to integrate physical stores with online channels.

Omni-channel integration requires the enterprise-level architecture and business processes to be completely reimaged. Stores need to align with the overall omni-channel strategy of the business by building a flexible architecture that offers enterprise-wide visibility of information and also has the capability to consume enterprise-level commerce services on any digital touch point within the store. To enable this, retailers need to rationalize enterprise-wide back-end systems and

applications and create a single, agile brand experience, orchestrating seamless customer experiences across all touch points.

Enabling universal store commerce

From an architecture perspective, every channel is built on a different technology stack and has its own set of limitations. Multi-channel capabilities built independently across channels is hard to scale and maintain as the scope of redundant services and data offered across various technology stacks is likely to increase eventually. As more channels, touch points, and features emerge, replicating and creating new services and multiple integration points across channels is not the ideal solution.

Most retailers have already begun store transformation initiatives with the newest breed of vendor technologies and products, and integrating them with other channel technology stacks. However, simply integrating multiple technologies and services is not the answer to building a true omni-channel enterprise. Instead, retailers should start rethinking the business processes, customer engagement, and services to create a set of omni-channel objectives. IT should align with strategic business functions such as Planning, Sourcing, Supply Chain, and operational/organization policies. Retailers need to build a realistic plan and milestones to achieve these objectives.



A universal store commerce solution should be a channel agnostic, service-oriented solution that integrates seamlessly with IT ecosystems that have disparate technology stacks.

It should support reuse across geographies and multiple retail formats. The platform needs to adapt to the future customer journey by resting on the following building blocks—a single responsive presentation layer, commonly shared business services, single view of information, and channel customization (refer Figure 1).

A few key recommendations to create a universal store commerce solution around each of these building blocks are outlined here.

¹<http://risnews.edgl.com/retail-best-practices/Top-5-Best-in-Class-Omnichannel-Retailers88936>

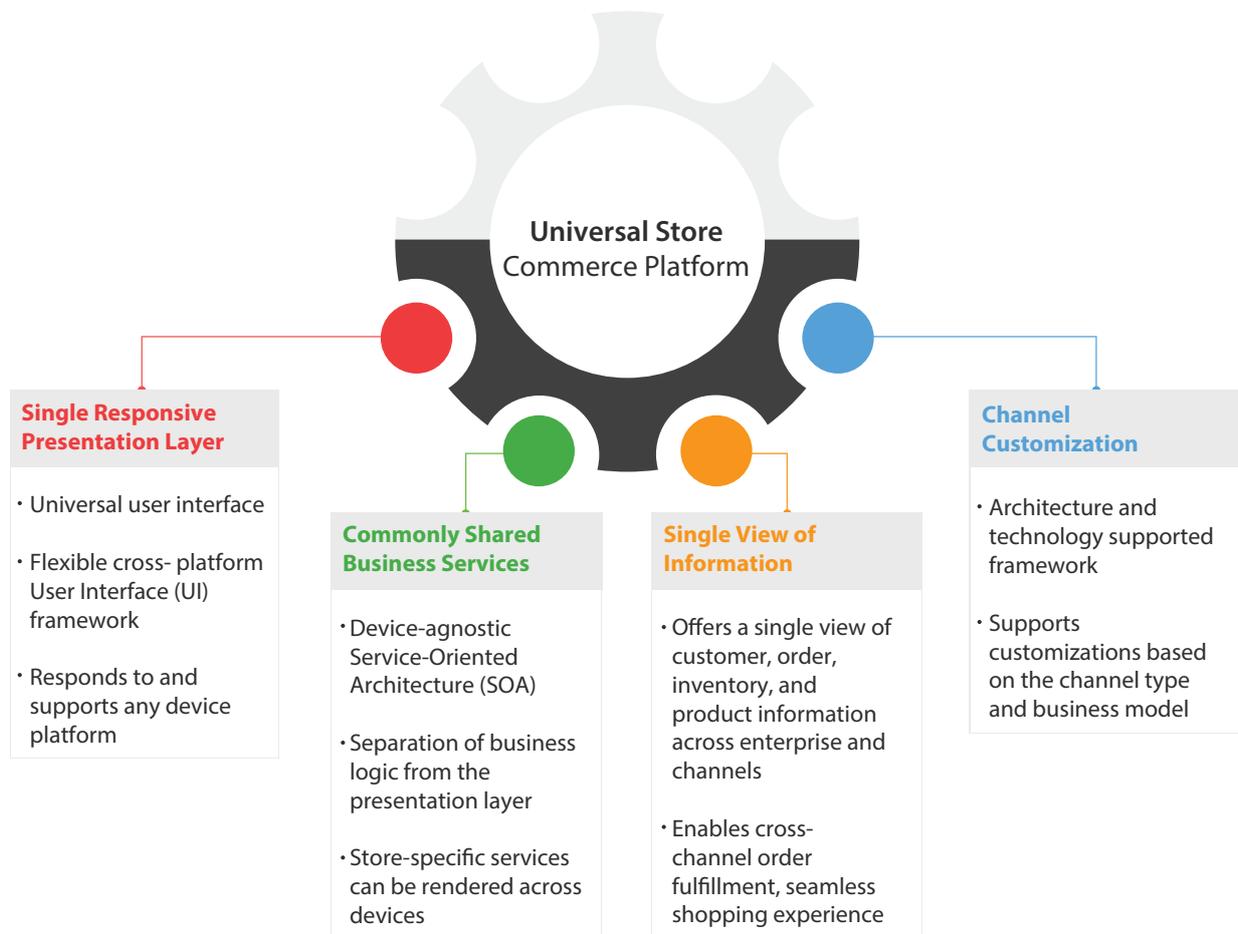


Figure 1: Building blocks enabling universal store commerce

Recommendation #1: Single responsive presentation layer

The single responsive user interface enables retailers to adapt to any device form factor. Both presentation and information can be customized as per the device type to enable a consistent and seamless customer experience.

Depending on the business model, customer support, and geo-location, the universal user interface can be designed to provide a consistent and seamless user experience across channels, with channel-specific customization.

For example, a retailer's eCommerce platform capabilities could be extended to the store with additional device and peripheral management capabilities that are unique to the store.

Recommendation #2: Commonly shared business services

By re-duplicating the business services, a universal service component can be created that can be leveraged across channels:

- Services such as order lookup, inventory lookup, price lookup, payment, returns and exchanges, and customer or lead capture can be used across channels.
- Store-specific services such as daily operations, system administration, device integration, and reporting can be leveraged and used seamlessly across the PC register or till, mPOS, and the tablet.
- Channel-specific unique services can be built and consumed by other channels as required. For example, social call center service built for the eCommerce channel can be applied to the telesales channel as well.

Recommendation #3: Single view of information

The universal store commerce platform should offer a centralized and real-time view of order, inventory, and promotions across channels, thereby providing consistent cross-channel retail fulfillment and an enriching customer experience. By achieving a unified view, a customer's basket or online shopping cart would be persistent across channels and touch points. A single view of customer interactions across touch points provides more opportunities for cross-selling and upselling, and helps to better engage customers through targeted and personalized services.

Recommendation #4: Channel customization

In addition to building a common presentation, business logic and service-oriented architecture, retailers need to address channel-specific challenges. For instance, promotions and products listing work differently for eCommerce and stores. Likewise, stores need comprehensive peripheral and device management capabilities—from supporting wireless devices to digital wallet and signature capture.

While the universal store commerce platform approach is based on the building blocks discussed, the platform architecture comprises services such as device adaptive commerce, enterprise service routing, and omni-channel logic (refer Figure 2).

Responsive device adaptive commerce services

As customer experiences and expectations vary depending on the device used to interact with the retail brand, retailers must consider the device type and features such as device height, width, browser layout and orientation, when customizing navigation, content, and format. A common, responsive, single user interface framework will enable a consistent and seamless customer experience.

Independent enterprise service routing

The framework is ideally based on multi-layered thin client architecture and the device browser client is separated from the business logic that resides in the central environment. The enterprise routing service routes the service request to the corresponding business logic or services that reside in the central web servers.

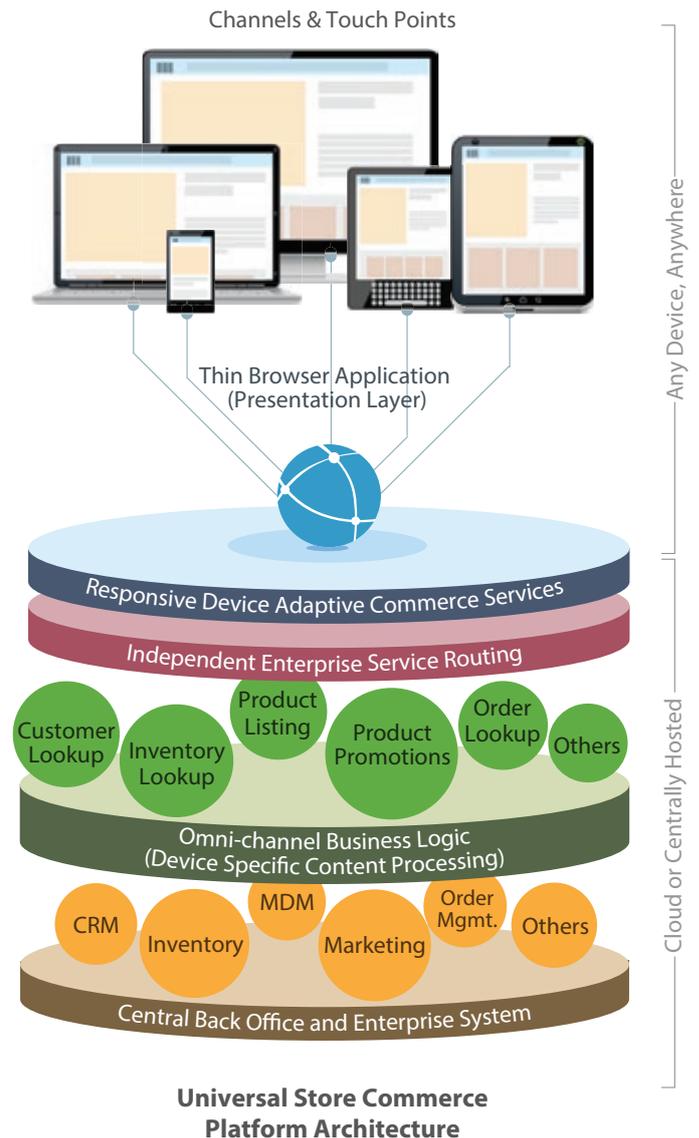


Figure 2: Universal store commerce platform architecture

Universal business logic

The set of business logic or services leveraged across channels and devices is hosted centrally on cloud. Once written, this logic can be reused for various device form factors and features. Retailers can leverage the existing services built for a specific channel and reuse them for other channels. This set of business logic or services understands the nature of the service request and processes it to retrieve the respective content from the back-end systems based on the device requirements.

Conclusion

With emerging technologies such as Internet of Things (IoT), wearable devices, contactless payment, and robot-driven experiences, store commerce solutions of the future are poised for a dramatic overhaul. Irrespective of new touch points and channels that continue to emerge, brick and mortar stores will remain relevant due to their ability to provide real-time social connect and the sensory experience that cannot be easily matched by other channels. The role of stores has evolved from being merely a space for conducting commerce to being a fulfillment center, a marketing channel and a customer experience hub, and will continue to evolve.

The new universal store commerce platform might just be the answer for retailers aspiring to offer a seamless and consistent omni-channel experience. It is agile and can easily adapt to any device ecosystem and environment through a common set of enterprise-level services deployed across channels and touch points. This solution can also be extended to new lines of businesses and retail formats across retail industries using the unique component and service enabled architecture. The universal multi-layered horizontal services of single presentation layer, shared business logic, and centralized data insights are highly scalable and can meet businesses and customer expectations. At the same time, it provides an opportunity to promote superior cross-channel optimization and the omni-channel experience.



Harikrishnan S. is a retail domain consultant who manages the retail products and digital offerings pre-sales activities at Tata Consultancy Services. In this role, in addition to building pre-sales collaterals he focuses on creating thought leadership articles, as well as defining and mapping solutions to client proposals. He interacts with domain, product, and accounts teams to assess trends and challenges, and helps to define next generation solution roadmaps.

The rapid adoption of digital technologies is redefining the way customers and retailers interact with each other. This sudden shift is also challenging retailers' core business model and processes. The retail industry is exploring innovative digital opportunities to win over customers. To be successful in their digital journey, retail CIOs need to overcome the existing operational silos and think from a cross-functional perspective.

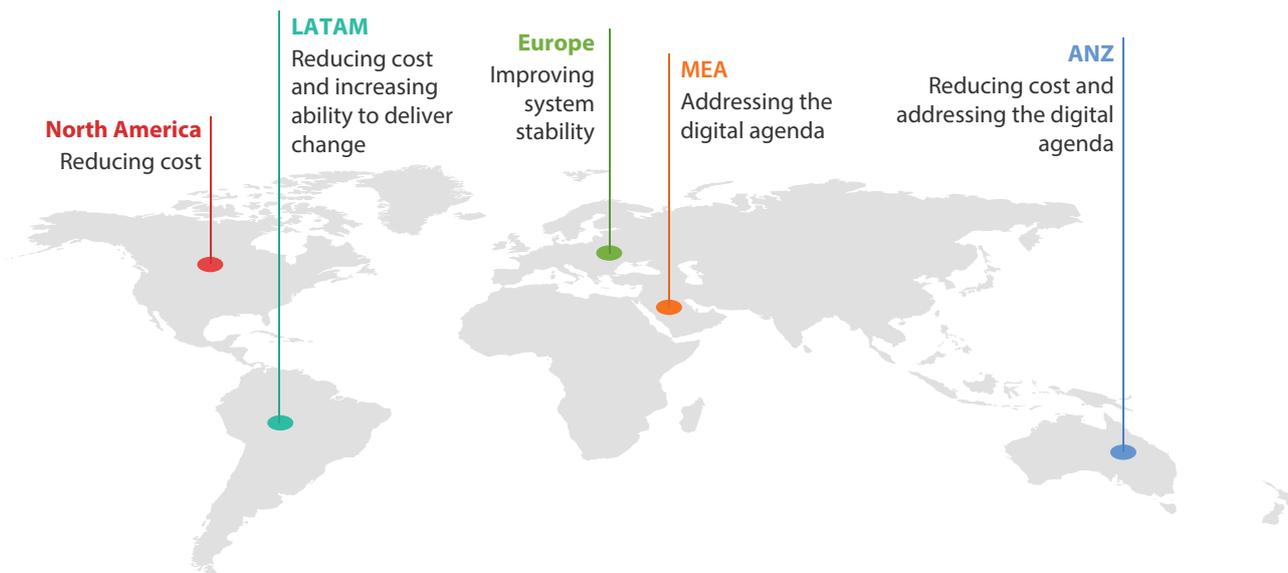
TCS commissioned Forrester Consulting to conduct an in-depth survey and interviews with 192 senior business and IT executives from global retail enterprises to evaluate the state of IT in the global retail industry. The aim was to capture CIOs' attitudes and plans toward key trends and increasingly disruptive technologies. Our survey found that the primary focus of almost 87 percent of retail business executives is to increase revenue and growth. Around 64 percent of retail IT leadership teams consider cost reduction as a major focus area over the next few years—clearly pointing out the misaligned priorities between the global retail business and IT teams. Our study also reveals that disruptive technologies including mobile, social media, cloud, and Big Data will continue to radically transform the retail industry. However, technology innovation will suffer due to lack of strategy, leadership, and talent shortage at many organizations. In this article, we share some of the key findings of our global retail CIO survey along with key recommendations on how retail CIOs can help their organization win over customers.

Retail CIO Agenda: Key Findings

Finding #1: Global retail CIOs struggle to balance business and IT priorities

Revenue growth driven by multichannel integration and digital customer engagement continues to be the biggest priority for retail business executives. In contrast, retail IT leadership's key strategic focus for the short and medium term is cost savings with 47 percent of CIOs aiming to reduce cost in the next two years. In fact, 24 percent of CIOs agree that a lack of clarity on business priorities leaves them unsure about their future course of action. Despite a clear business need to grow revenues, IT leadership continues to treat itself as a cost center rather than as a value-enabling business partner.

Our survey also revealed that the top IT priorities of retail executives vary across the world (refer Figure 1). 67 percent of CIOs in Europe believe in improving system stability. However, for 73 percent of retail CIOs from Latin America (LATAM) and Australia and New Zealand (ANZ), as well as North American CIOs reducing costs is a top priority. Addressing the digital agenda also figures high on the priority list of CIOs in the ANZ and Middle East and Africa (MEA) regions. In keeping with the trends, around 53 percent of LATAM CIOs plan to invest in Big Data and analytics in the next few years, with a view to increase their ability to deliver change.

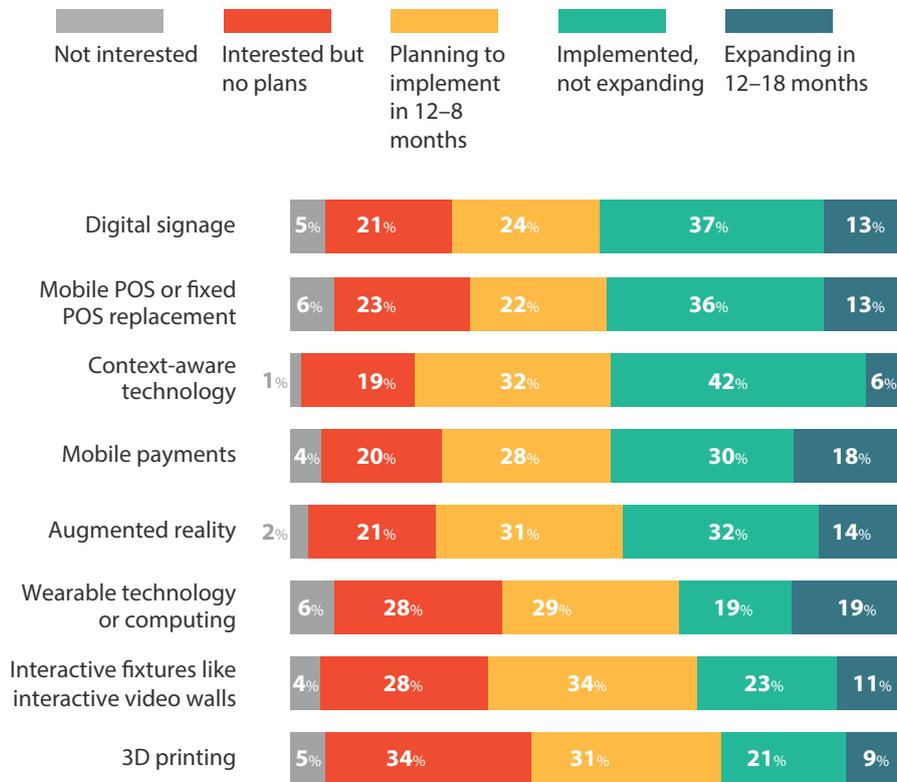


Base: 192 senior business, IT executives, and business decision-makers from global retail enterprises
Source: 'The Global Agenda of Retail CIOs—Get out of the Back Office and Innovate', a commissioned study conducted by Forrester Consulting on behalf of TCS, December 2013

Figure 1

Finding #2: Digital forces are disrupting retail

What are your company's plans to implement each of the following digital technologies?



Base: 192 senior business, IT executives, and business decision-makers from global retail enterprises
 Source: 'The Global Agenda of Retail CIOs—Get out of the Back Office and Innovate', a commissioned study conducted by Forrester Consulting on behalf of TCS, December 2013

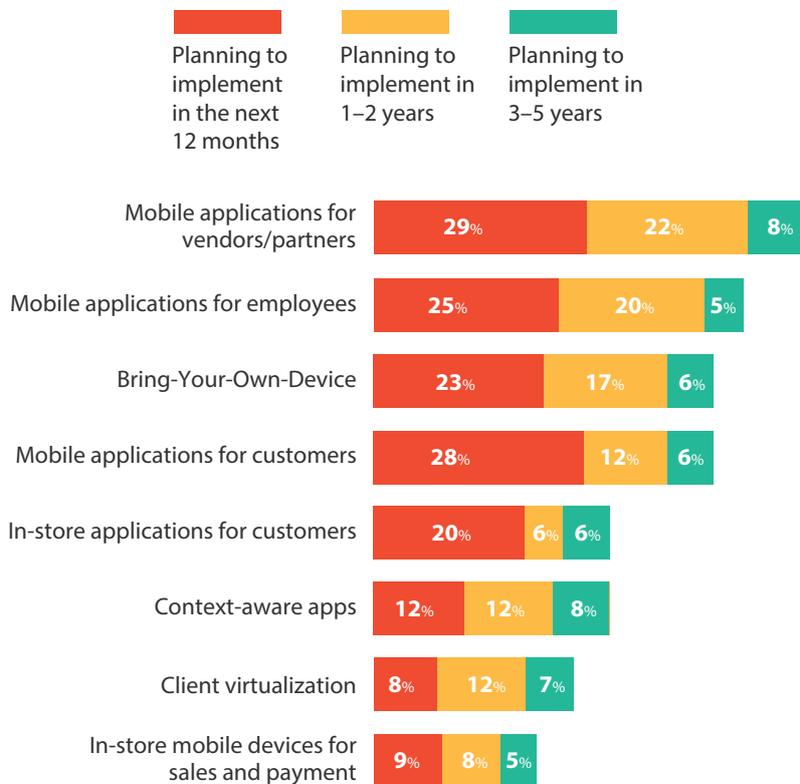
Figure 2

The degree of adoption and implementation of digital technologies to sustain business and gain competitive advantage varies across the industry. However, most CIOs understand the implications of these digital forces on their retail business. They rate context-aware technology, augmented reality, mobile payments, and mobile POS (mPOS) as technology disruptions that have the biggest impact on the retail industry (refer Figure 2). CIOs agree that retailers can gain better business benefits by combining digital technology with relevant data. Most retailers have access to voluminous customer data which can drive meaningful insights to accelerate growth and offer superior customer experience.

Mobile payments stand out as one of the active disruptive technologies with UK firms leading the movement. 73 percent of retail CIOs in the UK report that they have already implemented some form of mobile payment. Digital stores are on the rise, while mPOS, digital signage, and interactive store fixtures feature in the plans of more than two-thirds of retail CIOs. In contrast, 3D printing attracts the least interest.

Finding #3: Mobile will continue to disrupt and change retail business over the coming years

What are your company's plans to implement each of the following mobile technologies?



Base: 192 senior business, IT executives, and business decision-makers from global retail enterprises
 Source: 'The Global Agenda of Retail CIOs—Get out of the Back Office and Innovate', a commissioned study conducted by Forrester Consulting on behalf of TCS, December 2013

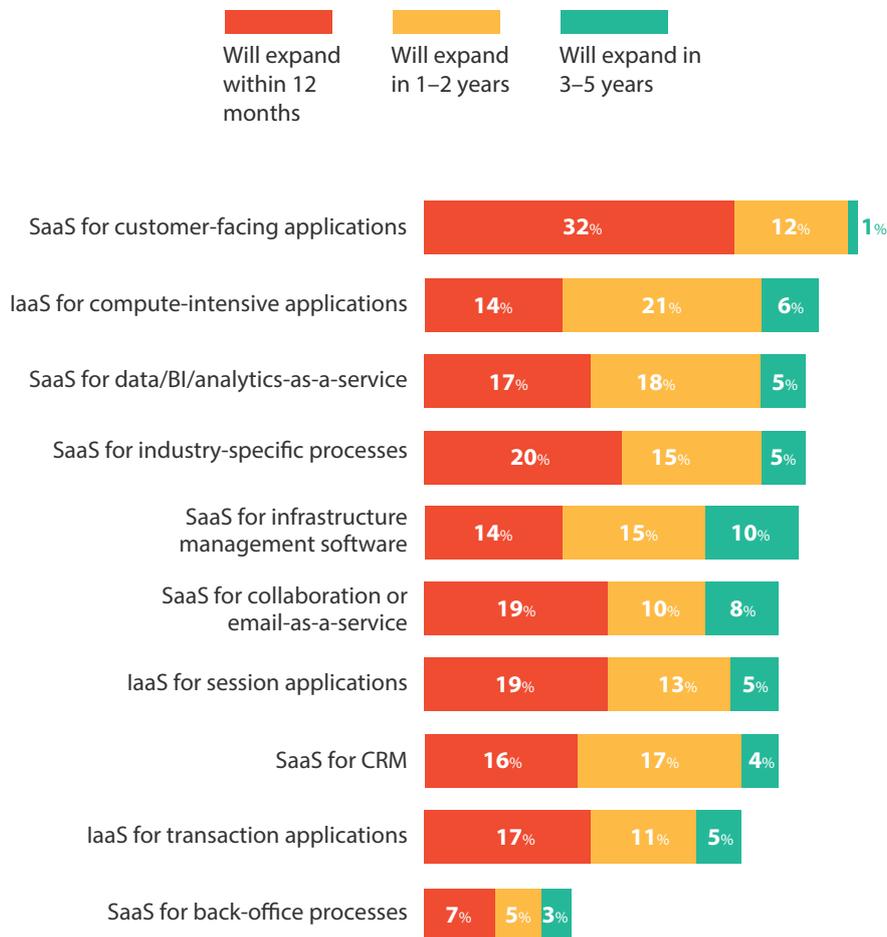
Figure 3

Retail CIOs regard mobile as a key focus area, with 59 percent of them planning to invest in mobile, enabling their partners and vendors over the next five years (refer Figure 3). Employee mobility comes in a close second with 50 percent CIOs citing that it features high on their current agenda.

Many retail IT teams are focusing on customer-facing mobile applications and clienteling. CIOs plan to rapidly implement an array of mobile technologies, with context-aware technology (32 percent), mobile payments (28 percent), digital signage (24 percent), and mPOS (22 percent) leading the way.

Finding #4: Retailers will adopt cloud to transform their core retail businesses

What are your company's plans to implement each of the following cloud technologies and services?



Base: 192 senior business, IT executives, and business decision-makers from global retail enterprises
 Source: 'The Global Agenda of Retail CIOs—Get out of the Back Office and Innovate', a commissioned study conducted by Forrester Consulting on behalf of TCS, December 2013

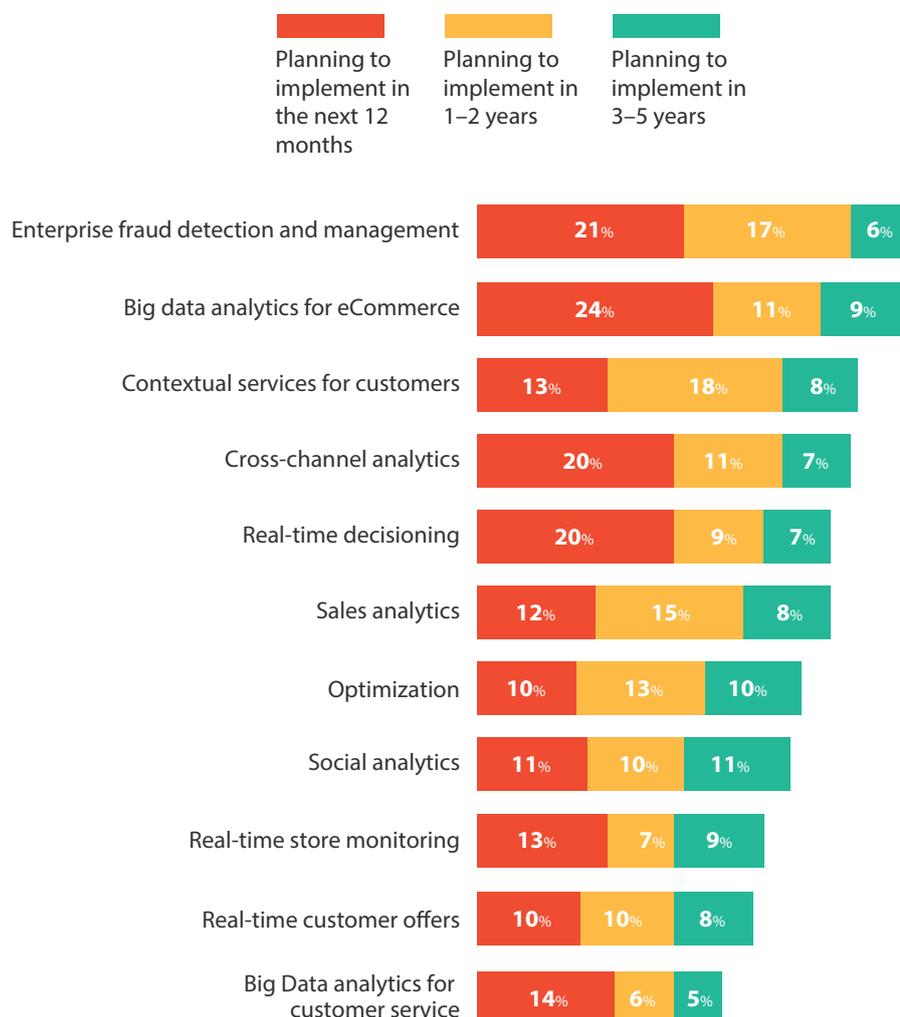
Figure 4

With cloud-based services beginning to replace core retail systems, most retail CIOs recognize cloud solutions as a major enabler of retail transformation. Customer-facing applications top the list of cloud services, with 45 percent of CIOs either already using cloud technology in this area or are considering doing so (refer Figure 4).

An already existing rich ecosystem of eCommerce cloud services supports the increasing adoption of cloud technology in the retail environment. Readily available cloud-based infrastructure services are driving almost 35 percent of retail CIOs to seriously consider leveraging IaaS (Infrastructure as a Service) providers in the next year or two.

Finding #5: Despite Big Data strategies, retailers struggle to deliver actionable insights

What are your company's plans to implement each of the following data and analytics technologies?



Base: 192 senior business, IT executives, and business decision-makers from global retail enterprises
 Source: 'The Global Agenda of Retail CIOs—Get out of the Back Office and Innovate', a commissioned study conducted by Forrester Consulting on behalf of TCS, December 2013

Figure 5

The current siloed approach to data concentrates more on delivering functional insights rather than cross-functional or customer-centric insights, thereby eroding data value. 68 percent of retail CIOs agree that they collect a lot of data but do not consistently maximize its value. Many retail CIOs lack effective data strategies that go beyond the initial data capture phase. 53 percent of CIOs state that their data strategy is to expand the scope of data.

The survey shows that only 25 percent of retailers have plans to invest in Big Data analytics to support customer service (refer Figure 5). Consequently, many retail CIOs risk drowning in a deluge of data. Only 38 percent of CIOs see cross-channel analytics as a critical part of their future data strategy. Our survey findings also indicate that current approaches to data concentrate on driving functional insights rather than cross-functional or customer-centric analysis.

Finding #6: Social media intelligence will influence product design

What are your company's plans to implement social media for the following purposes?



Base: 192 senior business, IT executives, and business decision-makers from global retail enterprises
Source: 'The Global Agenda of Retail CIOs—Get out of the Back Office and Innovate', a commissioned study conducted by Forrester Consulting on behalf of TCS, December 2013

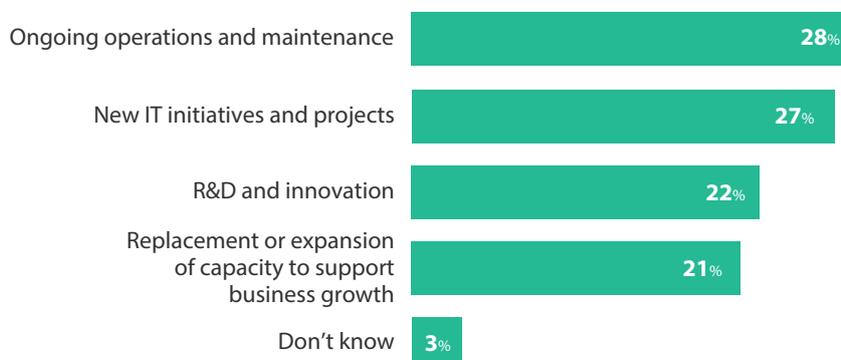
Figure 6

Retail CIOs have an opportunity to harness social media to transform the way their firms design products and services. Marketing, sales, and recruitment functions lead the charge in social activities among global retailers. 80 percent of retail CIOs report that their firms leverage social media for marketing and sales, while almost half of them rate monitoring customer conversations on social media as a critical component.

Over the next five years, 46 percent of retail CIOs link R&D and product development to social touch-points to bring customer insights into the product development life cycle (refer Figure 6). Canadian firms lead the way in socially influenced product development, with 67 percent already leveraging social media for R&D.

Finding #7: Retail IT teams innovate but CIOs struggle to drive business value from technology innovation

In 2014, approximately what percentage of your IT budget will go to the following activities?



Base: 192 senior business, IT executives, and business decision-makers from global retail enterprises
 Source: 'The Global Agenda of Retail CIOs—Get out of the Back Office and Innovate', a commissioned study conducted by Forrester Consulting on behalf of TCS, December 2013

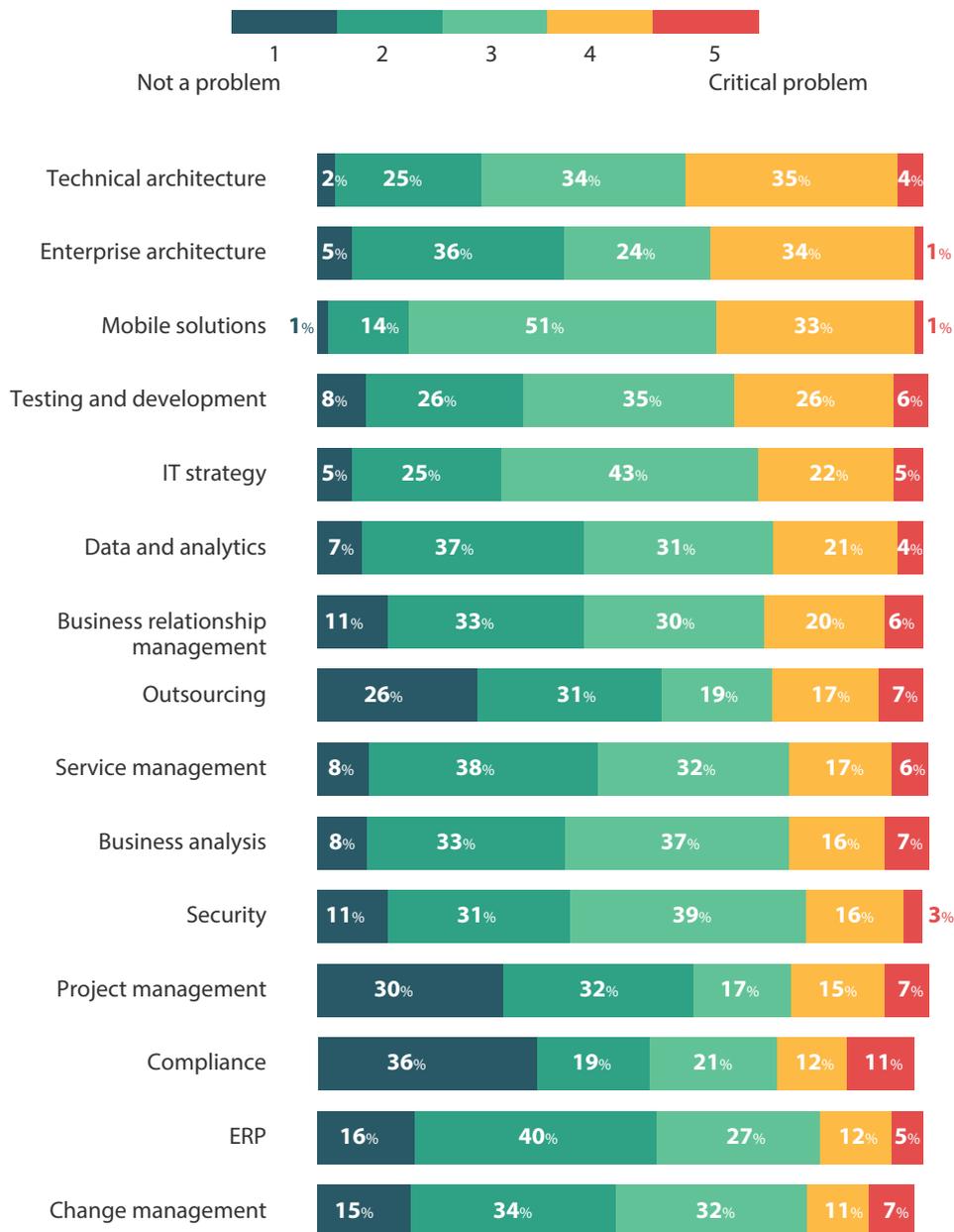
Figure 7

58 percent of retail CIOs believe that their IT teams bring innovation to the table. Less than half agree that they co-create technology roadmaps with their business counterparts and only half of the respondents believe that IT teams clearly understand key requirements of the business functions. Despite cost-cutting pressures, IT operating budgets are on the rise.

Many retail CIOs are therefore ring-fencing their innovation budgets. In 2013, retailers funneled an impressive 22 percent of IT spending into innovation (refer Figure 7). CIOs also acknowledge that embracing innovation systematically is the only route to winning customers and countering competition.

Finding #8: Shortage of talent is dampening retailers' digital reimagination dreams

Is it a problem for your company to recruit or retain the following skills?



Base: 192 senior business, IT executives, and business decision-makers from global retail enterprises
 Source: 'The Global Agenda of Retail CIOs—Get out of the Back Office and Innovate', a commissioned study conducted by Forrester Consulting on behalf of TCS, December 2013

Figure 8

Technology innovators are a rare breed with most of the CIOs struggling to source talent with digital and architecture skills. 39 percent of retail firms contend with lack of technical architecture experts, and 34 percent with shortage of mobile talent (refer Figure 8).

Almost 67 percent retail CIOs surveyed consider attracting and retaining talent a critically important challenge over the next three to five years, while 34 percent report difficulty in obtaining the necessary mobile technology talent.

How can Retail CIOs get on the digital bandwagon?

Mobile services will enable retailers to transform the way they serve their customers and employees. Digitally and mobile-enabled supply chains can help gather interactive customer insights to influence product design. This can also provide unparalleled transparency of stock availability to drive deeper customer engagement. In addition, cloud computing will transform the retail core, while Big Data and analytics is set to drive cross-functional customer-centric insights. If retail CIOs are to play a key leadership role in this dynamic new world, they must get out of the back office and lead the innovation agenda.

Here are a few key recommendations based on the survey findings:

- CIOs must shift focus from cost savings to differentiation and innovation.** CIOs must move beyond cost savings to embrace differentiation while adopting cloud and SaaS solutions to drive cost savings and continuous innovation. They should also look at developing world-class vendor management capabilities, and focus their internal resources on strategy and business alignment.
- Tap the cross-channel data and turn it into actionable insights.** CIOs must view deeper digital engagement of consumers through mobile, eCommerce, and multichannel services as key to growth. Visionary CIOs are taking to cloud to rebuild core retail capabilities and leveraging advanced analytics for better decision-making.
- Invest now in reimagining and digitizing the entire retail value chain.** Retail CIOs need to start thinking cross-functionally, and reimagine every single business process and tool to exploit the true value of digital technologies. CIOs must ensure that these key technologies are not seen as IT implementation projects rather as business transformation opportunities.

Our study reflects that retailers' IT teams are increasingly bringing in valuable transformation. CIOs are not just driving the IT teams but also playing a crucial role in creating value for the business through technology. CIOs are clearly at the forefront of business change in every retail organization. They will continue to drive cost savings, while accessing the latest technology innovations and leveraging partners, to provide commodity services as well as high value and hard-to-find capabilities like mobile development, architecture skills, and business requirements definition.

InFocus



Highlights of the TCS Innovation Forum at Cincinnati May, 2014

The Retail and CPG (Consumer Packaged Goods) ISUs (Industry Solutions Unit) of Tata Consultancy Services (TCS) participated at the 10th TCS Innovation Forum held this year on May 21 and 22 at Cincinnati, Ohio, USA. This prestigious annual event enables delegates to discuss technologies of tomorrow with senior technology executives, researchers from well-known institutions, innovation practitioners, and the TCS Co-Innovation Network (COIN™) partners.

The Innovation Forum commenced with a welcome session by Surya Kant, President, TCS - North America, UK and Europe, and K. Ananth Krishnan, Chief Technical Officer, TCS. This was followed with sessions conducted by senior external speakers as well as senior TCS associates.

The evening saw the inauguration of the TCS Cincinnati Innovation Center. The units had set up an Optumera™ demo (TCS' shopper-centric merchandise optimization suite), alongside showcasing the Optumera™ apps, and Real-Time Business Insights (RTBI).

On the second day, senior TCS associates spoke on four topics:

- '360 Customer Insights' by Ram Ramasamy, Client Director for a large TCS customer in the US
- 'Universal Commerce Platform' by Ramesh Gupta, Digital Initiatives Leader for Retail and CPG in the US
- 'Continual Integration' by Sai Rajesh, Digital Consultant and Relationship Manager in the US



- 'Retail Execution' by Wilhelm Ruiz, Consulting Partner and North America CPG Practice Lead

Additionally, our customer Sanjay Terakanambi, Vice President, Infrastructure Services, at Best Buy, spoke on Holiday Season Management.

Additional information on the event can be obtained from the website:

<http://www.cvent.com/events/tcs-innovation-forum-2014/agenda-4325ad75f3814e3b924f68f608508cd8.aspx>

Overview of JDA Focus 2014 (Apr 27–30), Las Vegas

TCS participated as a Gold Sponsor at the annual conference, JDA FOCUS in April 2014. JDA's annual global conference is where supply chain professionals come together to share best practices and hear how industry leaders are achieving supply chain, merchandising, and pricing excellence.

Senior leadership from top Retail, Hi-Tech, and Manufacturing companies visited the TCS booth. Two latest additions to the Optumera™ suite of merchandising applications—Planogram Compliance and Concept to Contract—were demonstrated.

As part of our thought leadership initiative, TCS' Head of Global Consulting Practice for Retail and CPG, TCS, North America, Ramesh Murthy, jointly presented a paper with Joshua Barrington, Director of Application

Development, Walgreens on 'Category and Space Transformation'. The presentation was interactive and was well received by the customers.



TCS also presented two mobile solutions at the event.

Planogram Compliance—a solution to automate and expedite planogram compliance check through the mobile app using advance image matching technology and share reports instantly with merchants. The other application showcased was **Concept to Contract**—an innovative offering to enable apparel buyers to share product inspirations with designers, gather insights on proposed items from social media, perform informed vendor negotiations, and receive instant alerts and updates, all on the go.

TCS Co-innovation Network Update

TCS Co-Innovation Network (COIN™) is a rich and diverse ecosystem that connects us, our customers, and entities including venture capitalists, trade bodies, start-up companies, strategic alliance partners, and academic and research institutions. The common goal binding all the entities is to build and nurture collaborative innovation that helps us and our customers stay ahead of the curve. In this issue, we present two of TCS' COIN™ partners—Kaltura and Veryday—engaged in delivering innovative solutions that address real world business challenges.

Kaltura—Video Content Management

Kaltura provides the world's first and only Open Source Online Video Platform. The platform includes industry leading media management applications as well as a framework for developing custom applications. Kaltura provides flexible video solutions to cover all customer needs both now and in the future.

Kaltura is the only video platform on the market to offer such a wide range of deployment options—including full Software as a Service (SaaS) solution with video hosting, streaming, delivery across all connected devices, transcoding, analytics, and support and maintenance services, or Kaltura's commercial software license allowing customers and partners to self-host the software behind the firewall for self-use or reselling.

Veryday—People Insight, Design Impact, Business Innovation

Veryday's expertise lies in their ability to deeply understand people's needs and aspirations through various interactions and careful examination of the same.

Veryday employs unique methods for retrieving insights to drive innovative user experience opportunities and deliver ground-breaking strategies, products and services.

Veryday challenges organizations to rethink what they offer and how they deliver it. They have the tools and methods to provide customer focused business strategies, leading to meaningful relationships of clients with their customers and differentiation of brands.

Veryday's services include: Product Design, Interaction Design, User Experience, Interface Design, Graphic Design, Service Design, CMF (Color Material Finish), Design Engineering, Conceptual Engineering, Design Guidelines, Prototyping/Design Models, Packaging Design, and Brand Experience.

About TCS' Retail Business Unit

With over two decades of consulting and IT support experience with global retailers, TCS helps retailers improve business processes and cash flows to drive top and bottom line growth. Seven of the top 10 U.S. and six of the top 10 U.K. retailers partner with us on business transformation programs aimed at reimagining and growing the business.

Leading retailers leverage the TCS Point of Sale (POS) and mobile POS solutions as well as our merchandising solution suite, Optumera™, that amalgamate our strong business acumen, domain knowledge, and technology competency.

Our Innovation Labs harness technology trends such as digital technologies to incubate and develop innovative solutions for retailers. Backed by a strong asset base and an information hub that offers daily insights on the industry, retailers, and their competitors, we deliver industry relevant consulting, solutions, and IT services and support.

Contact

To share your feedback and continue our conversation, please write to tcsretail.forum@tcs.com

About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled, infrastructure, engineering TM and assurance services. This is delivered through its unique Global Network Delivery Model, recognized as the benchmark of excellence in software development. A part of the Tata Group, India's largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

For more information, visit us at www.tcs.com

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