AUGUST, 2016
7TH ANNUAL MOBILE RESEARCH SURVEY

Mobile Accelerates to the Express Lane

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TABLE OF CONTENTS

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I. Introduction and Industry Insights

In 2015 mobile had great momentum. Given its emerging strength, rather than viewing mobile today as a growth opportunity, we are confident that mobile has moved into a position of strength and is accelerating into the fast lane. Our annual mobile research, now in its 7th year, consists of a 3-pronged report touching on industry insights, online survey results of 1000 consumers and an in-depth review of the mobile shopping experience of 50 retailers.

To provide perspective and a starting point, it is important to highlight some of the industry numbers as a starting point. All of these findings serve as an exclamation point to this all-important channel that is witnessing unprecedented growth.

REFLECTIONS

In terms of discretionary spending mcommerce growth is still far outpacing ecommerce and brick-and-mortar.

SMARTPHONE USAGE SIGNIFICANT AND SALES GROWTH MEANINGFUL

US smartphone users represent just under 64% of the population (own and use at least one smartphone at least once per month) with 2020 numbers forecasted to be 72.2%.[1]

US retail mcommerce sales are rising significantly relative to overall retail ecommerce sales as the growth projected for 2016 will reach 33% up from 26% in 2015 with forecasts as high as 43% of retail ecommerce sales. While the growth curve is important, the numbers for % of total retail sales pale in comparison. In 2016 they are expected to hit 2.7% and 2020 numbers are forecast to be double at 5.4%. The important factor to keep in mind is that they are now representing almost half of retail ecommerce's penetration, which is impressive for a channel still in its infancy.

US RETAIL MCOMMERCE SALES 2014-2020 (BILLIONS)

	2014	2015	2016	2017	2018	2019	2020
Sales (billions)	$56.67	$89.17	$130.92	$169.10	$204.62	$246.09	$294.22
% change	35.9%	57.4%	46.8%	29.2%	21.0%	20.3%	19.6%
% of retail ecommerce sales	19.0%	26.0%	33.0%	37.0%	39.0%	41.0%	43.0%
% of total retail sales	1.2%	1.9%	2.7%	3.4%	4.0%	4.6%	5.4%

Note: includes products or services ordered using the internet via mobile devices, regardless of method of payment or fulfillment; includes sales on tablets; excludes travel and event tickets.

Source: eMarketer, June 2016; www.emarketer.com

[1] eMarketer; 2016

MCOMMERCE GROWTH OUTPACING OTHERS

Retail Digital Commerce (Desktop + Mobile) reached $83.5 billion in Q1 2016, up 16% vs. 2015. In similar fashion to what we saw with ecommerce in the glory days, the mcommerce +40% growth rate is impressive.

In terms of discretionary spending, mcommerce growth is still far outpacing ecommerce and brick-and-mortar.

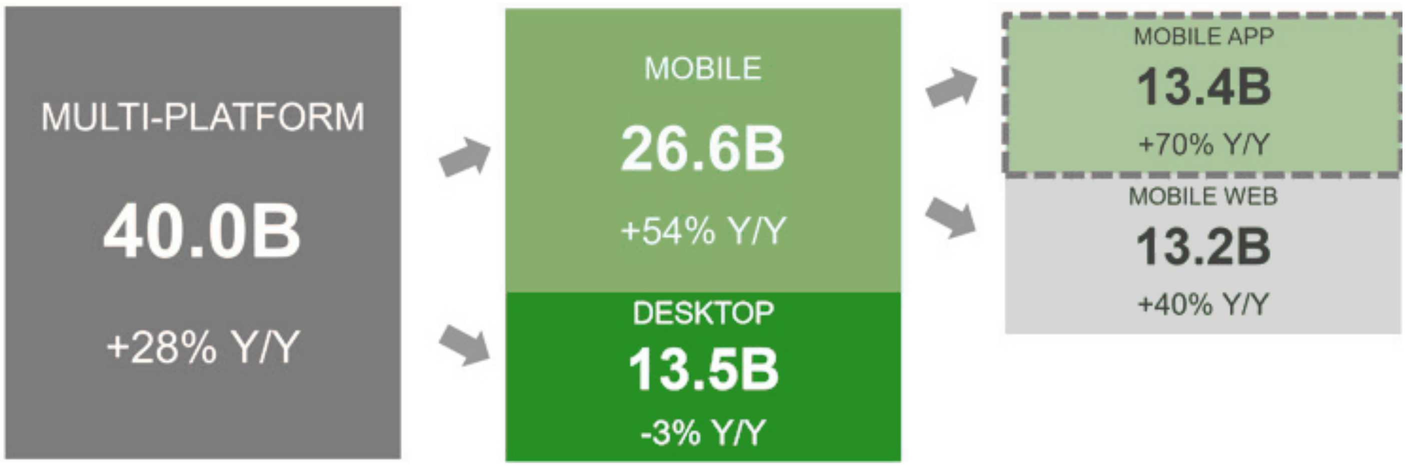
Q1 2016 Y/Y RETAIL SPENDING GROWTH BY CHANNEL

TOTAL DISCRETIONARY RETAIL	E-COMMERCE	M-COMMERCE
+4%	+11%	+40%

Source: Department of Commerce, comScore e-Commerce & m-Commerce Measurement

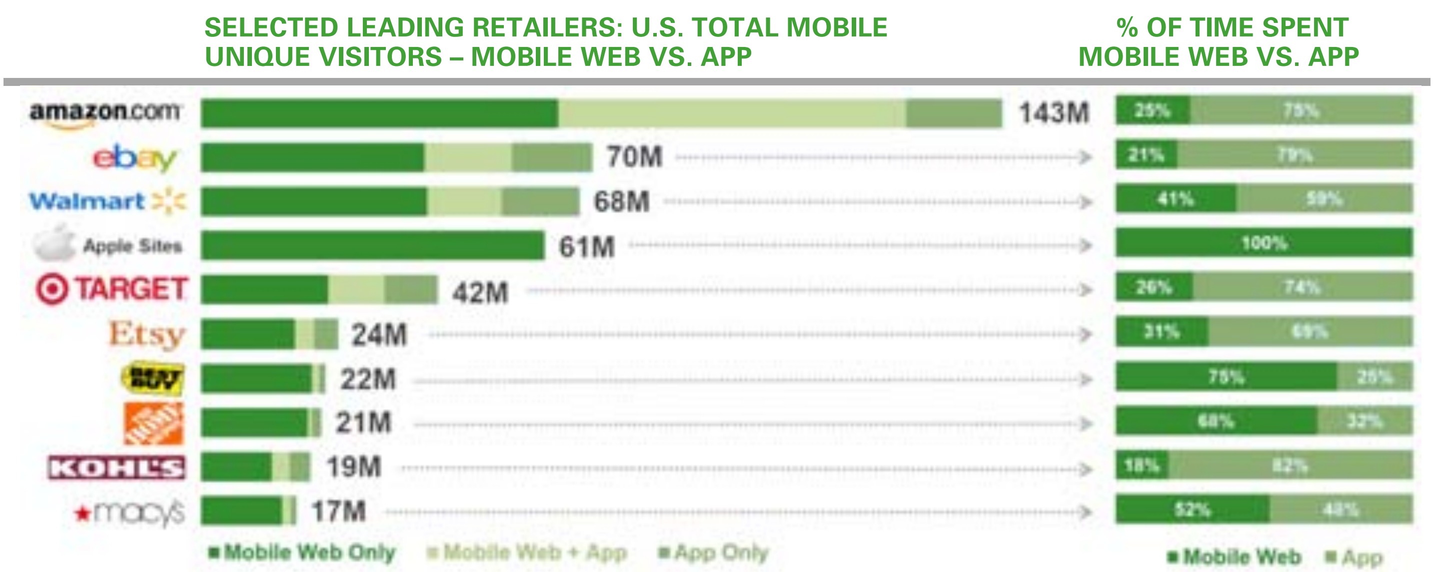
It behooves us to also note that apps are truly coming into their own as their growth year over year was formidable relative to mobile web as the following chart from comScore indicates. The latter chart then puts into perspective the concentration of usage, which not surprisingly reflects the largest names in retail. On a side note, when we conducted our consumer research and asked retailers to reflect on an ideal mobile experience, many of these same retailers dominated the lists of respondents, certainly confirming that these are the ones making the biggest impact in shoppers' minds.

In Q1 2016*, mobile app visits to the retail category finally surpassed mobile web visits. Desktop visits, however, saw a slight decline in growth.



Source: comScore Custom Solutions, U.S., Q1 2016
**Due to the 2016 leap year, Q1 2016 had one more calendar day than Q1 2015.*

Mobile web is the primary touchpoint for users accessing retailers on mobile, but mobile apps drive the majority of time spent – and skew toward the biggest names.



Source: comScore Mobile Metrix, U.S., Age 18+, March 2016
**This version of the chart only accounts for Apple's retail sites*

II. Astound Commerce 2016 Mobile Shopper Survey

In order to put our retail mystery shopping findings in context, we felt it was advisable to conduct an online research study of smartphone owners. By doing so, we were able to understand behavior basics to gauge user sentiments regarding features we evaluated. At the same time, we hoped to gather perceptions around mobile usage and the value this channel brings to everyday shoppers. Lastly, an open-ended question about the ideal mobile experience sheds light on individual mobile shopping experiences introducing a qualitative component to the quantitative findings.

Our inaugural Astound Commerce 2016 Mobile Shopper Survey consisted of 25 questions that address purchase patterns, research behavior, platform preferences and feature favorites. The goal was to gain the shopper's perspective allowing us to explore retail experiences in context taking into account the customer point-of-view. A set of survey highlights follows and their integration within the white paper should aid in prioritization.

MOBILE DEVICE USAGE IS MULTI-DIMENSIONAL WHERE CONVENIENCE AND SPEED ARE CORE TO THE BEHAVIOR

Faster transactions, email efficiency and in-store usage are critical where convenience is the overriding theme.

WHICH OF THE FOLLOWING REFLECTS YOUR SENTIMENT TOWARDS YOUR MOBILE DEVICE USAGE RELATIVE TO RESEARCHING AND PURCHASING?

% = Respondents	
40%	I usually read my emails on my smartphone and click through to the retailer's website
40%	It is always faster to complete a transaction on my mobile phone
38%	I use my smartphone in the store with me when I need to research or shop
33%	Most of my life is on the go and I always have my smartphone with me so it's more convenient for researching and purchasing
32%	It is easier to get at-a-glance information on my smartphone
31%	I share pictures of products with friends and family
27%	I take advantage of the many payment methods beyond credit cards available on my smartphone (PayPal, Masterpass, Visa Checkout, etc.)
20%	I take advantage of incentives that encourage me to try the mobile channel for purchasing
20%	Once I learned to use my phone to make purchases I didn't have any desire to go back to purchasing via desktop
19%	I favor retail apps over mobile websites
19%	The ability to connect to a nearby store can be better facilitated on mobile devices
13%	The retailers I shop have perfected their smartphone experiences so there's no longer a need to use other devices to research and purchase products
13%	The ability to access a profile that is stored in other channels makes shopping on my smartphone more convenient

Shoppers have become accustomed to the power of their phones to simplify their lives. User's time is being spent on a multitude of tasks where shopping is simply part of their smartphone vernacular. In fact, the majority of mobile users spend at least 10 hours per week in the "shopping" mode. It's insightful that 1 in 4 spend 20+ hours, which is the equivalent of half of an average work week. This pattern of early and strong adoption can be seen throughout our findings.

ON AVERAGE, HOW MANY HOURS PER WEEK DO YOU SPEND ON YOUR MOBILE DEVICE RESEARCHING PRODUCTS, FINDING STORES AND/OR PURCHASING PRODUCTS?

% = Respondents	
26%	20+ Hours
25%	10-19 Hours
22%	5-9 Hours
17%	2-4 Hours
10%	1 Hour

A look at the frequency of activity speaks to specific usage and interests. Researching is strong prior to and during store visits on mobile devices. Reading email on mobile moves beyond merely perusing as it drives purchasing online and in store.

Purchasing is a factor for almost 4 in 10 users ranking a close third behind researching a product. From there email and marketing aspects are in play for 1 in 5 mobile users, reinforcing our earlier findings.

THINKING ABOUT THE LAST THREE MONTHS, HOW MANY TIMES DID YOU DO EACH OF THE FOLLOWING VIA A MOBILE DEVICE IN AN AVERAGE MONTH?

% = 5 or More Times Per Month

55%	Researched products on your mobile device prior to visiting a store
42%	Researched products and alternatives on your mobile device during a store visit
39%	Purchased products on your mobile device
30%	Opened email from retailers on your mobile device and then made a purchase on your mobile device
28%	Opened email from retailers on your mobile device and then made a purchase in store
22%	Sought customer service on your mobile device
22%	Purchased products as a result of text messages sent by a retailer
20%	Purchased products on your mobile device during a store visit

The survey shows mobile users will continue to accelerate their device behavior across the board. When asked, “How do you anticipate your behavior will change for each of the following activities in the coming year?” 1 in 3 anticipate researching and purchasing *more* on their mobile devices. For the remainder of tasks, 1 in 5 project greater frequency.

HOW DO YOU ANTICIPATE YOUR BEHAVIOR WILL CHANGE FOR EACH OF THE FOLLOWING ACTIVITIES IN THE COMING YEAR?

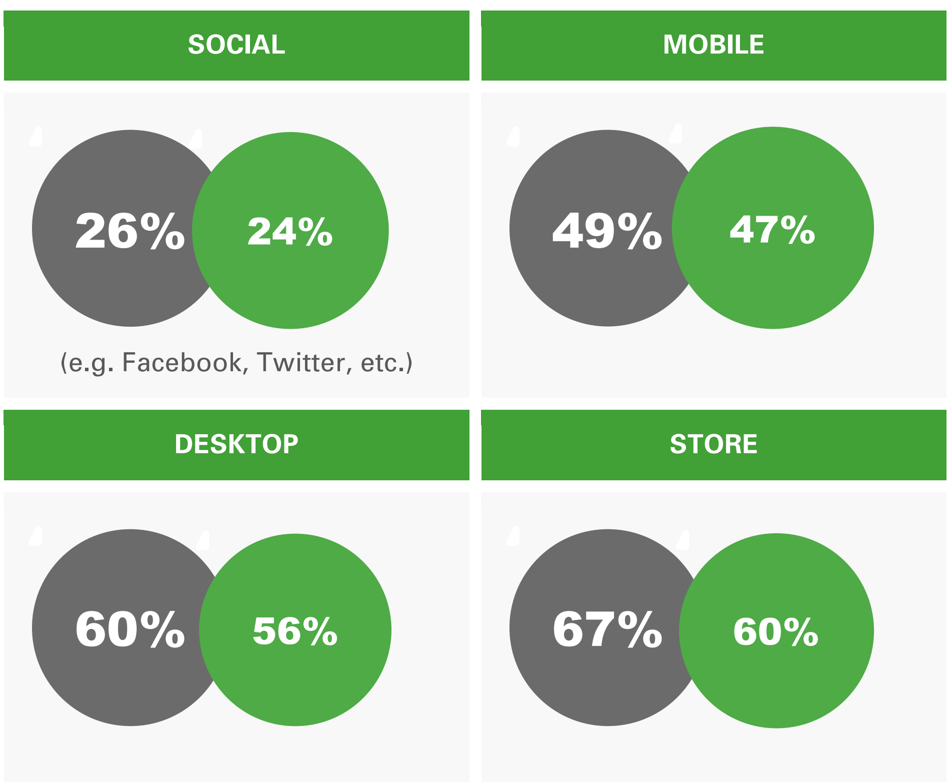
% = More	
40%	Researching products on your mobile device prior to visiting a store
36%	Purchasing products on your mobile device
31%	Researching products and alternatives on your mobile device during a store visit
25%	Seeking customer service on your mobile device
25%	Opening email from retailers on your mobile device and then make a purchase on your mobile device
24%	Opening email from retailers on your mobile device and then make a purchase in store
22%	Purchasing products on your mobile device during a store visit
21%	Purchasing products as a result of text messages sent by a retailer

COMFORT = SATISFACTION

The important insight here is when shoppers gain comfort with a new channel, they also report commensurate satisfaction. This behavior bodes well for channel growth.

COMFORT/SATISFACTION LEVEL SHOPPING VIA EACH OF THE CHANNELS

Gray *= Very Comfortable* ***Green*** *= Very Satisfied*



OPPORTUNITY FOR OPTIMIZATION

While retailers have worked tirelessly to improve the customer experience, mobile is still not fully optimized posing problems for shoppers. Both slow load times and pages not optimized for the format plague almost the majority of shoppers. Poor image quality is still an issue for almost 1 in 3 shoppers. This means retailers must be vigilant in making improvements. We would also hope and expect that all of these challenges inherent to mobile itself will be evaluated in the near term.

WHICH OF THE FOLLOWING HAVE POSED PROBLEMS FOR YOU WHEN USING YOUR MOBILE DEVICE TO RESEARCH AND SHOP? (SELECT ALL THAT APPLY)

% = Respondents

47%	Slow load times
46%	Pages not optimized for mobile format
35%	Error messages
34%	No Wifi /weak mobile signal
31%	Poor image quality
29%	Having to do lots of typing
27%	Inadequate product information
27%	Difficulty in reading print on a small device
26%	Mobile site was difficult to navigate
21%	Mobile site redirected me to the desktop experience
20%	The time it takes to shop relative to desktop
14%	Inability to checkout
13%	Inadequate customer service information
11%	Profile information that was not shared from one channel to the next
9%	Long checkout times relative to desktop
9%	No shared lists/cart that allow me to see products that I may have added in another channel

III. the e-tailing group's 2016 Mobile Retail Shopping Survey

METHODOLOGY

The e-tailing group recently completed their 7th Annual Mobile Shopping Survey of 50 retailers evaluating 180 metrics and the 6 top tasks consumers are likely to perform along with the overall usability of the mobile experience on 4 key pages (home page, search results, product and shopping cart pages)

GOALS

- Benchmark the current state of key pages for 50 retailers to explore the shopping experiences and year over year performance changes
- Trend performance to judge retail innovation levels
- Assess how mcommerce stacks up for 50 retailers that make up the e-tailing group's M50 index understanding exemplary performance
- Highlight best practices seen across an array of retailers

TOP PERFORMING RETAILERS DELIVER

50 retailers were divided into store-based retailers and those that didn't have a physical presence as neither group should be penalized for their channel presence. The top retailers listed below had strong scores in the 80's and 90's on a 100-point scale. Winning retailers ranged from traditional mass merchants to brands such as Coach and Clarins. The remaining represent specialty retailers who have strongly executed mobile shopping.

STORE-BASED RETAILERS (40)	NON-STORE RETAILERS (10)
Best Buy	QVC
Coach	Clarins
L.L. Bean	eBags
REI	
Walmart	

MOBILE EG M50

MOBILE MERCHANTS 2016

Amazon	Dick’s Sporting Goods	L.L. Bean	PetSmart	The Men’s Wearhouse
American Eagle Outfitters	DSW	Lancôme	QVC	The North Face
Apple	eBags	Lenovo	REI	Topshop
B&H	Foot Locker	Lowe’s	Saks Fifth Avenue	Tory Burch
Barnes & Noble	FTD	Macy's	Sears	Toys 'R Us
Best Buy	GAP	Neiman Marcus	Sephora	Urban Outfitters
Chico’s	Garnet Hill	Newegg	Staples	Victoria's Secret
Clarins	Helzberg Diamonds	Nordstrom	Steve Madden	Walgreen's
Coach	HSN	Office Depot	Target	Walmart
Crate&Barrel	JCPenney	PacSun	The Home Depot	Williams-Sonoma

MOBILE MERCHANTS 2015

Advance Auto Parts	Dick’s Sporting Goods	Kay	PetSmart	The Men’s Wearhouse
Amazon	eBags	Kohl’s	QVC	The North Face
American Eagle Outfitters	Estee Lauder	L.L. Bean	REI	Tory Burch
Apple	FTD	Lane Bryant	Saks Fifth Avenue	Toys 'R Us
Barnes & Noble	Finish Line	Lenovo	Sears	Ulta
Best Buy	Foot Locker	Lowe’s	Sephora	Urban Outfitters
Burberry	Gap	Macy's	Staples	Victoria's Secret
Coach	HSN	Neiman Marcus	Steve Madden	Walgreen's
Crate&Barrel	JCPenney	Nordstrom	Target	Walmart
Crutchfield	Kate Spade	Office Depot	The Home Depot	Williams-Sonoma

KEY PAGE PERFORMANCE

Retailers who achieved perfect or near perfect scores for these 4 pages are identified. Look for some of our favorites who are featured throughout the report. Not surprisingly, some retailers are listed for multiple pages, underscoring their key page contribution relative to their overall performance.

KEY PAGES	POTENTIAL POINTS	2016 AVERAGE	PAGE POINT THRESHOLD	RETAILERS MEETING POINT REQUIREMENTS
	20.00	**16.14**	**18.75**	
Home Page	5.00	4.00	5.00	QVC, Neiman Marcus, Nordstrom, American Eagle Outfitters, Tory Burch, Coach, Gap
Search Results	5.00	3.95	4.50	REI, Foot Locker, Sears, Walmart, L.L. Bean, Helzberg Diamonds
Product Page	5.00	4.29	4.75	QVC, Tory Burch, Foot Locker, Nordstrom, Chico's, Dick's Sporting Goods, Saks, Macy's, Lowes, Clarins, eBags
Shopping Cart	5.00	3.90	4.50	Macy's, Neiman Marcus, JCPenney, The Men's Wearhouse, Best Buy, Chico's, American Eagle Outfitters, Coach, Target, PetSmart, Office Depot

KEY TAKEAWAYS FROM A TASK PERSPECTIVE

The e-tailing group took a task-based approach in order to evaluate the shopping experience from the customer's perspective. A series of metrics that make up the study comprise each task with scoring weighted accordingly. Based on the individual scores, we have determined an excellence threshold that we felt retailers should strive to achieve. Those that met those levels are noted below. In every aspect of the shopping experience, there remains room for improvement. What becomes clear is mobile experiences are still a case of the "haves" and "have nots" where those that fall below the cracks must begin to emulate the behavior of those retailers who are investing heavily in this channel.

TASKS	POTENTIAL POINTS	2016 AVERAGE	EXCELLENCE THRESHOLD	RETAILERS REACHING EXECUTION THRESHOLD
Browse the Home Page	8.50	4.43	7.50	Lancôme, Walmart, Steve Madden, Sephora
Check For Product at Retail Store	12.00	5.76	12.00	Best Buy, Coach, REI, Nordstrom, Toys 'R Us, Urban Outfitters, JCPenney, Office Depot, Sears, Crate&Barrel, Staples
Find a Product	15.00	7.74	11.00	L.L. Bean, Sears, JCPenney, PetSmart, Garnet Hill, FTD, Tory Burch, Victoria's Secret, Foot Locker, Lowes
Research a Product	11.00	7.28	10.50	QVC, eBags, REI, Walmart, Dick's Sporting Goods, Clarins, Chico's, Tory Burch, Lowes
Buy a Product	26.00	14.26	19.75	Best Buy, Men's Wearhouse, Home Depot, Coach, American Eagle Outfitters, Tory Burch, Toys 'R Us, Newegg, Victoria's Secret, Target
Seek Customer Service	7.50	4.38	7.00	QVC, eBags, Chico's, Tory Burch, Lenovo, American Eagle Outfitters, Victoria's Secret

IV. Mobile Mystery Shopping Key Themes

Mobile Grows Up: Merchandising, Efficiencies, Transparency and Omnichannel Access Mature

MOBILE SITE EXPERIENCES SHOW STRENGTH SUPPORTED WITH STANDARDS AND CROSS-CHANNEL CAPABILITIES

Note: Assume any unidentified stats are 2016/2015 or TY/LY

Maturity is now seen in mobile where shopper comfort and satisfaction are more apparent. 80% of mobile sites received a resounding "Yes" to the question, "Does the mobile experience make me want to buy?" These positive sentiments can be attributed to many factors:

- Fewer errors were encountered this year (36% TY vs. 46% LY) as merchants improve site designs and perform mobile usability testing
- Mobile sites redirected visitors to their ecommerce counterpart during the shopping process less often (32%/42%)
- A link to the ecommerce site on the mcommerce site declined from 56% in 2015 to 48% in 2016 which suggests that with an improving mcommerce experience there's less interest in flipping between ecommerce and mcommerce on a mobile device

CONSUMER INSIGHT

Money matters as product pricing, free shipping and promotions rank in the top 5 when it comes to a desire for channel parity and consistency. In 2016, we looked at cross channel parity from a promotional standpoint given price's important role for shoppers and here we experienced a 2.77 out of 3.0 where 3.0 is on par, up slightly from 270 in 2015.

RETAILERS CAN MAKE CHOICES ABOUT DELIVERING SIMILAR OR DIFFERENT EXPERIENCES ACROSS ANY OR ALL CHANNELS. PLEASE NOTE WHAT YOU BELIEVE SHOULD BE CONSISTENT AND WHERE BEING DIFFERENT IS NOT AN ISSUE.

% = Consistent

98%	Product pricing
87%	Free shipping
86%	Product information (description, copy details, etc.)
83%	Branding, including overall look and feel
82%	Promotions offered
77%	Shopping cart including saved from all channels visited
77%	Product assortment
73%	Content (product images, video, guides, lookbooks, etc.)
72%	Shopping features and/or merchandising (top sellers, new arrivals, daily deals, etc.)
64%	Wishlists/Saved lists

Source: Astound Commerce 2016 Mobile Shopper Survey

A. Merchandising Enhancements and Operational Efficiencies

A look at some of the most important aspects of a mobile experience are charted below. Once again, search rises to the top given the customer's desire to quickly find products of interest. Filters and sorts take a strong third place showing as 57% receive a very important score. Several product page elements also score high including high quality images, which saw their share of challenges in the early mobile years, as they were very important to 6 in 10 shoppers. Reviews, long a customer favorite, were also cited by the majority at 49%.

CONSUMER INSIGHT

Search and product-related information are very important to the majority of shoppers.

HOW IMPORTANT ARE EACH OF THE FOLLOWING FEATURES TO A MOBILE SHOPPING EXPERIENCE?

% = Very Important

68%	Product search that provides relevant results
59%	High-quality product images
57%	The ability to filter and sort search results
49%	Product reviews
42%	Comprehensive customer service information
30%	Clickable phone number
30%	Category content (how-to guides, tips, etc.)
28%	Personalized product recommendations
25%	Video
23%	Merchandizing tactics that inspire you
19%	Trends, including lookbooks and themes

Source: Astound Commerce 2016 Mobile Shopper Survey

GAPS EXIST

Gaps exist between what is very important to shoppers and receipt of an "A" grade. Search and related functionality along with imagery see the greatest gaps.

HOW IMPORTANT ARE EACH OF THE FOLLOWING FEATURES TO A MOBILE SHOPPING EXPERIENCE?

HOW WOULD YOU GRADE EACH OF THE FOLLOWING BASED ON YOUR MOBILE SHOPPING EXPERIENCES ONLINE IN THE PAST THREE MONTHS?

	VERY IMPORTANT	"A" GRADE	GAP
Trends including lookbooks and themes	19%	19%	0%
Merchandising tactics that inspire you	23%	19%	4%
Video	25%	23%	2%
Personalized product recommendations	28%	23%	5%
Category content (how to guides, tips, etc.)	30%	24%	6%
Clickable phone number	30%	24%	6%
Comprehensive customer service information	42%	26%	16%
Product reviews	49%	34%	15%
The ability to filter and sort search results	57%	31%	26%
High-quality product images	59%	37%	22%
Product search that provides relevant results	68%	40%	28%

Source: Astound Commerce 2016 Mobile Shopper Survey

A-1. Merchandising Standards Emerge

Retailers have found winning merchandising models and even desktop is taking a "mobile first" approach to designing sites.

- More retailers understand the value expandable navigation provides in reducing page clutter and streamlining experiences (80%/52%)
- An expandable interface on the product page keeps limited real-estate succinct and uncluttered (90%/82%)
- The convenience of the back to top button is a no brainer, with 60% of sites offering, up from 46% last year
- View all at the search results level may not be as effective in the mobile environment where its usage declined (46%/54%)
- Merchandising tactics were seen on 100% of sites, a 19% increase up from 84% in 2015
- The effectiveness at which merchandising was deployed on mobile sites also saw improvement (2.32 TY vs. 2.13 LY) out of 3.0 where 3.0 is most effective
- While text is the standard for navigation, the growth of graphics helps create a more engaging environment

FEATURE	2016	2015
	% Penetration	% Penetration
Text/Navigation Links with No Merchandising	82%	66%
Home Page Graphics	94%	42%
Slide Show	42%	50%

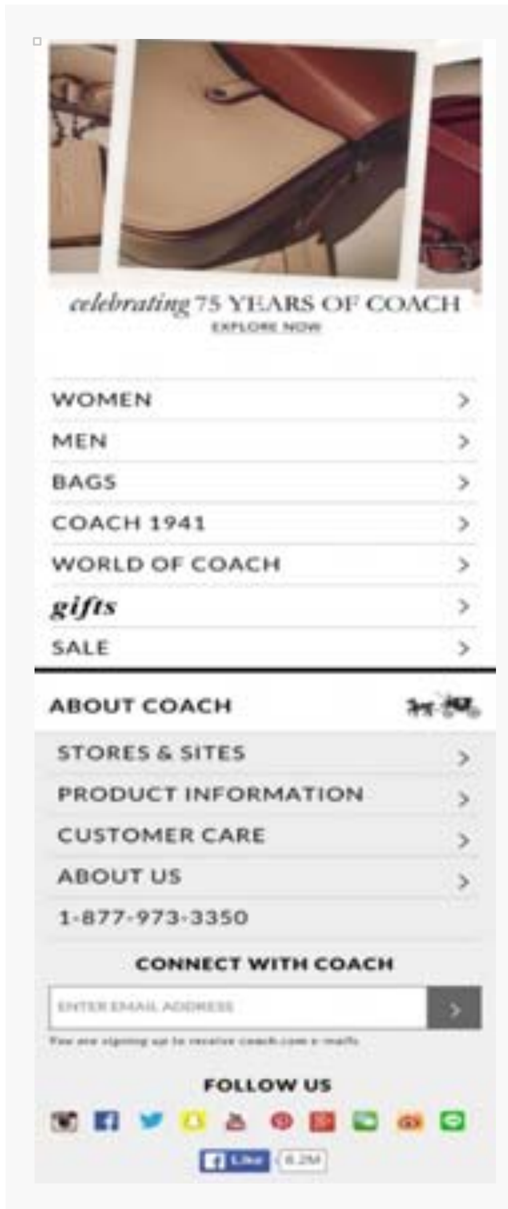
- Visual merchandising tactics increased as well by 45% from 66% to 96%. More sites used "New Arrivals" and "Top Rated" groupings to guide customers to featured products. Lookbooks further helped to entice shoppers as well.
- Visualization was also achieved via badging and navigation

METRIC	2016	2015
	% Penetration	% Penetration
Visual Merchandising	96%	66%
Badging	72%	62%
Merchandising Within Navigation	72%	58%

- Sites that recommended products beyond the product page were up (48%/36%) which is a step in the right direction for increasing the average order size.

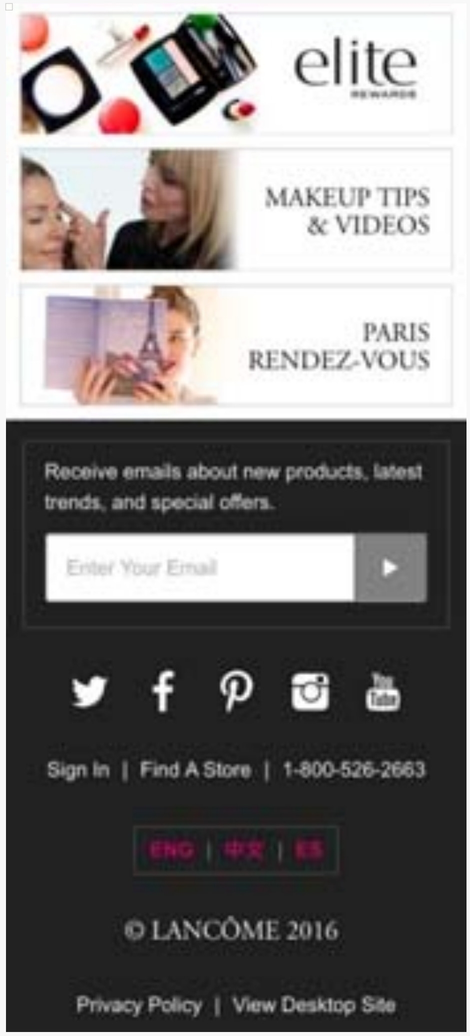
VISUAL MERCHANDISING SHOWCASE

A holistic home page experience is critical to capturing the consumer's attention. This first impression must contain a mixture of branding, merchandising and customer service and should be a snapshot of the shopping experience to come. Knowing one's base and breadth of assortment suggests varying approaches.



FEATURES

- New Arrivals
- Links to "Get the Look"
- Expandable Text Navigation
- Customer-Centric Footer



FEATURES

- Seasonal Promotion
- Multi-Language Options
- Category-Merchandising
- Special Offers
- Tips And Videos
- Email Name Capture
- Comprehensive Footer

A-2. Search and Navigation Steadily Evolves To Support Shopper Efficiency Requests

SEARCH EXPERIENCE EFFICIENCIES

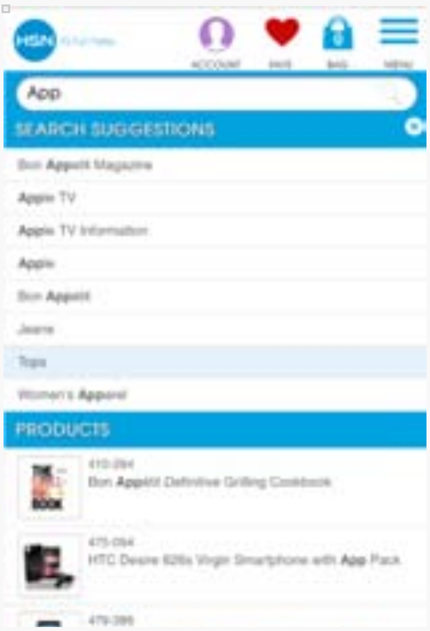
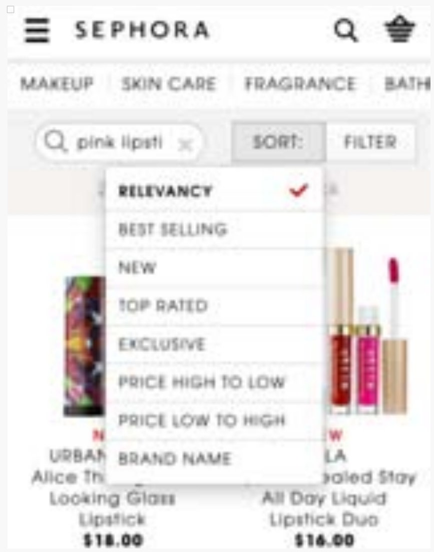
- Back to top gets shoppers quickly to where they wish to navigate (46% vs. N/A) Categories are visualized within the body of the home page increased (68%/56%) making it more efficient to quickly access areas of interest with fewer click-throughs
- The # of clicks from the main category to the product increased from 3.94 to 3.61. While initially this may seem counterintuitive, it actually has served as an efficiency model. Categories/subcategories are better segmented, so even though you'll have an additional click or 2 to find the item of interest, once you get there the # of items you have to sort through are minimal and mostly relevant
- Keyword search accessibility via an open navigation sees gradual growth (56%/52%)
- Type ahead tools head towards universal adoption (90%/82%)
- Visual search was only seen on 1 site in the EG M50 (Neiman Marcus), but has potential for tremendous growth

FILTERS AND SORTS SEE SLIGHT IMPROVEMENT THOUGH OPPORTUNITIES FOR CONSISTENCY IMPORTANT

	2016	2015
Filter Search Results	96%	90%
Expandable Filter Results	98%	80%
#/Type of Filters Shown Consistent on mcommerce	66%	64%
#/Type of Sorts Consistent with mcommerce	82%	88%

SEARCH RESULTS RELEVANCY AND CONSISTENCY ACROSS CHANNELS WERE UP ACROSS THE BOARD

	2016	2015
Descriptive Phrases		
Same Results - Mcommerce & Ecommerce	87%	82%
First Page Relevancy (1-5 where 5 is relevant)	4.78	4.53
Misspelled Phrases		
Same Results - Mcommerce & Ecommerce	89%	81%
First Page Relevancy (1-5 where 5 is relevant)	4.35	3.99

TYPE AHEAD	EXTENSIVE SORT OPTIONS	VISUAL SEARCH
		

A-3. Streamlined Shopping Carts Pave the Way for Conversion

CONSUMER INSIGHT

- Over 4 in 10 mobile users make at least 4 purchases in an average month
- 23% are mobile dependent making 7+
- Almost half of shoppers spend over 10 minutes when completing an online transaction

THINKING BACK TO THE PAST FEW MONTHS, APPROXIMATELY HOW MANY MOBILE PURCHASES DID YOU MAKE IN AN AVERAGE MONTH?

% = Respondents

12%	Ten or More Mobile Purchases Per Month
11%	7-9 Mobile Purchases Per Month
21%	4-6 Purchases Per Month
26%	2-3 Purchases Per Month
16%	1 Purchase Per Month
14%	None

Source: Astound Commerce 2016 Mobile Shopper Survey

HOW MUCH TIME DO YOU TYPICALLY SPEND ON A MOBILE SHOPPING EXPERIENCE, INCLUDING CHECK OUT?

% = Respondents

17%	Greater than 20 minutes
28%	11-20 minutes
34%	5-10 minutes
21%	Less than 5 minutes

Source: Astound Commerce 2016 Mobile Shopper Survey

CART DYNAMICS FOR TOP RETAILERS

For those retailers that received the highest rating or a "3.0" for their checkout process their choice of cart tactics are illustrated below. Clicks to checkout ranged from 3 to a high of 7. The majority had a stepped checkout where collapsible carts were only found on 3 of these retailers. We are also pleased to report that one click checkout is growing in adoption as this list suggests.

	SHARED CART	PRE-POPULATED CUSTOMER INFO UPON SIGN IN	ONE CLICK CHECKOUT	DELINEATED/ STEPPED CHECKOUT	COLLAPSIBLE CART	# OF CLICKS TO CHECKOUT
American Eagle Outfitters	Y	Y	Y	Y	Y	4.00
Barnes & Noble	Y	Y	Y	N	N	5.00
Best Buy	Y	Y	Y	Y	Y	5.00
Coach	Y	Y	Y	Y	N	5.00
Crate & Barrel	Y	Y	N	N	N	5.00
FTD	N	Y	N	Y	N	4.00
JCPenney	Y	Y	Y	Y	N	4.00
Lancôme	Y	Y	N	Y	N	5.00
Macy's	Y	Y	Y	Y	N	4.00
Neiman Marcus	Y	Y	Y	Y	N	4.00
Newegg	N	Y	Y	Y	N	5.00
Staples	Y	Y	Y	N	N	4.00
Steve Madden	Y	Y	N	Y	Y	5.00
Target	Y	Y	Y	Y	Y	5.00
The North Face	Y	Y	N	Y	N	5.00
Topshop	Y	Y	Y	Y	N	5.00
Tory Burch	Y	Y	N	Y	Y	5.00

Merchants are offering alternative payment options more often (84%/80%) with the largest player being PayPal (88% of those who offer alternative payment options). Additionally, a first time stat in our research finds access to loyalty/rewards points "very important" to almost the majority of shoppers beating out other formidable answers such as the ability to buy online pickup in store.

CONSUMER INSIGHT

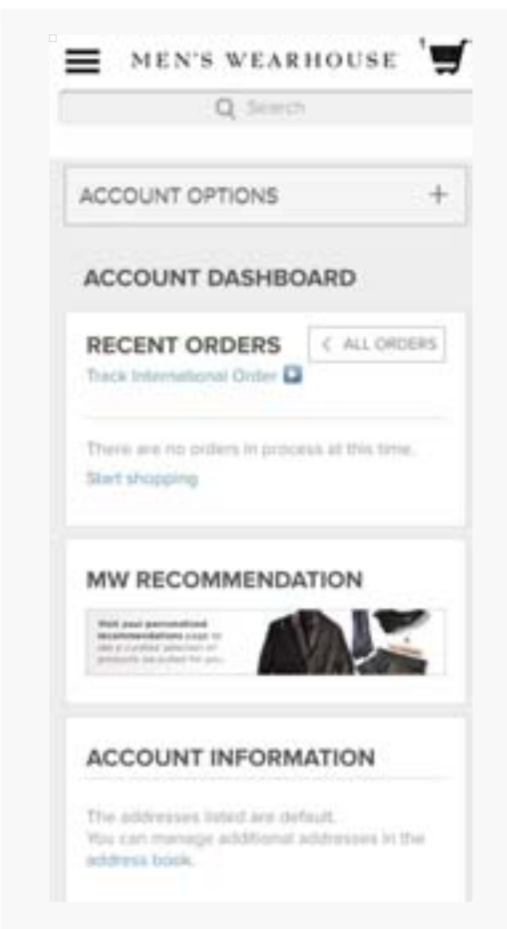
- Alternative payments plays to speed
- Convenience comes in many forms starting with buy online for pick up in store
- Time-savings means pre-populated information and one click express checkout

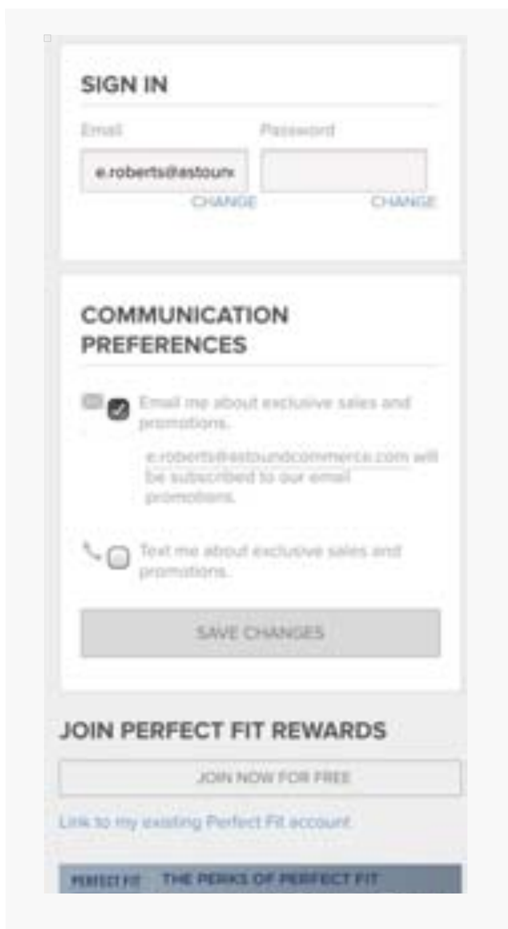
WHEN YOU THINK ABOUT COMPLETING A TRANSACTION ON A MOBILE DEVICE, HOW IMPORTANT ARE EACH OF THE FOLLOWING IN AIDING THAT EFFORT?

% = Respondents

48%	Access to loyalty/rewards points
46%	Ability to buy online for pick up in store
45%	Alternative payment options
41%	Multiple shipping options
39%	One click or express checkout
32%	Pre-populated profile information

Source: Astound Commerce 2016 Mobile Shopper Survey





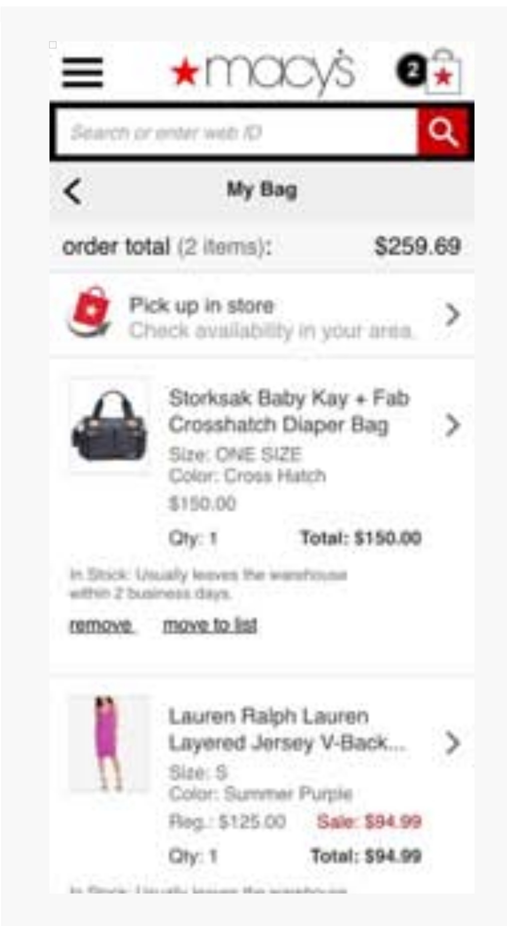
FEATURES

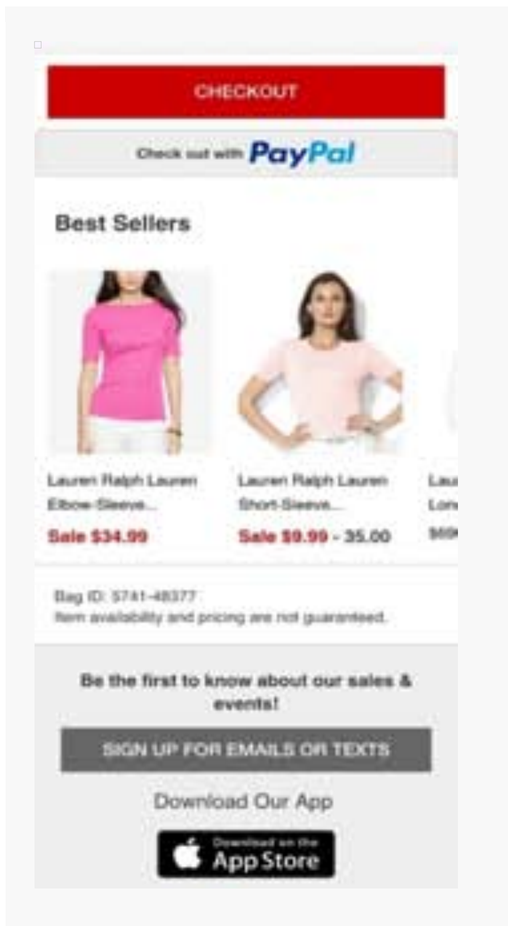
- Order History
- Personalized Recommendations
- Perfect Fit Rewards

RETAIL CART RESULTS REVEALING

Cart changes have important implications for conversion given high abandonment statistics. The checkout process rating took a dip in 2016 due in part to more clicks to checkout though we believe universal pre-populated information and a trend towards 1-click checkout will ultimately foster a superior experience. Additionally, the more than doubling of collapsible cart formats is also inspiring, though ensuring layouts clearly delineate steps would also be a plus.

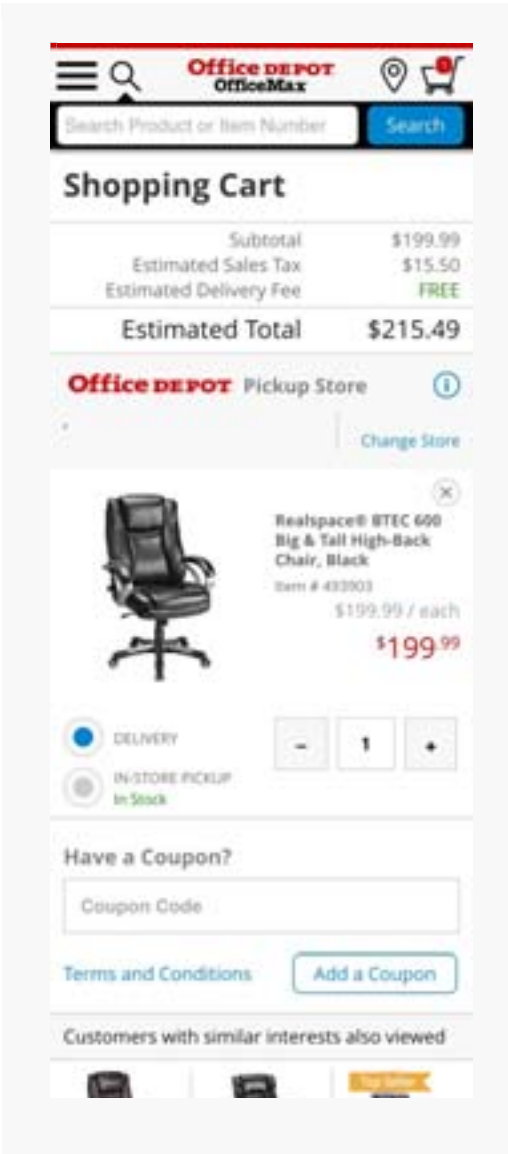
	2016	2015
Rating Of Checkout Process (1-3) Where 3.0=Flawless/Effortless	2.68	2.75
1 Click Checkout	62%	60%
# Clicks To Checkout	5.56	5.28
Pre-Populated Customer Information	100%	100%
Collapsible Cart	38%	18%

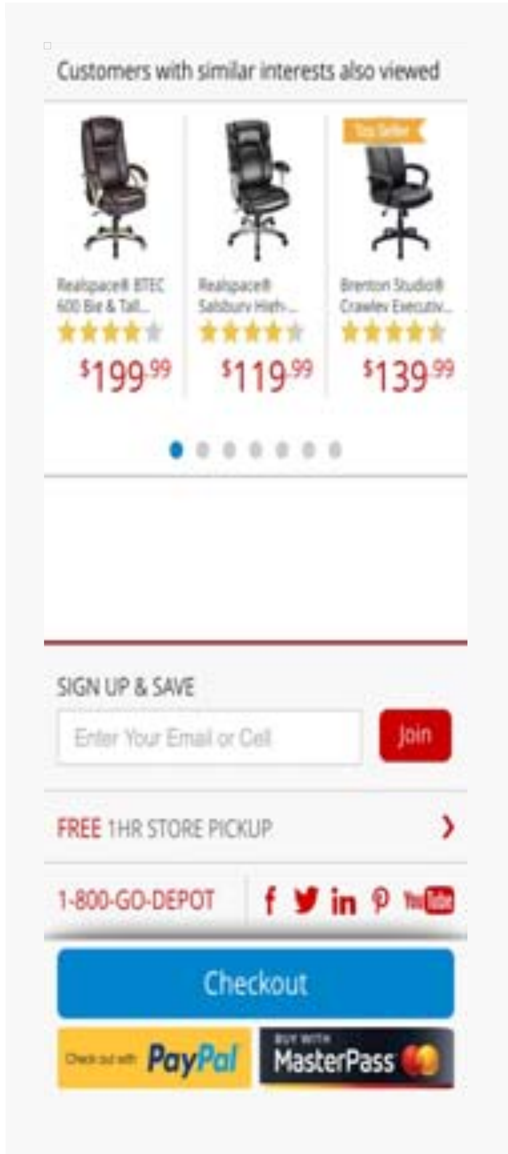




FEATURES

- Loyalty Points
- Wallet
- App Promotion
- PayPal
- Pickup In Store Product Availability
- Ability to Save Items to a List





FEATURES

- Alternative Payments
- In Store Pickup
- Stock Status
- 1 Hour Pickup Promoted
- Recommendations

B. Information Intelligence

Customer expectations around content start with the product page. Shoppers need complete information to make smart decisions. One's category can then dictate the scope and format of information that should be provided.

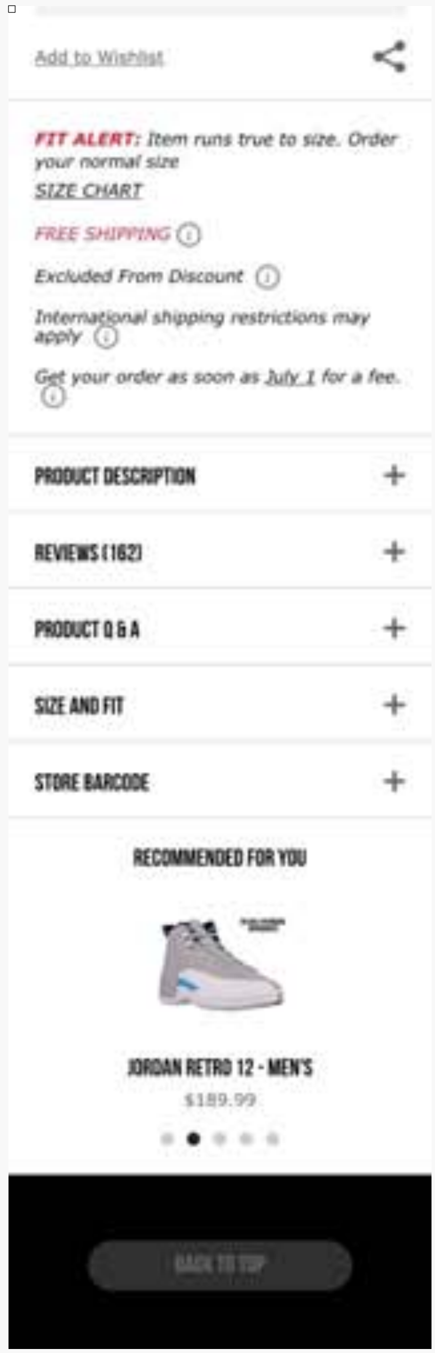
B-1. Robust Product Pages Are Pivotal to Customer Decision-Making with Carefully Crafted Refinements

- Product page parity gained ground as product images were the same on 93% of sites (compared to 88% in 2015) as was product content (66% of sites up from 50% last year)
- The depth of product information, relative to the desktop, also advanced (2.90 TY vs. 2.85 LY) out of 3.0 as retailers arm shoppers with more product details necessary to make an informed purchase decision
- Product page guides and videos were the same on 72% of sites, no matter what channel was shopped
- Product zoom is enabled more often (82%/74%) and doesn't make shoppers rely on the phone's zoom technology- which only enlarges image rather than zooming in on specific areas

CONSUMER INSIGHT

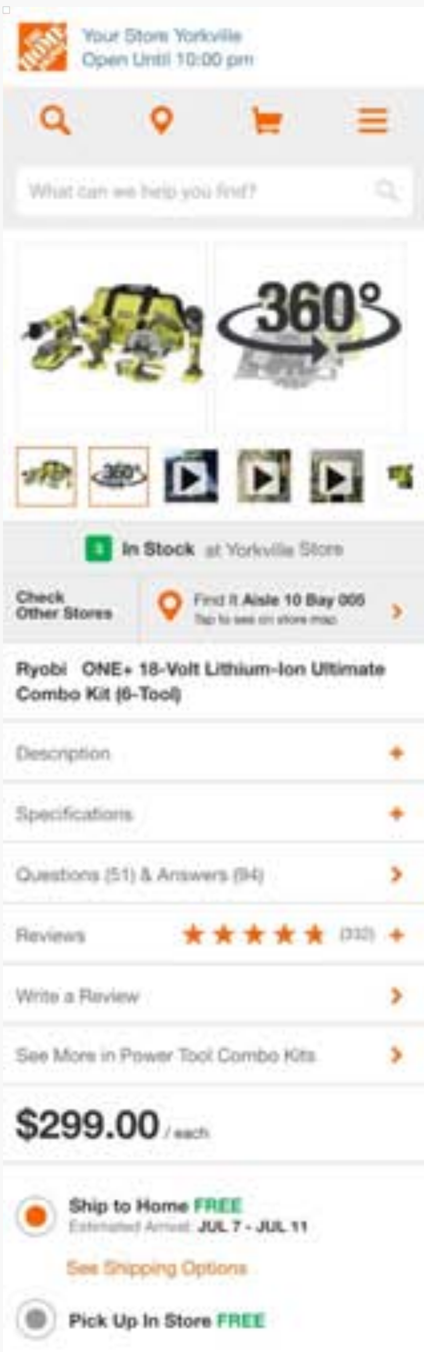
Content enhancement supports a richer experience where tools were expanded except for product page sharing

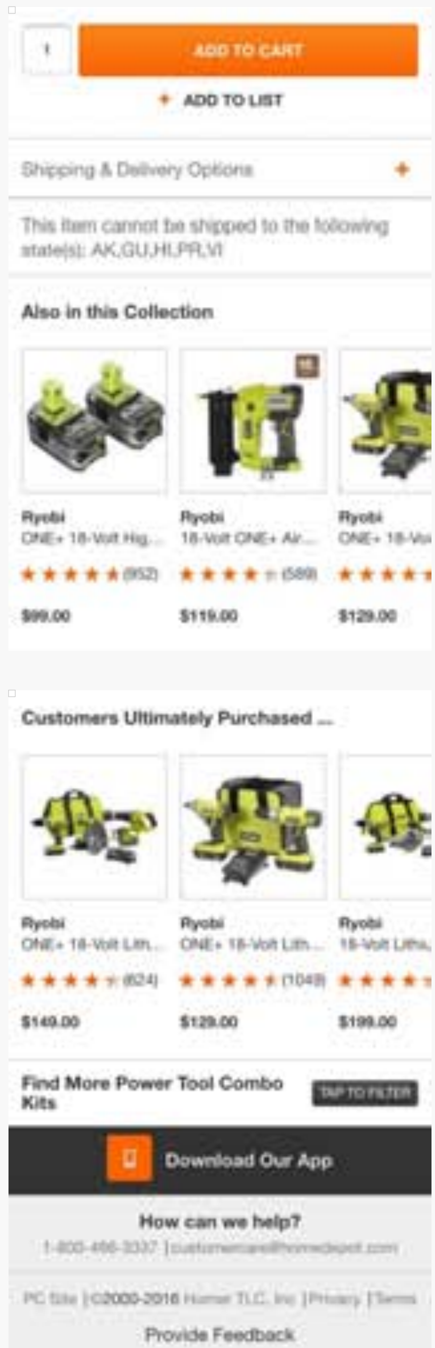
	2016	2015
Product Zoom	82%	74%
Alternative Views	98%	94%
Recommended Products	92%	90%
Guides and How-To's Same on Ecommerce	72%	54%
Guides and Videos	38%	34%
Reviews/ Ratings	92%	92%
Ability To Sort Ratings/Reviews on Mcommerce Site	87%	78%
Sharing	70%	78%



FEATURES

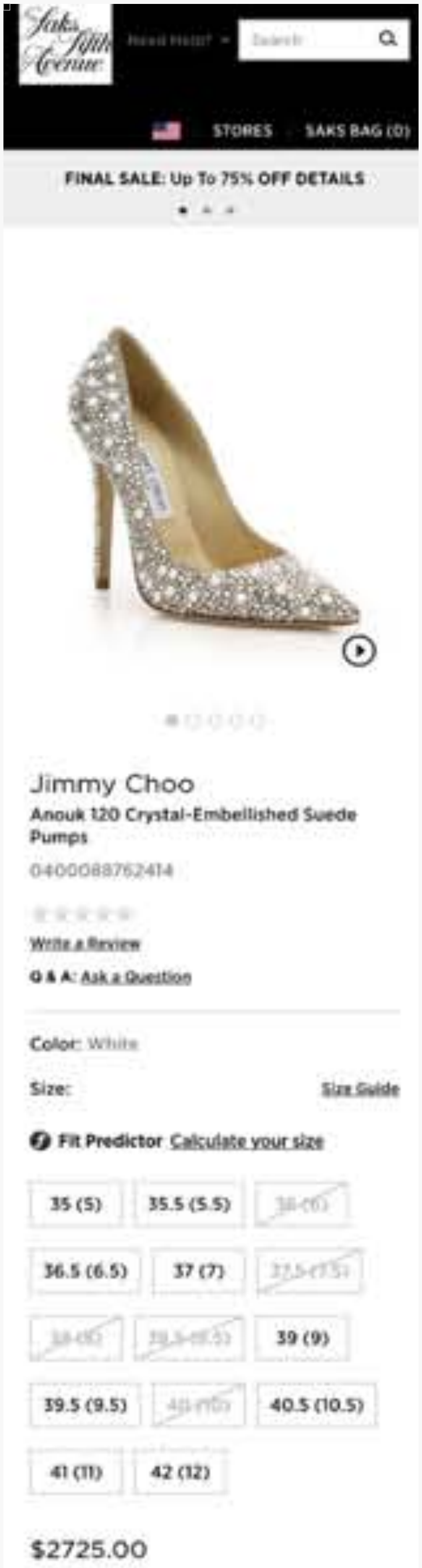
- Expandable Product Details
- Add to Wishlist
- Recommendations
- Delivery Timing

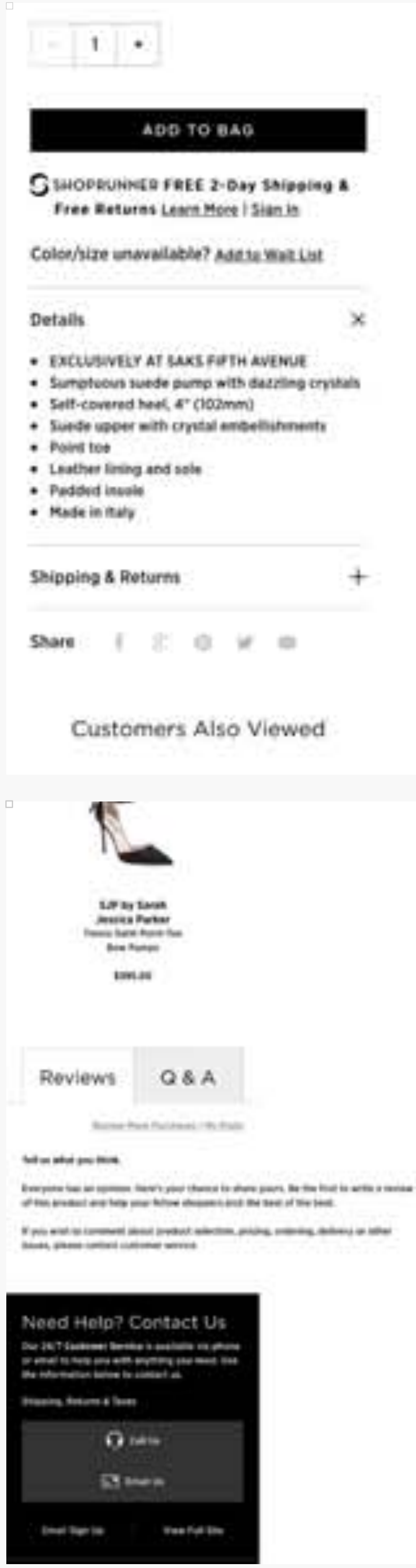




FEATURES

- 360-Degree Spin
- Product Page Video
- In-Store Product Locator
- Recommendations
- App Promotions
- Free Ship to Home with Arrival Timeframe Included





FEATURES

- Real-Time Inventory
- Back In Stock Notifications
- Add to Wishlist
- Reviews
- Q&A
- Customer Service Contact Information

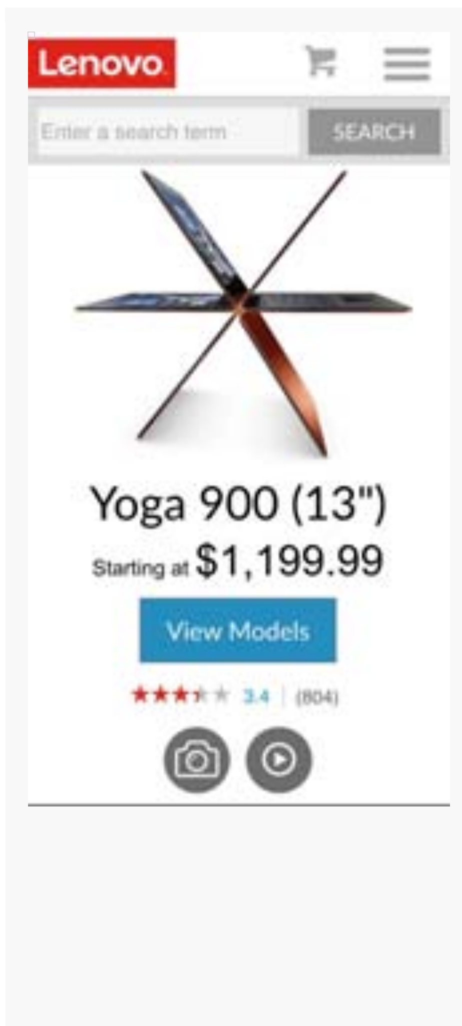
B-2. Focused Content Enhancements Support Category Demands

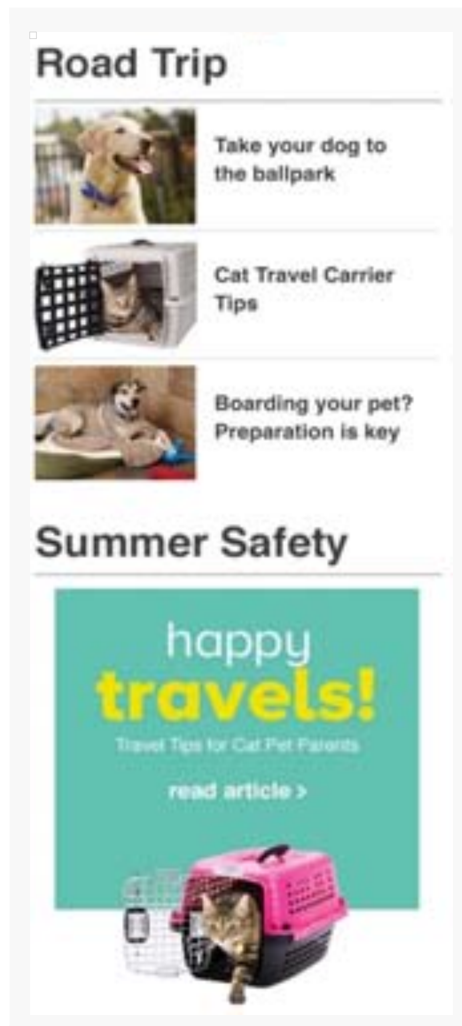
An increase in non-product content also helped to provide an improved shopping experience.

- Increased number of guides/tips (44%/36%) which is more on par with ecommerce
- Greater depth of merchants providing video within the mobile experience for better engagement (80%/68%)
- Greater ability to view video on mobile site without being redirected away (98%/88%)

CONTENT SHOWCASE

HOW-TO GUIDES & VIDEO





C. Omnichannel Transparency Prevails

The goal for many shoppers is simply to connect with retail stores. Having the capabilities in place to facilitate a swift in-store experience means making investments in omnichannel. Three out of four consumers express that omnichannel capabilities such as buy online and pickup in store, the ability to access inventory across channels and same day delivery are factors in retailer selection. Many might argue that in fact, the ability to tap into store inventory is now viewed as a fundamental right among shoppers. 1 in 3 shoppers always considers in-store fulfillment, inventory access & same day delivery when selecting a retailer. Knowing what to expect and thus making a smart choice of a merchant bodes well for more positive shopping outcomes at retail. Though this requires an investment in technology and systems, these elements are essential for long-term omnichannel success.

CONSUMER INSIGHT

- The store locator is key to making the cross channel connection
- Mobile shoppers are time sensitive as half find knowing the time frame they can pick up important

HOW IMPORTANT ARE THE FOLLOWING CROSS-CHANNEL FEAURES?

% = Very Important

57%	Store locator that includes nearby locations, mapped directions, hours and contact information
50%	Time frame in which a product can be picked up
46%	Ability to know that product is in stock but not necessarily the # of units in a given store
46%	Option to see availability of a product by # units in a given store
44%	Ability to see product availability across multiple stores
38%	Shared cart that allows you to access items from your desktop and mobile activity
35%	Store mapping with detailed information of where in a store a desired item is found (aisle, bin, etc.)
32%	Shared wishlist/Saved list from any of the channels you visited

Source: Astound Commerce 2016 Mobile Shopper Survey

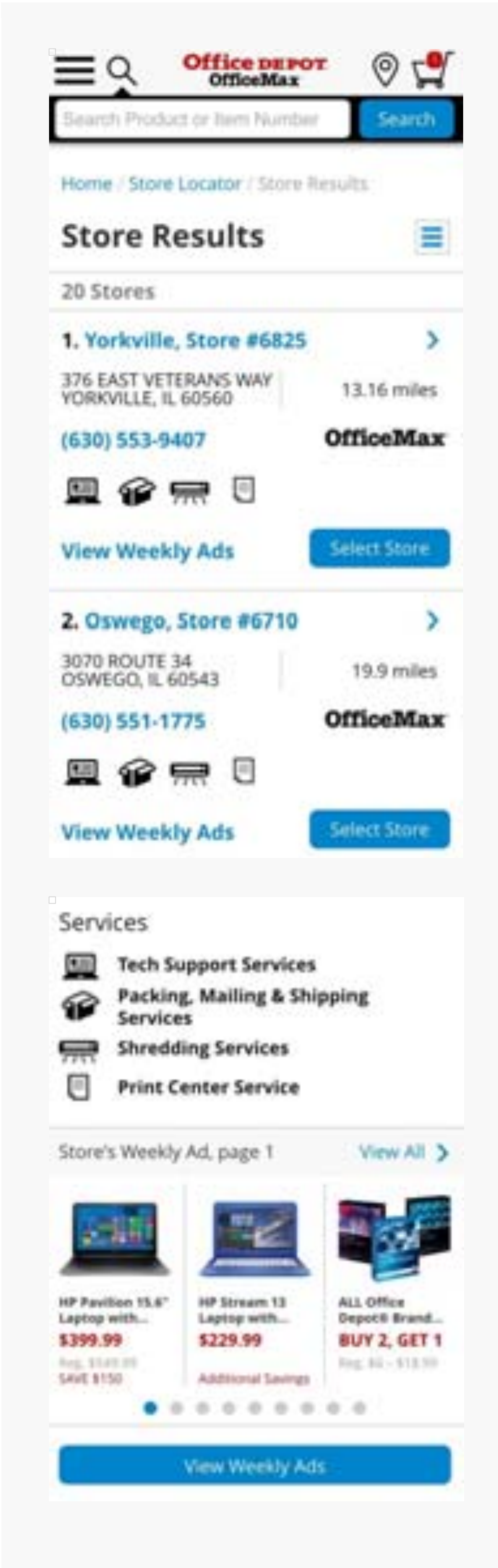
C-1. In-Store Product Access Powered By Information

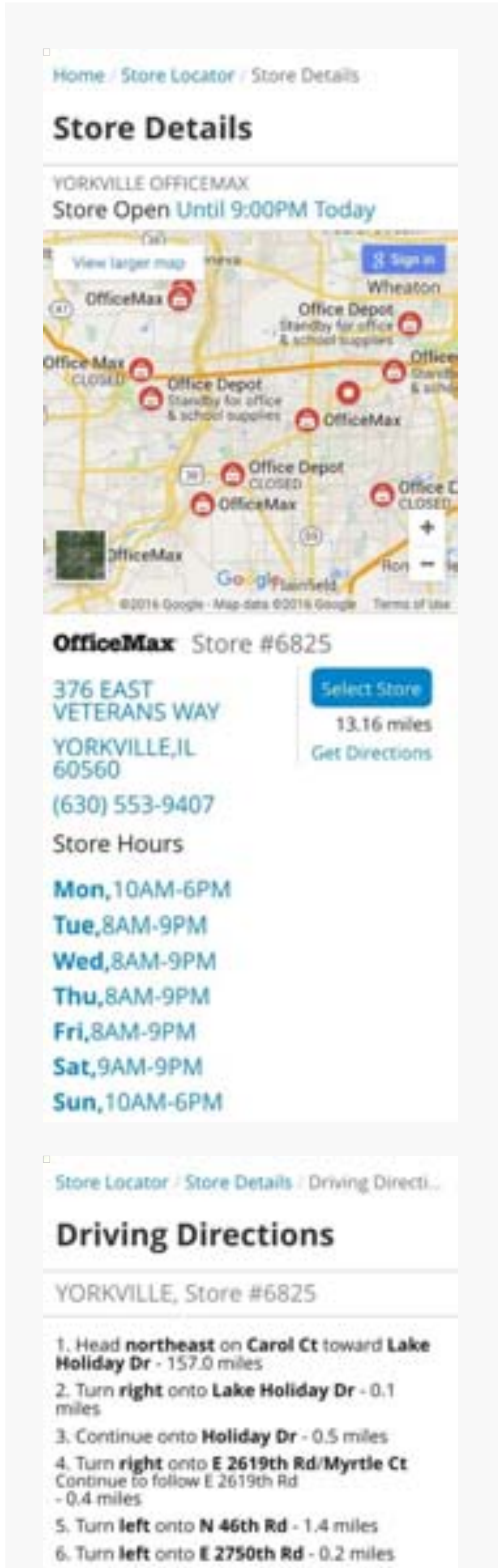
Store locators are relatively mature at this point and reveal very little change in year over year functionality where the quality is a 4.43 vs. 4.42 last year on a 5-point scale.

RETAIL LOCATORS SMARTLY SERVICE SHOPPERS

The following 14 retailers delivered perfect scores where all the essential ingredients were part of the experience. Shoppers could customize their locations, search by zip or city and the details were also delivered including directions, maps, store hours and a clickable phone #. Except for American Eagle Outfitters they also incorporated stores features and services for further customization.

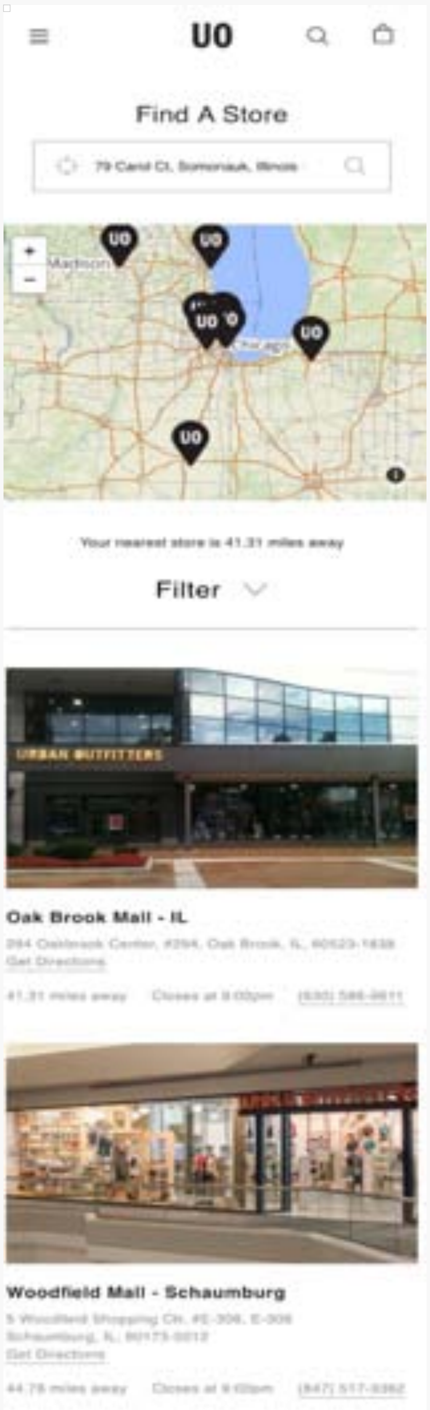
	QUALITY OF RETAIL LOCATOR	GEO-LOCATOR	DIRECTIONS	MAP	STORE HOURS	CLICKABLE STORE PHONE #	STORE FEATURES/ SERVICES
American Eagle Outfitters	5.00	Y	Y	Y	Y	Y	N
Barnes & Noble	5.00	Y	Y	Y	Y	Y	Y
Best Buy	5.00	Y	Y	Y	Y	Y	Y
Neiman Marcus	5.00	Y	Y	Y	Y	Y	Y
Nordstrom	5.00	Y	Y	Y	Y	Y	Y
Office Depot	5.00	Y	Y	Y	Y	Y	Y
REI	5.00	Y	Y	Y	Y	Y	Y
Sephora	5.00	Y	Y	Y	Y	Y	Y
Staples	5.00	Y	Y	Y	Y	Y	Y
Steve Madden	5.00	Y	Y	Y	Y	Y	Y
The North Face	5.00	Y	Y	Y	Y	Y	Y
Urban Outfitters	5.00	Y	Y	Y	Y	Y	Y
Walgreens	5.00	Y	Y	Y	Y	Y	Y
Walmart	5.00	Y	Y	Y	Y	Y	Y





FEATURES

- Directions
- Hours
- Weekly Ad
- Phone Number
- Services Via Icons
- Distance From Geolocation



FEATURES

- Directions
- Hours
- Store Events
- Social Community

One of the critical components of mobile is its ability to connect to retail. Merchants who make extensive investments in transparency are well positioned to take advantage of the heightened omnichannel activity that our research suggests.

CONSUMER INSIGHT

- 6 out of 10 shoppers check local product availability at least 3X a month
- 4 in 10 shoppers have checked 4+ times

HOW MANY TIMES OVER THE PAST 3 MONTHS HAVE YOU ELECTED TO USE YOUR MOBILE PHONE TO CHECK THE AVAILABILITY OF A PRODUCT AT A LOCAL STORE?

% =	
27%	One time over the past three months
16%	Twice over the past three months
18%	Three times over the past three months
15%	Four times over the past three months
9%	Five times over the past three months
15%	Six times over the past three months

Source: Astound Commerce 2016 Mobile Shopper Survey

CONSUMER INSIGHT

- 2 out of 3 shoppers have completed a buy online pickup in store transaction in the past 3 months
- 1 in 4 have done at least 4 in store pickups

HOW MANY TIMES OVER THE PAST 3 MONTHS HAVE YOU MADE A PURCHASE ON YOUR MOBILE DEVICE AND PICKED IT UP AT A PHYSICAL STORE?

% =	
12%	Five or more times over the past three months
13%	Four times over the past three months
15%	Three times over the past three months
13%	Twice over the past three months
11%	One time over the past three months
36%	Never

Source: Astound Commerce 2016 Mobile Shopper Survey

CONSUMER INSIGHT

- Over 80% of shoppers pick up products same day
- 44% pick up within 2 hours

HOW QUICKLY DO YOU TYPICALLY PICK UP YOUR PRODUCT IN THE STORE, IF YOU ARE NOTIFIED THAT THE PRODUCT IS AVAILABLE FOR IMMEDIATE PICK UP?

	PERCENT
Within an hour	18%
1-2 hours	26%
Same day	38%
2-4 days	15%
5+ days	3%

Source: Astound Commerce 2016 Mobile Shopper Survey

STORE PICKUP AND LOCATOR MODELS

A quick overview of models and capabilities for those retailers that have inventory transparency (in-store product locators) in place reveals a range of services.

	IN-STORE PRODUCT LOCATOR	STORE PICKUP	STORE RESERVE
American Eagle Outfitters	Y	N	Y
Apple	Y	Y	N
Barnes & Noble	Y	N	Y
Best Buy	Y	Y	N
Chico's	Y	N	N
Coach	Y	Y	N
Crate & Barrel	Y	Y	N
Dicks Sporting Goods	Y	Y	N
DSW	Y	Y	N
Gap	Y	N	Y
Helzberg Diamonds	Y	Y	N
Home Depot	Y	Y	N
JCPenney	Y	Y	N
LL Bean	Y	Y	Y
Lowes	Y	Y	N
Macy's	Y	Y	N
Neiman Marcus	Y	Y	N
Nordstrom	Y	Y	N
Office Depot	Y	Y	N
PetSmart	Y	Y	N
REI	Y	Y	N
Saks	Y	N	N
Sears	Y	Y	N
Sephora	Y	N	N
Staples	Y	Y	N
Steve Madden	Y	N	N
Target	Y	Y	N
The Men’s Wearhouse	Y	N	Y
The North Face	Y	Y	N
Toys R Us	Y	Y	N
Urban Outfitters	Y	Y	N
Walgreen’s	Y	N	N
Walmart	Y	Y	N

PRODUCT LOCATORS ARE INFORMATION POWERHOUSES

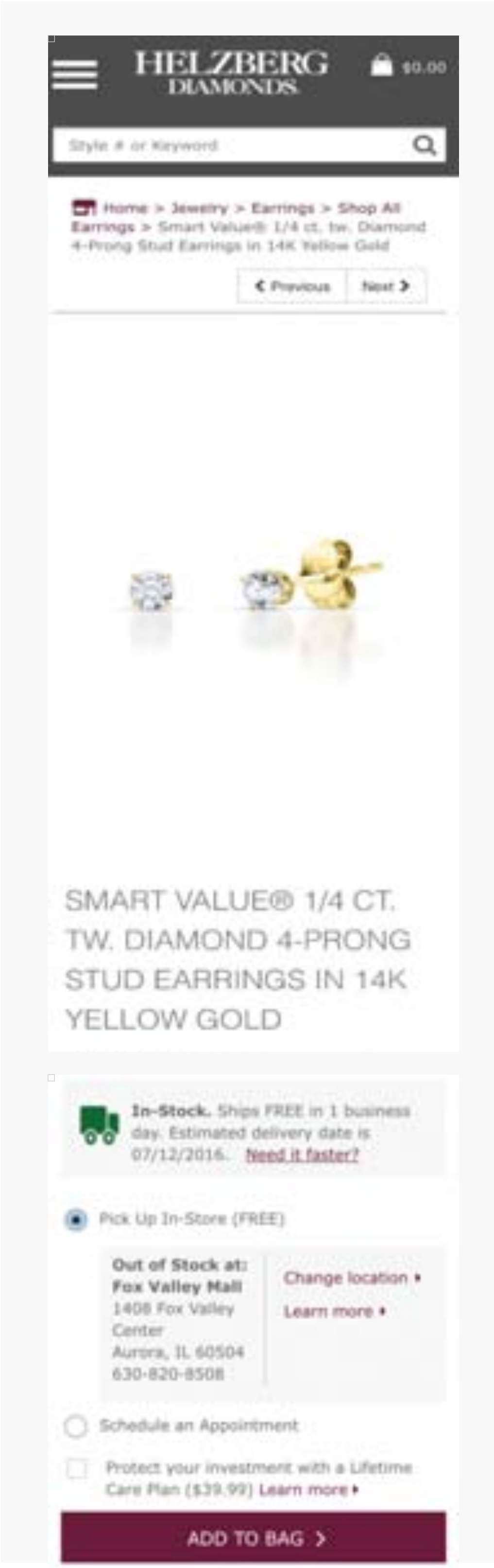
- A look at the product locator for the first time reveals a focus on transparency that supports shopper needs throughout the buying cycle
- Opportunities to further expose all information can be seen with hours of operation and mapping
- The pickup timeframe should be present on every site though the same day availability at 68% coupled with a 1-hour timeframe (18%) is impressive

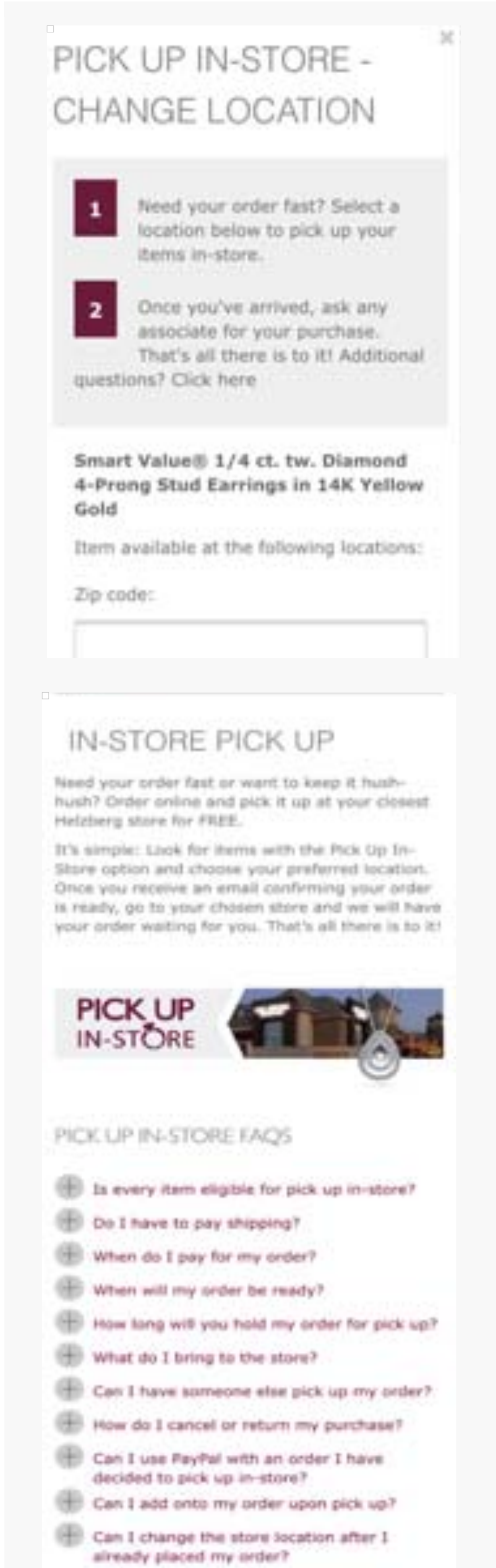
Retail Stores - Based on 40 Merchants	**2016**
In-Store Product Locator	83%

Product Locator Store Information - Based on 33 Merchants	
In-Store Mapping By Aisle/ Location	9%
Store Details Provided	97%
Hours Of Operation	67%
Distance From Geolocation	73%
Phone Number	88%
Google Map	33%
Geolocation	85%
Inventory Shown (In-Stock/ # Units)	88%
Store Option Visibility	100%
- Preferred Store Only	6%
- Multiple Store Locations Shown	94%

Pick Up Time Frame - Based on 29 Merchants **(For Stores with Pickup and Reserve Capabilities)**	
List Time Frame for Pick Up*	76%
1 Hour	18%
Same Day	68%
Next Day	0%
2-7 Days	18%

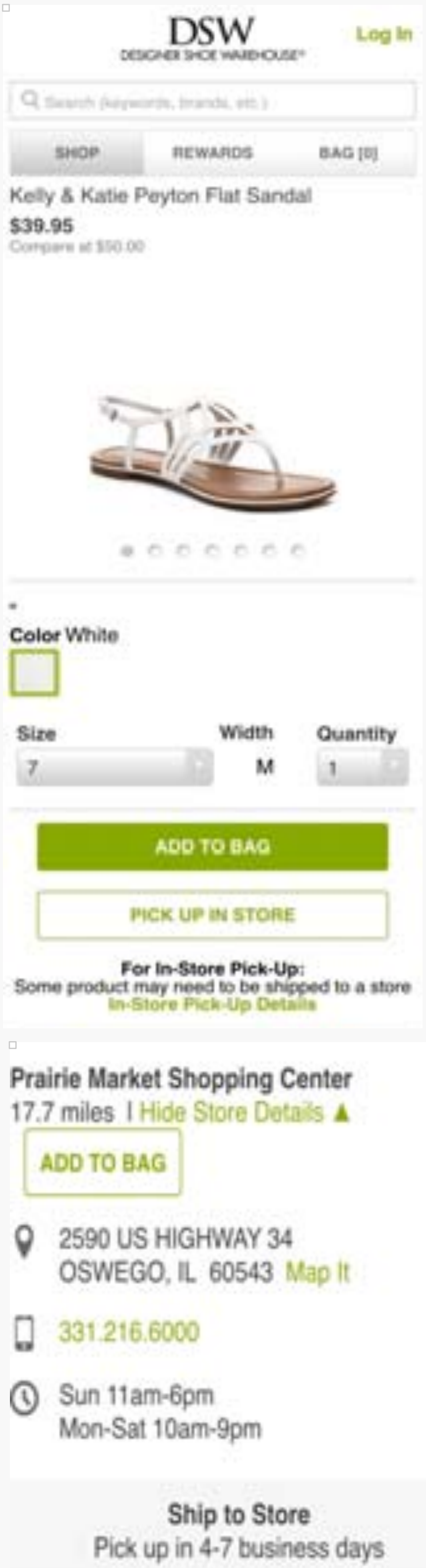
**Note: some stores have two models in play, so multiple time frames are seen*

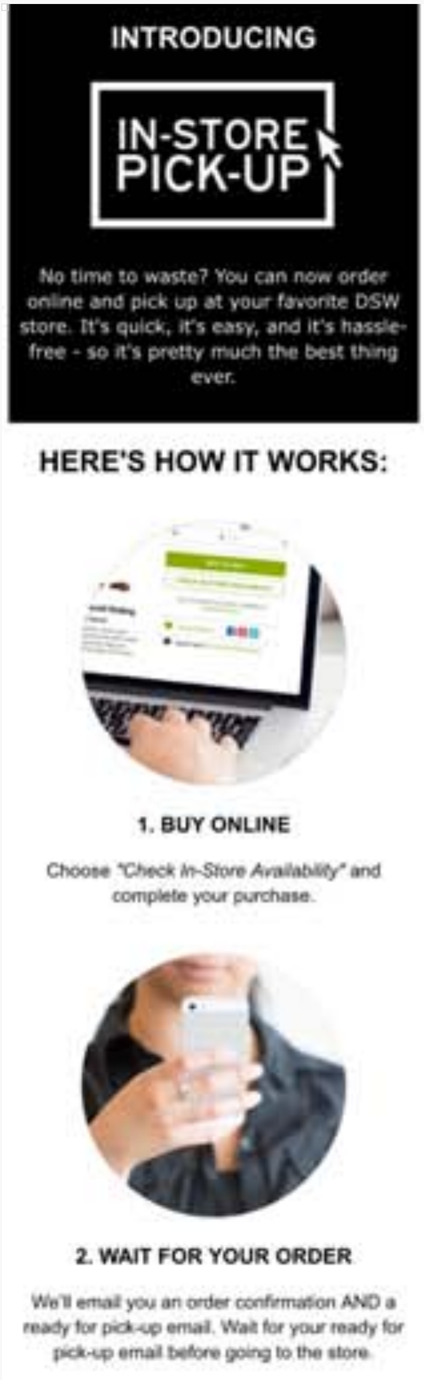




FEATURES

- Pickup in Store
- Schedule an Appointment
- Multi-Store Selection
- Pickup in Store FAQs





FEATURES

- In Store Pickup
- Delivery Time
- Store Hours
- Phone Number
- How It Works

C-2. Cross-Channel Tools Ensure Customer Convenience

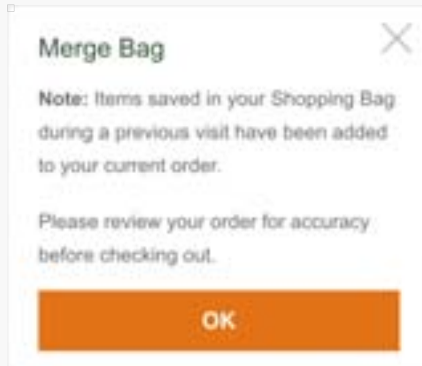
MY ACCOUNT TOOLS FACILITATE CHECKOUT

Consumers spend time building and maintaining profiles. Access across channels is more important than ever before. Shoppers wish to set up one account with access across all channels they visit including an edit capability. The option to create and save a wish list is fundamental to one's profile. With shared carts in place, shoppers can easily move from one channel to another and accomplish their goals. Merchants finally understand the benefits of a seamless omnichannel experience as increases in the following metrics indicate:

- More merchants provide a my account area (90%/86%) and 100% of merchants now provide the ability to create an account within the mcommerce platform (versus 96% LY)
- Storing information across channels reveals interesting findings

METRIC	2016	2015
Ability To Create List/Save Items on ecommerce Site	94%	90%
Retrieve Shopping List/Saved Items on mcommerce Site (based on 47/45 sites where lists can be created)	85%*	82%*
Mcommerce Ability to Save Items/Save Entire Cart	62%	54%
Shared Cart	92%	84%

**Subset of 100 sites*



FEATURES

- Shared Cart
- Merge Bag Popup

Other indicators that infer retailers are attempting to present a holistic front along with challenges are noted below.

- Mobile apps promoted on 74% vs. 82% of those retailers with apps
- Of those retailers that had blogs on their ecommerce sites, they can also be found 56% of the time on their mobile sites (vs. 50% LY)
- Access to social channels is especially important in mobile with links to social networking sites consistent at 66%

METRIC	2016	2015
Dedicated Customer Service Destination	92%	94%
Phone Number Visible/Clickable On Home Page	52%	52%
Accessibility Of Toll-Free # (1-3 3=Most Accessible)	2.26	2.38
Live Chat	36%	32%

CONSUMER INSIGHT

- Almost half of shoppers (45%) have contacted a retailer from their mobile device
- Voice and email contacts drive engagement
- 1 in 3 use text or live chat

THINKING ABOUT ALL THE TIMES YOU'VE CONTACTED A RETAILER FROM YOUR MOBILE DEVICE, PLEASE INDICATE WHICH CONTACT METHODS YOU'VE USED. (SELECT ALL THAT APPLY)

% = Methods Used by Respondents	
56%	Voice call
54%	Email
33%	Live Chat
31%	Text Message
26%	Social Media (Twitter, Facebook, etc.)

Source: Astound Commerce 2016 Mobile Shopper Survey

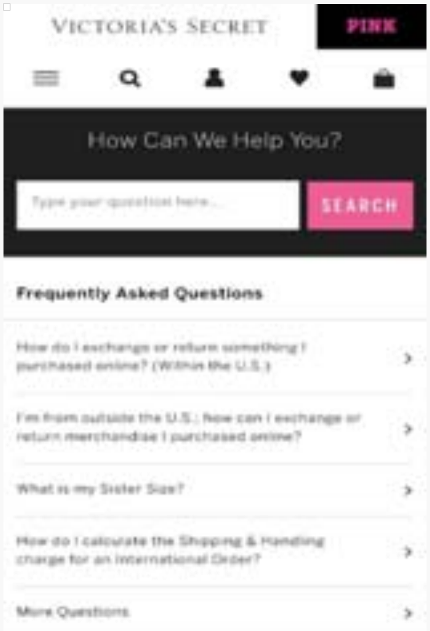
CONSUMER INSIGHT

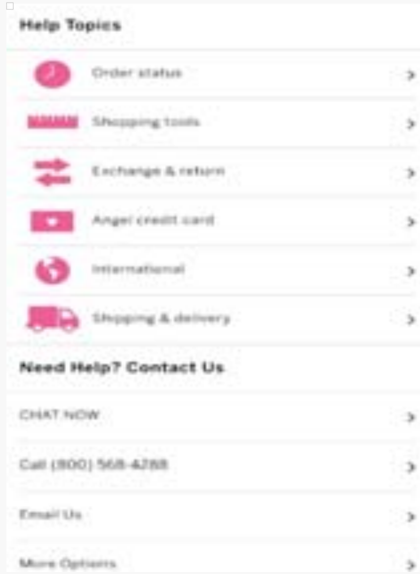
- Shoppers give high marks to customer service interaction
- 86% score a B or higher

HOW WOULD YOU GRADE YOUR PAST CUSTOMER SERVICE INTERACTIONS WITH RETAILERS VIA MOBILE DEVICES?

% = Grade Given By Respondents	
42%	Grade of "A"
45%	Grade of "B"
11%	Grade of "C"
2%	Grade of "D" or lower

Source: Astound Commerce 2016 Mobile Shopper Survey





FEATURES

- FAQs
- Help Icons
- Chat

FEATURES

- Chat with Visual Interface

CUSTOMER SERVICE IS ABOUT CHOICE

Retailers listed below have all been given the highest grade of "3" indicating a strong dedicated help destination. Across the board, they all have a toll-free number, though its presence is not always found on the home page. Accessibility (on a 3-point scale), is shown with those scoring 2.5+ indicating home page visibility. Live chat grows in importance where 39% of these designated retailers had a chat option.

	CS REDIRECTS TO ECOMMERCE SITE	LIVE CHAT	TOLL FREE #	PHONE VISIBLE/ CLICKABLE ON HOME	ACCESSIBILE 800 #	CONTACT VIA EMAIL
Amazon	N	N	Y	N	1.00	Y
HSN	N	N	Y	N	2.00	Y
QVC	N	Y	Y	Y	2.75	Y
Target	N	N	Y	N	2.00	Y
Walmart	N	Y	Y	N	2.00	N
Toys 'R Us	N	N	Y	N	1.00	N
PetSmart	N	N	Y	Y	2.75	Y
American Eagle Outfitters	N	Y	Y	Y	2.25	Y
Chico's	N	Y	Y	Y	2.50	Y
Gap	N	N	Y	N	2.00	Y
The Men's Wearhouse	N	Y	Y	N	2.00	Y
Tory Burch	N	Y	Y	Y	2.50	Y
Urban Outfitters	N	N	Y	N	2.00	Y
Victoria's Secret	N	Y	Y	Y	2.25	Y
Coach	N	N	Y	Y	2.75	Y
eBags	N	Y	Y	Y	2.50	Y
Steve Madden	N	N	Y	N	2.00	Y
DSW	N	N	Y	N	2.00	Y
Apple	N	Y	Y	Y	2.50	N
B&H	N	N	Y	Y	2.50	Y
Best Buy	N	N	Y	N	2.00	Y
Lenovo	N	Y	Y	Y	2.50	Y
Clarins	N	N	Y	Y	2.50	Y
FTD	N	N	Y	Y	3.00	Y
Crate & Barrel	Y	N	Y	Y	2.75	Y
Dicks Sporting Goods	N	N	Y	Y	2.75	Y
Foot Locker	N	N	Y	N	2.25	Y
REI	N	N	Y	Y	2.75	Y
The North Face	N	Y	Y	N	2.00	Y

V. the e-tailing group Mobile Checklist

- Be proactive, taking a 1-brand approach to your business while maintaining consistency across all channels and ensuring customers can connect with your brand via an 800#, email contact form or email address
- Create a multi-dimensional merchandising strategy that includes a combination of merchandising and promotional tactics on the home page and throughout the site as enticements to drive visitors deeper, rather than hiding them on interior pages that might never be viewed by the shopper
- Provide sophisticated search that allows customers to quickly find product with filters and sorts that give customers control, labeling products site-wide to capture shopper attention
- Present a retail locator that includes comprehensive information - geolocation, driving directions/maps, store hours, and clickable phone numbers to ensure your customers arrive at their destination ready to purchase
- Embrace inventory lookup and the ability to reserve and pick up products to efficiently connect customers to your stores
- Enhance product pages with comprehensive product information, relevant recommendations, product photos that can be enlarged/viewed from other angles, color change, and provide rich media along with meaningful ratings and reviews
- Explore the right level of supporting category content to embellish the experience, tapping into video for optimal engagement
- Enable cross-channel access to lists and carts to save shoppers time
- The checkout process should be convenient and streamlined with a minimal number of steps including choice of payment options and ‘buy with confidence’ builders along the journey
- The checkout process should be convenient and streamlined, with a minimal number of steps including choice of payment option and ‘buy with confidence’ builders along the journey
- Monitor your mcommerce experience to maintain parity, but more importantly stay ahead of your category and the industry’s best
- Customer service should be readily available as a destination and smartly integrated, and customers should have all the information necessary to make an educated buying decision (shipping, return policy, etc.)

VI. About the e-tailing group, an Astound Commerce Company

The e-tailing group is a division of Astound Commerce, an award-winning global digital commerce provider. We combine strategy, technology and interactive marketing services for many of the world's favorite brands and retailers. With a broad set of technology, digital and e-business solutions, we can power every aspect of your online business, and integrate across all marketing channels.

We work with the world's leading technology providers to make sure your brand reaches its full potential in the digital space. We deliver enterprise-class digital commerce solutions on the industry leading platforms: Demandware, IBM WebSphere Commerce, SAP Hybris, Magento®, Kibo® and NetSuite. We use these cutting-edge platforms to create flexible, customized solutions that are robust, capable, and ready to handle even the highest traffic volumes.

To inquire about the mobile research or Astound Commerce strategy services, contact Lauren Freedman: l.freedman@astoundcommerce.com, 773-975-7280

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Learn more at:
www.astoundcommerce.com