Location Analytics In Retail: Turning New Data Into New Intelligence

Benchmark Report

By Brian Kilcourse and Paula Rosenblum, Managing Partners

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Sponsored By:

Executive Summary

Key Findings

Retailers have been using demographic and psychographic data to plan store locations for years. But today, they can *dynamically* link current customer flow data and information from consumers' eCommerce, social activities and mobile phones to know things that would, just a few years ago, be seen as science fiction.

The ***possibilities*** afforded by these technologies is incredibly exciting. However, the reality of where retailers are in their journeys is an entirely different story. Some highlights of this research include:

- Even at the highest levels, retailers don't really understand either the rewards or the risks associated with anonymous vs. non-anonymous customer geo-location data. This makes the host of **Business Challenges** facing them (page 7) all the more daunting.
- When it comes to **Opportunities** (page 11), retailers know that consumers want a more compelling and personalized experience. But do they know how to get there? With vast differences in opinion by performance, vertical, and size, it is clear that the greatest opportunity that retailers see for location-based intelligence is to harmonize the digital and physical shopping experiences, with targeted content delivery as the glue that holds it all together.
- As ever, retailers tell us they have no shortage of **Organizational Inhibitors** – the internal challenges that plague them time and again (page 15). As it relates to Location Analytics, the lack of brilliant data statisticians opting to work in retail (rather than with more lucrative jobs at technology vendors or in financial services) creates a new challenge: *the imperative to find pre-packaged applications that can consume data from multiple sources and are easy for the end user to operate.*
- There's no doubt that retailers sense the value they might gain from location-based analytics. But in some cases, they are under-estimating the value, and in other cases, they are drastically overestimating these technologies' capabilities. We examine which is which in the **Technology Enablers** section of this report, beginning on page 21.

We always conclude our reports with some baseline suggestions for how retailers – of all sizes, types and performance levels – can best move forward. In this report's case, and with the real value for many of these technologies yet to be teased out, much of our advice has to do with expecting the unexpected.

We certainly hope you enjoy it,

Brian Kilcourse and Paula Rosenblum

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Research Overview

Location-Based Intelligence: Excitement & Naiveté

Retailers have been enriching spatial information with demographic and psychographic data to plan store locations for many years. However, prior to the era of mobile phones, that data tended to be static, refreshed only periodically (for example: by the census bureau once a decade). We knew things have changed, but felt it was time to see just how that change had manifested. And so, we undertook this research, commissioned by esri, to understand the new world of data.

Today, retailers have a great new opportunity. It is possible to *dynamically* link current customer flows in and around current locations to spatial information. This new information can be used to help retailers with merchandising decisions, as well as site selection for both stores and distribution centers.

Taken together, digital path-to-purchase data gathered from consumers' e-Commerce and social activities and geo-location data coming from mobile phones, provide retailers with far more accurate and up-to-date information about where people come from, where they go, and what they buy.

This creates two challenges. One is technical: new data requires new systems that can ingest it. And the other is sociological: distinguishing between anonymous and non-anonymous data is imperative. Retailers should not wander from the realm of data richness into creepiness and alienate the very customers they choose to court.

As to the technical challenge, there is good news. RSR's September 2017 benchmark study on IoT in Retail (***The Internet Of Things: Identifying REAL Benefits***, September 2017) revealed that many retailers have either budgeted or are in the process of implementing new analytical capabilities to take advantage of new data types generated by IoT technologies (Figure 1).

Figure 1: Making Sense Of New Data Types

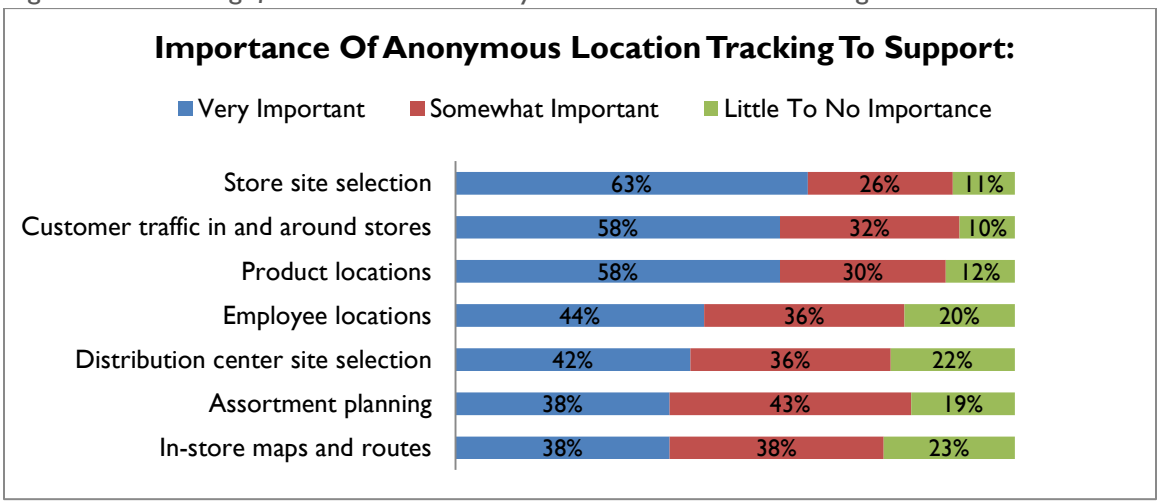
Predictive analytics	53%
Visual analytics for making sense out of IoT data	47%
Big data solutions for storing & analyzing IoT-generated data	45%

Source: RSR Research, September 2017

Those new analytical tools are bound to come in handy to help retailers collect and analyze **location-based data** generated by IoT devices, including "smart" consumer mobile devices with embedded global positioning system (GPS) capabilities.

As to the sociological problem, this study shows that retailers seek to use *anonymous* customer location-based data to make better decisions with geographical data enriched with traffic flow, demographics, income and purchasing power information (Figure 2).

Figure 2: Moving from 'Static' to 'Dynamic' Location Intelligence



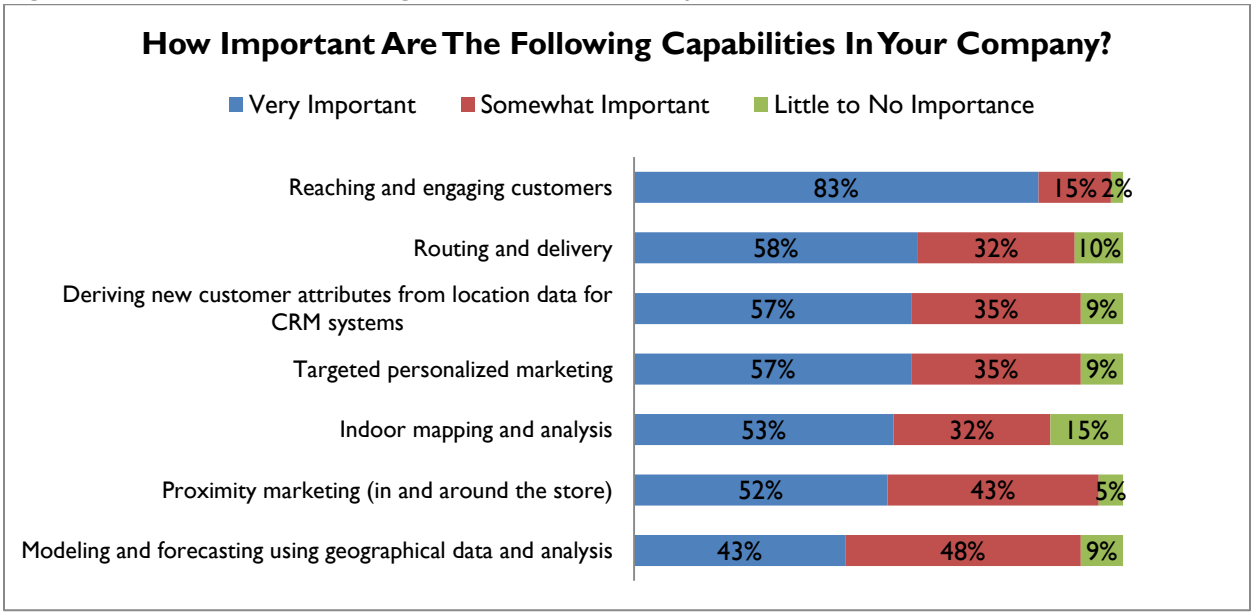
Source: RSR Research, December 2017

Some retailers are also excited about using new location-based data to create a more compelling shopping experience for consumers while they are in the store, by linking customer geo-location data and product placement information to offer *wayfinding* maps and routes to consumers based on their current location in the store.

However, while those objectives are laudable and definitely doable, **this benchmark also reveals that retailers don't really understand either the rewards or the risks associated with anonymous vs. non-anonymous customer geo-location data**.

When we ask retailers to identify the most important capabilities geo-location data and analytics could enable, we find their desire to connect with consumers and engage with them personally jumps to the top of the list (Figure 3).

Figure 3: All About Reaching Customers Directly

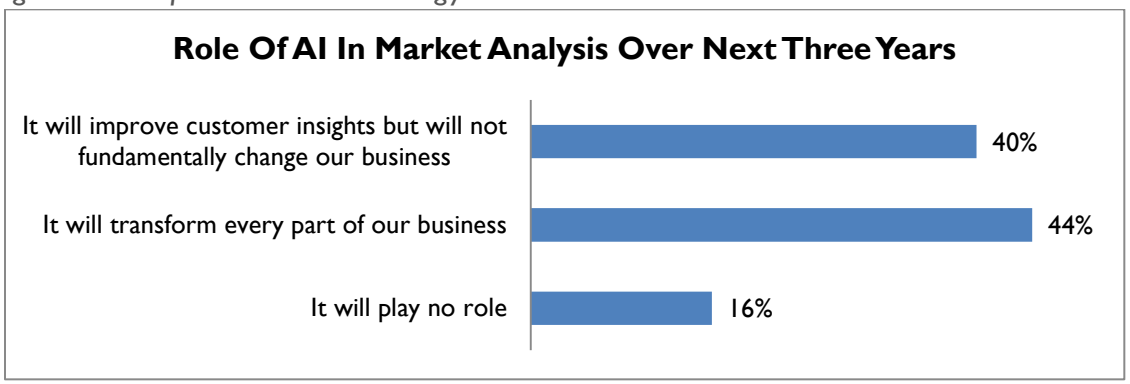


Source: RSR Research, December 2017

Whether "reaching and engaging" implies knowing the consumer *by name* isn't altogether clear, but we get hints based on the importance retailers place on "Deriving customer attributes from location data for CRM systems" and "targeted *personalized* marketing". Technologies are available in the market today to help retailers manage the privacy and security risks associated with capturing and using *non-anonymous* consumer geo-location data (along with other data) to enhance the customer experience. But as we'll see in the **Technology Enablers** section of this report, far fewer retailers place a high value on those technologies as they do a desire to reach and engage with customers using geo-location data.

We found more evidence of retailers' over-the-top enthusiasm when we asked them to assess the potential impact of using artificial intelligence technologies to analyze geo-location data (Figure 4). It's safe to say they are a bit too bullish for the short-term.

Figure 4: Hope Is Not a Strategy



Source: RSR Research, December 2017

The greatest percentage of retailers believe that AI-powered analytics will "transform every part of <their> business". But the aggregate finding is driven by a group of retailers we'll explain in a moment - average and under performers (50%) - and not by their over-performing peers (36%). In fact, 63% of these over-performers (Retail Winners) have the more cautious view that AI-powered analytics will neither fundamentally *change* the business (39%) or play any significant role at all (24%). They see it as a tool to *improve* their business.

This split opinion is typical of how retailers at different performance levels look at new technologies. Winners tend to trust "people, process, and technology" – in that order. Under-performing laggards are frequently victims of "shiny object syndrome," jumping from a scant understanding of a technology's value, all the way to an unrealistic hope that it will transform them into Winners.

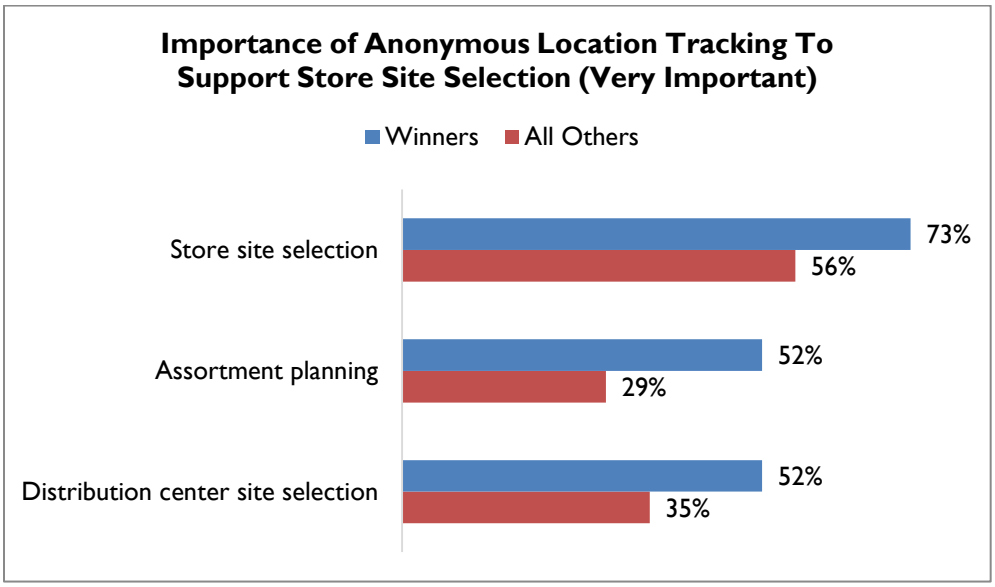
Retail Winners And Why They Win

In our benchmark reports, RSR frequently cites differences between over-performers in year-over-year comparable sales and their competitors. We find that consistent sales performance is an outcome of a differentiating set of thought processes, strategies and tactics. We call comparable sales over-performers "Retail Winners."

RSR's definition of these Winners is straightforward. Assuming industry average comparable store/channel sales growth of **4.5 percent**, we define those with sales above this hurdle as "*Winners*," those at this sales growth rate as "average," and those below this sales growth rate as "*laggards*" or "also-rans."

When it comes to location-based analytics, the winning difference is that over-performers have a more sober assessment of the value of new geo-location-based data and the intelligence that can be derived from it. Winners aren't looking for a lightning strike of new capabilities that will magically create overpowering competitive advantage. Instead, what they see is the opportunity to make certain operational processes better, by taking advantage of new data and analytics. Specifically, Winners want to use location-based intelligence to improve site selection processes and to improve localized assortment decisions (Figure 5).

Figure 5: Finding New Levels Of Operational Excellence



Source: RSR Research, December 2017

Site selection and assortment planning aren't "boring" topics in today's retail environment. The real estate on which retailers operate stores and the inventories those stores carry represent the two biggest investments any retailer can make. Both of those investments are under tremendous scrutiny right now in light of new consumer shopping behaviors. While Winners (as we'll see in this report) aren't immune to over-exuberance about new technology-enabled possibilities on the customer-facing side of their businesses, they continue to pay attention to the basic building blocks of retailing. Winners know that all the personalized outreach in the world won't satisfy customers if their stores (which still ring up the majority of their sales) are in the wrong places and are jammed with merchandise that consumers don't want.

Methodology

RSR uses its own model, called The BOOT Methodology© to analyze Retail Industry issues. We build this model with our survey instruments. See Appendix A for a full explanation.

In our surveys, we continue to find the kinds of differences in thought processes, actions, and decisions cited above. The BOOT helps us better understand the behavioral and technological differences that drive sustainable sales improvements and successful execution of brand vision.

Survey Respondent Characteristics

RSR conducted an online survey from October through November 2017 and received answers from 81 qualified retail respondents. Respondent demographics are as follows:

- **2016 Revenue (US$ Equivalent)**

Less than $50 million	12%
$51 million - $249 million	7%
$250 million - $499 million	20%
$500 million - $999 million	37%
$1Billion to $5 Billion	6%
Over $5 Billion	18%

- **Products sold:**

FMCG: C-store, Food & Drug, Health Care Products	15%
Apparel (Footwear & Accessories: Luxury, Men's & Women's, Kids, Personal Care)	28%
Hard Goods: CE, Hard Goods, Home Décor, Improvement, Automotive	19%
General Merchandise: Discount, Mass Merchant	23%
Hospitality, Restaurant, Retail Services, Entertainment, Other	10%
Brand Managers	5%

- **Headquarters/Retail Presence:**

	HQ	Retail Presence
USA	89%	89%
Canada	1%	35%
Latin America	2%	12%
UK	0%	17%
Europe	4%	25%
Middle East	0%	5%
Africa	0%	2%
Asia/Pacific	4%	14%

- **Year-Over-Year Sales Growth Rates** (assume average growth of **4.5%**):

Better than average ("Winners")	41%
Average	54%
Worse than average ("Laggards")	5%

- **Respondents Position Within The Organization**

Executive (C-level)	12%
Senior Management (SVP)	23%
Middle Management (VP / Director)	41%
Line Manager	22%

Individual Contributor and Other	2%

- **Functional Area of Responsibility**

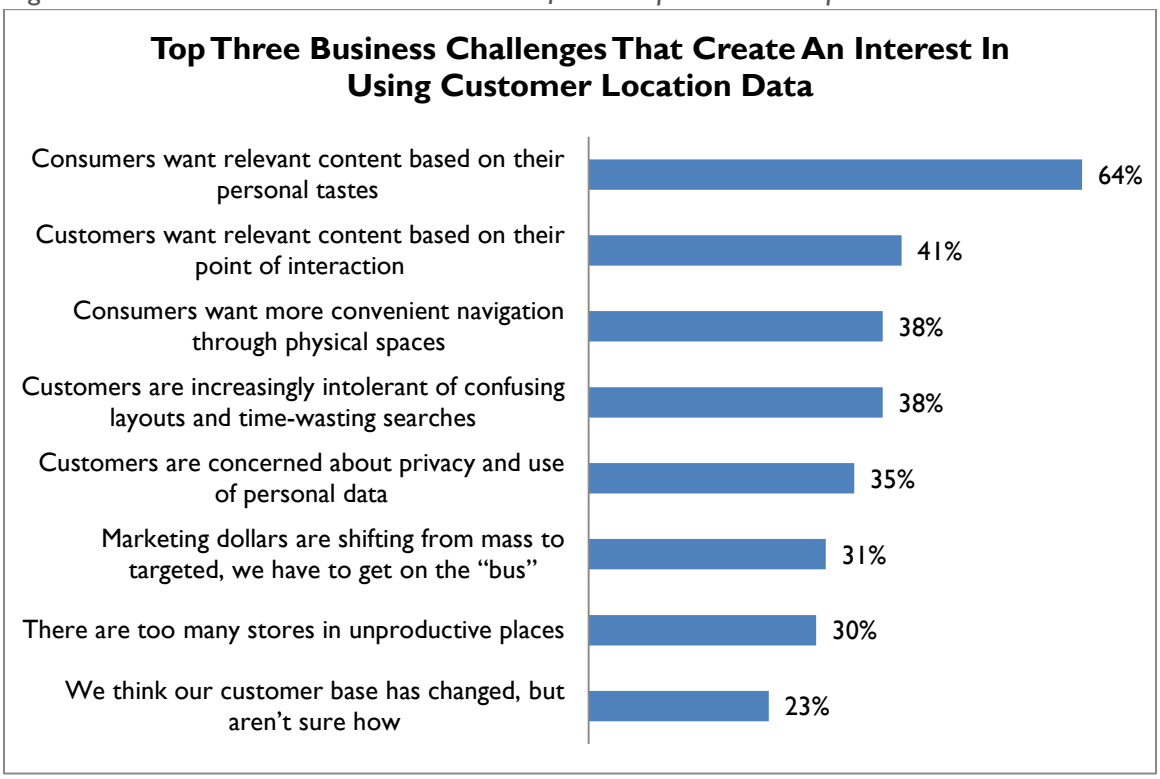
Executive Management	23%
Customer Experience	15%
eCommerce/Direct Operations	6%
Finance, Legal, Human Resources	2%
Information Technology (IT)	11%
Loss Prevention	1%
Marketing	5%
Merchandising	6%
Pricing	0%
Procurement / Sourcing	1%
Product Development	2%
Real Estate/Construction	0%
Store Operations	23%
Supply Chain	1%
Other	1%

Business Challenges

The Rationale For Location-Based Intelligence

In the introduction to this report, we stated our opinion that the rewards and risks associated with geo-location data analytics are poorly understood by retailers, particularly when it comes to the difference between anonymous and non-anonymous (or *named*) data. When we look at the business challenges that geo-location intelligence can help retailers address, it's easy to see why that would be the case. By far the top business challenge for almost two-thirds of retailers is that consumers want relevant content delivered to them, presumably on their mobile devices. Furthermore, over 40% of retailers believe that consumers want that content delivered to them based on their proximity to the retailer and the value being offered (Figure 6).

Figure 6: Consumers Are Intolerant Of An Impersonal Experience



Source: RSR Research, December 2017

Neither one of those challenges necessarily requires specific consumers to be personally identified. "Personal tastes" can mean different things, depending on the granularity of the value to be presented, the precision of the geo-location data available, and if and how that data is enriched with other information. For example, if a consumer is identified as being at a Starbucks, "relevant content based on personal tastes" might simply imply a message about today's specials. But if that geo-location data is enriched with information specific to the consumer (including stated or implied preferences based on a customer profile or purchase history), "relevant content" might mean a digital coupon for a specific favored product.

But the priorities that retailers give to the total list of challenges makes it clear that they are most concerned about consumer dissatisfaction with the impersonal shopping experience that has characterized mass merchandising in the past. **Retailers clearly believe that consumer**

intolerance of an impersonal shopping experience is their greatest threat. That overall angst about consumer dissatisfaction is the driving force behind retailers' interest in location-based intelligence. They are far less concerned about a possible consumer backlash to the "creepiness" associated with geo-location tracking, or even whether or not the store is situated in the right location (the legacy use case that drove retailers to use location-based data in the first place).

Digging deeper into retailers concerns about consumer privacy, there's an interesting dynamic at work: the larger the retailer, the greater the concern (Figure 7). This is undoubtedly the result of "deep pockets" retailers worrying about the financial risks associated with misuse or breach of sensitive consumer data.

Figure 7: Concern For The Creepy Factor

"Customers are concerned about privacy and use of personal data"	<$250M	$250-499M	$500-999M	> $1 Billion
	6%	38%	37%	53%

Source: RSR Research, December 2017

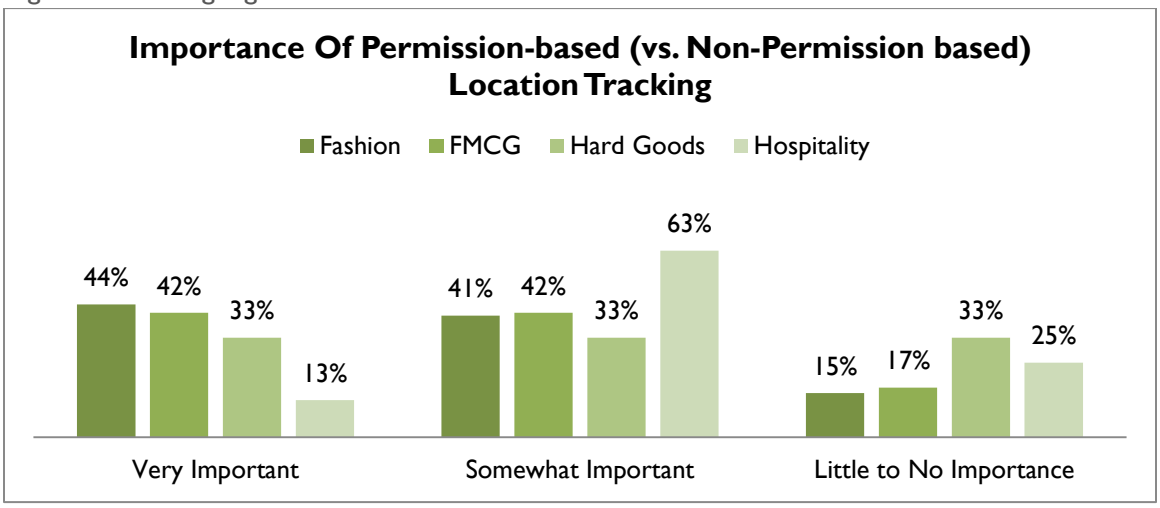
While retailers across all verticals, performance groups, and sizes agree that their greatest business challenge is that "Consumers want relevant content based on their personal tastes," the largest retailers alone rate consumer concern about privacy as a close second.

Setting Up For Trouble

We've already discussed that retailers, in response to an overarching concern that digitally-enabled consumers have grown intolerant of an impersonal shopping experience in the store, place a lot of importance on developing the ability to engage with customers in real-time (Figure 3). That's the antidote to the challenge: that consumers expect relevant content to be delivered to them based on their tastes *and* where they are in relation to a physical store. But retailers (and particularly the largest retailers) are also concerned that they might trigger a negative reaction from consumers if the nature of their digital outreach is perceived as creepy.

That concern doesn't necessarily translate into a pressing need to ask consumers for permission before engaging. In fact, when we asked retailers to rate the importance of permission-based location tracking vs. non-permission-based tracking, retailers appear to be hedging their bets (Figure 8). While retailers obviously think asking consumer permission is "important", it's not a burning issue for a majority in any retailer vertical.

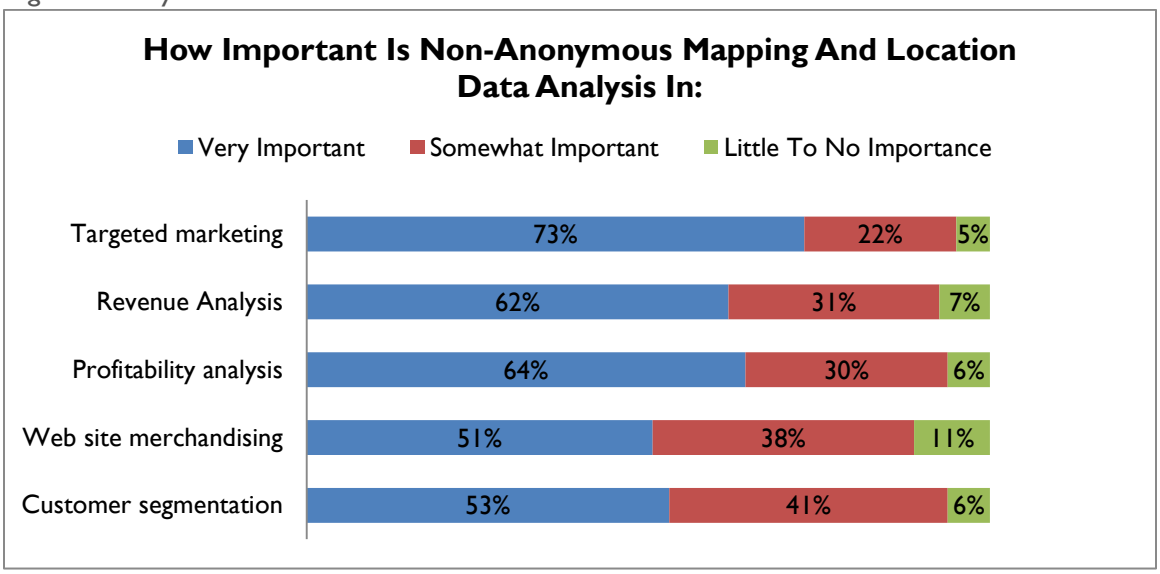
Figure 8: Hedging Bets



Source: RSR Research, December 2017

This finding is hard to fathom when we look at what retailers actually want to do with non-anonymous mapping and data analysis. Retailers place the highest importance on having the ability to use non-anonymous data enriched with customer specific data (for example: CRM, loyalty, purchase history, market basket) and market specific data (for example: demographic, competitive, market area, and even weather data), to target marketing messages with a fine point of precision (Figure 9).

Figure 9: Eyes Wide Closed



Source: RSR Research, December 2017

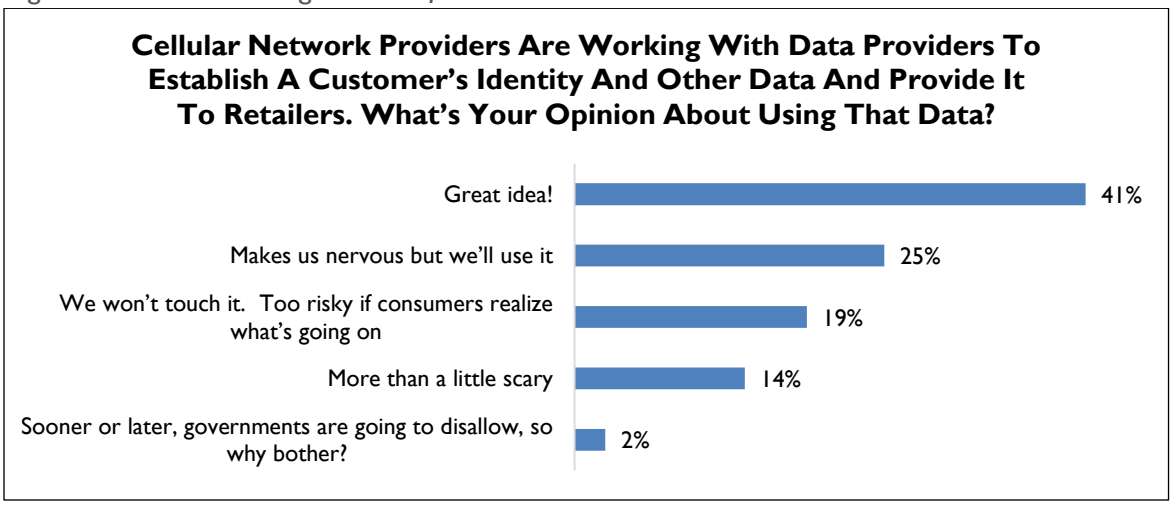
Fashion retailers are most interested in using non-anonymous mapping and location data analysis for targeted marketing (78%). But just as we learned that retailers across verticals, performance groups, and sizes all agreed that their greatest business challenge is that "consumers want relevant content based on their personal tastes," so too do retailers across all performance groups, verticals, and revenue bands agree that non-anonymous location data is the key to their future "targeted marketing" approach.

RSR's concern is that retailers may be setting themselves up for trouble *if* they don't give getting explicit permissions from consumers more importance.

That concern seems more than justified after we examined retailer responses to a very specific question about using enriched data provided by cellular providers. Mobile network operators (MNOs) have a wealth of information available to them about individuals' geo-locations – where they live, where and how frequently they shop, their commute patterns, and even how they pay for goods and services (especially now that contactless payment options are becoming popular). MNOs have permission to collect this data by virtue of the services contracts consumers have with them, and it's probably no surprise to anyone that that information is a huge revenue opportunity for the MNOs.

When we asked retailers if it is a good idea for them to acquire and use that data, 66% of them say they'd use it, and 2/3 of those think it's a "great idea!" (Figure 10).

Figure 10: A Startling Lack Of Concern



Source: RSR Research, December 2017

As we might have expected based on what we saw in Figure 7, this finding is driven primarily by smaller retailers (56%, compared to 32% for the largest retailers). But the greater-than-$1B group leads the pack when they indicated that they'd use the data if they could -69% percent either think it's a great idea or would use the data in spite of their concerns.

Bottom Line On The Business Challenges

It's clear that the greatest challenge that retailers perceive is that consumers have grown impatient with a tired, old-fashioned and impersonal shopping experience, and that is driving them to consider location-based intelligence to drive a new highly targeted value proposition to consumers. But it's also clear that retailers and their naiveté about the risks and rewards associated with location-based data is its own business challenge, kind of a "we have met the enemy and they are us" problem.

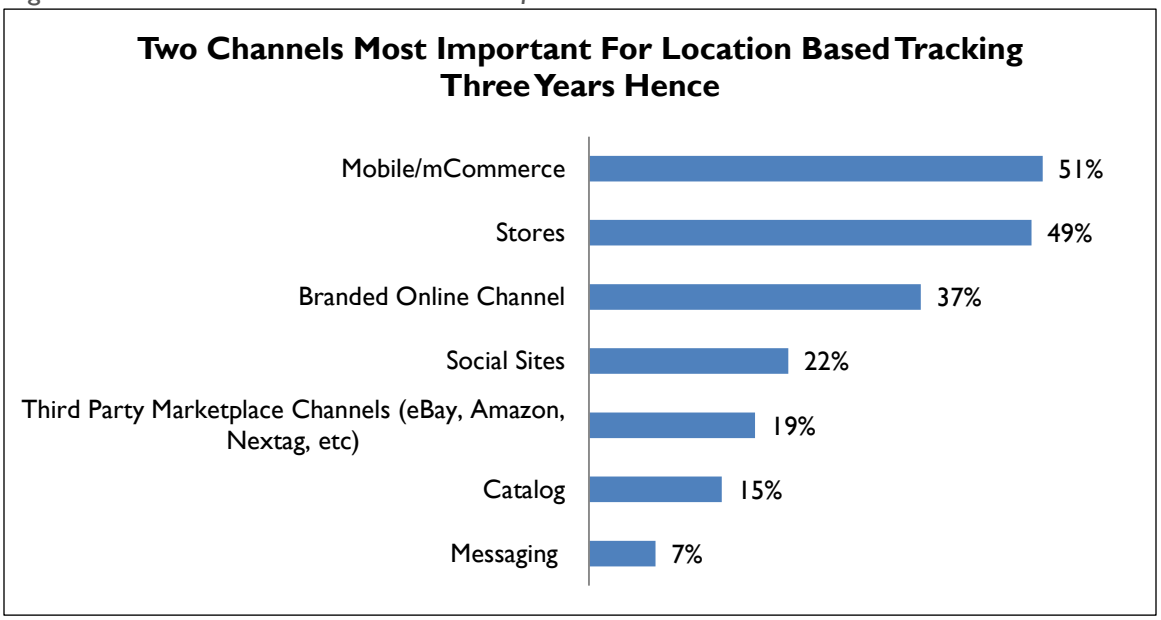
Can retailers take these challenges and turn them into opportunities? Let's see if and how they do.

Opportunities

Harmonizing The Channels

In the Business Challenges section of this report, retailers made it clear that the challenge they seek to address with the help of geo-location intelligence is that consumers want a more compelling and personalized experience. To that end, retailers see consumer mobile devices as the channel through which they can deliver precisely targeted value propositions - based on where *anonymous* consumers are - and potentially based on *non-anonymous* consumer buying preferences and the needs derived from their current digitally-enabled shopping trip. But retailers aren't abandoning the store as an important part of the experience; in fact, they give almost equal weight to location-based tracking both in and outside of the store (Figure 11).

Figure 11: Mobile In-And-Outside Of The Stores



Source: RSR Research, December 2017

While roughly one-half of all retailers believe that location-based tracking via consumer mobile devices will be de rigueur in three years' time, Winners and larger retailers, in particular, haven't given up on the store as important to enable (Figure 12).

Figure 12: Big Retailers Are Focused More On The Store

Thinking about location-based tracking, which TWO channels will be the most important for you three years from now?			
	Overall Response	Winners	> $1B
Stores	49%	58%	79%
Mobile/mCommerce	51%	48%	42%

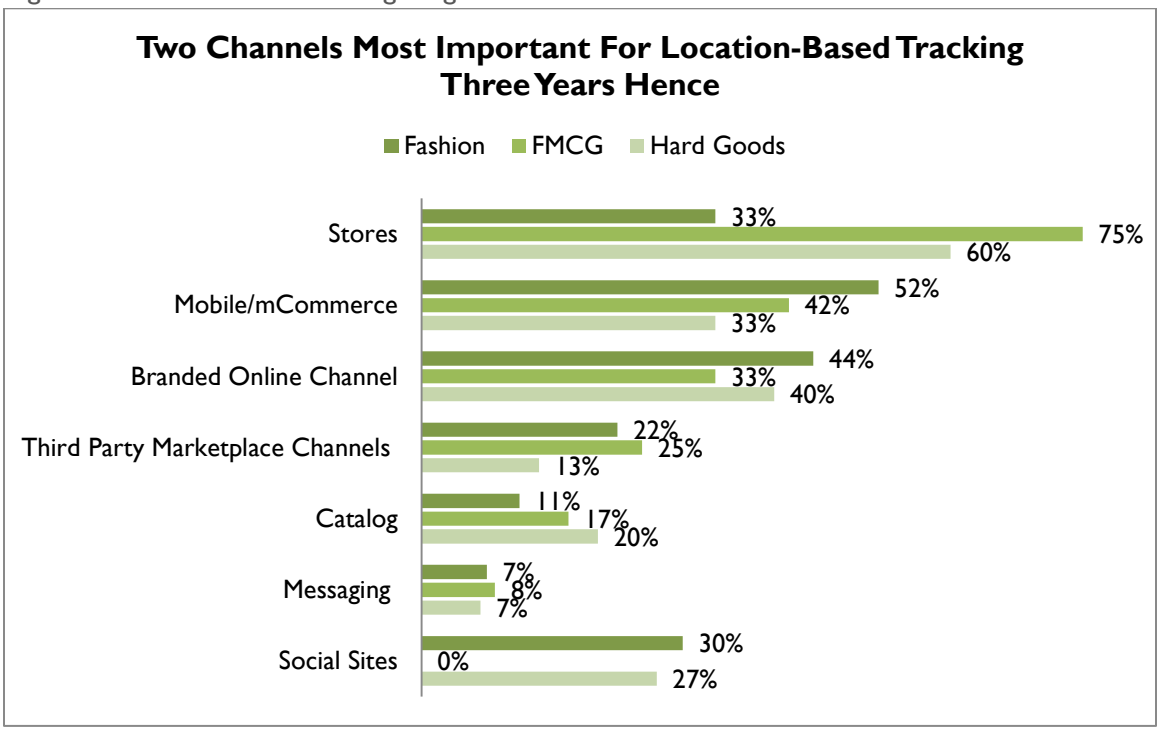
Source: RSR Research, December 2017

RSR believes it isn't a question of digital OR stores, but digital AND stores. What's at stake is what the future store experience will be like, and for Winners - as well as the largest retailers (who in all likelihood have the most invested in their stores), location-based tracking inside of the store will be important, both to offer *wayfinding* (store mapping based on a consumer's stated need), and personalized *targeted marketing*.

Surprising Differences Between Retail Verticals

Looking at the same data by retail vertical offers some fascinating differences (Figure 13). Very clearly, fast-moving-consumer-goods (FMCG) retailers are the biggest believers in the value of location-based tracking in the stores. These retailers, whose categories include perishables and everyday consumer products, think of their stores as destinations: places where consumers will visit regularly to replenish their everyday needs.

Figure 13: Fashion Is Going Digital



Source: RSR Research, December 2017

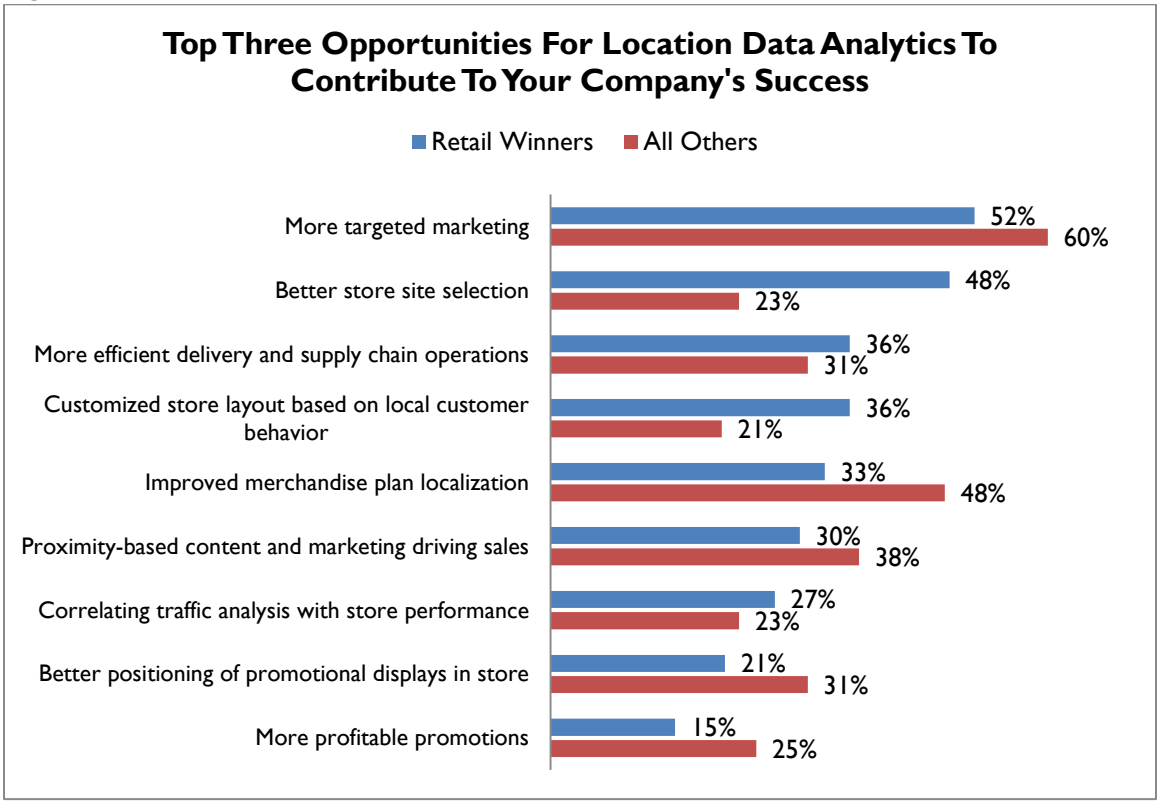
Fashion retailers, on the other hand, are much more focused on digital as the primary shopping channel of the future, and therefore are focusing their interest in location-based tracking on mobile and (secondarily) the branded online channel. RSR has seen this in other studies; for example, in our 2017 benchmark on the state of IoT in Retail (***The Internet Of Things: Identifying REAL Benefits,*** September 2017), we discovered that more fast moving consumer goods retailers and general merchandisers merchants believe that the new technologies will create new opportunities for them to connect with consumers in the store - compared to Fashion, Specialty, and Brand merchants.

Fashion retailers aren't too concerned about consumers once they are in the store, in the belief that consumer buy-in to the value proposition happens long before the store is ever visited. FMCG retailers, on the other hand, believe that most shopping decisions will still be made inside of the four walls of the store.

What Else?

By now, it should be abundantly clear that a majority of retailers view location-based intelligence as a key technology to enable a more targeted value proposition directly to consumers. The question is, ***what else might the new technology enable?*** Once again, Retailer Winners highlight the store; almost as many over-performers see "better site selection" as a top opportunity as "more targeted marketing" (Figure 14).

Figure 14: Winners Haven't Lost Focus On The Store



Source: RSR Research, December 2017

Average and under-performers are more scattered when it comes to the 2nd and 3rd top opportunities chosen. Improbably, they rate "improved merchandise plan localization" as the second best opportunity that location data analytics can enable ("improbably", because those retailers are far less concerned than Winners that the store is on the right site in the first place). Non-winners' third place opportunity is "proximity-based content and marketing". While Winners seem to be saying, "get the location right", other retailers are saying "regardless of where the store is located, let's make it a better experience once we get consumers inside."

Bottom Line On Opportunities

Looking past the differences by performance, vertical, and size, it is clear that the greatest opportunity that retailers see for location-based intelligence is to harmonize the digital and physical shopping experiences, with targeted content delivery as the glue. Winners also see the new generation of location-based intelligence as an enabler for better site selection and supply chain design considerations (probably with direct-to-consumer fulfillment in mind).

What stands in the way of getting beyond mere enthusiasm for the new technologies, and making them real? Read on!

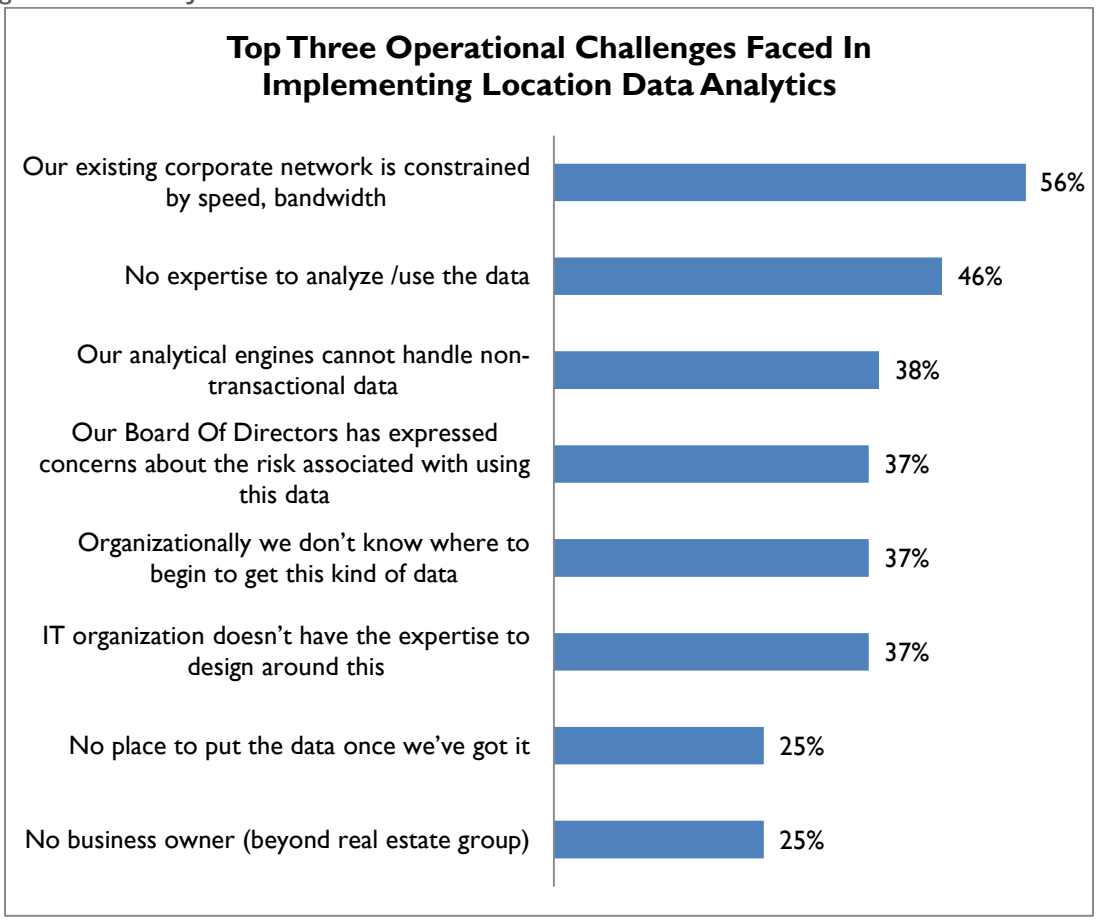
Organizational Inhibitors

A Familiar Refrain – We Can't Execute

There's no doubt that sophisticated location analytics are both possible and plausible. Generally retailers have data about products in their item masters, how they are selling in various brick and mortar locations in other applications, and perhaps most importantly: retailers have very detailed data on precise consumer locations from their online purchases. Those retailers with loyalty programs can pull data from supporting systems to marry both online and brick-and-mortar purchases, along with using external sources to understand travel paths.

This should produce great results. It's non-intrusive, permission-based and should be straightforward. But as we can see from Figure 15 below, operationally it's just not that simple.

Figure 15: It's Just Too Hard To Gather The Data And Use It



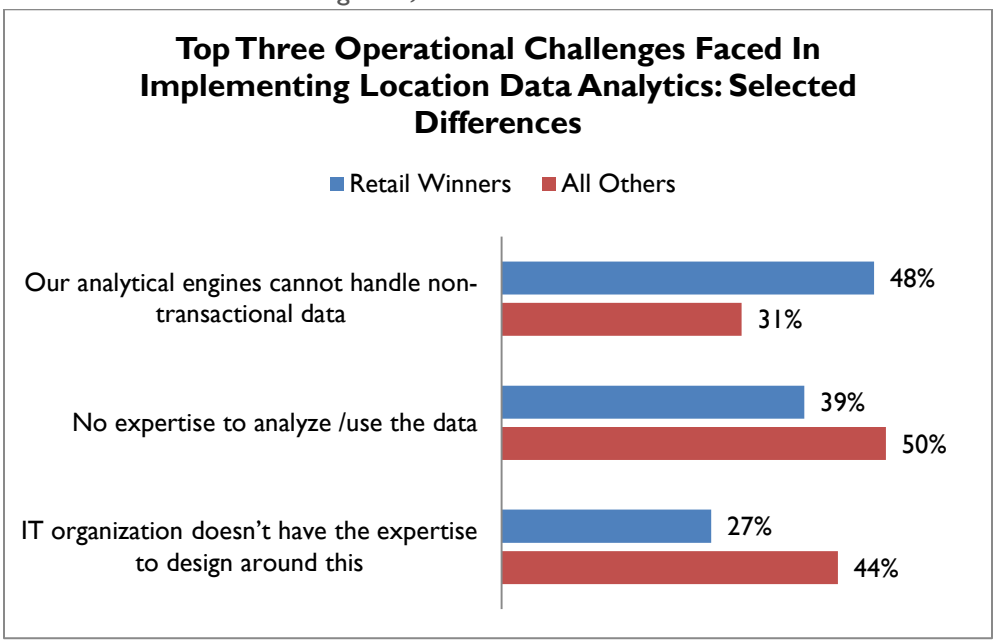
Source: RSR Research, January 2018

RSR has long observed that network bandwidth, most especially in stores, is a serious constraint to gathering and using non-transactional (and sometimes even transactional) data. Traffic patterns and merchandise locations are available via the IoT, but corporate networks are often too constrained to use them. This is the most frequently-cited operational issue.

Following close behind is the lack of expertise to actually analyze and use the data, presuming it's available. And on the surface, it appears that a far smaller number are constrained by

inadequate analytical engines. But when we dig into some selected differences between Retail Winners and others, we find some interesting contrasts (Figure 16).

Figure 16: Winners Need Engines, Others Need Talent



Source: RSR Research, January 2018

Winners recognize they need better analytical engines to manage the non-transactional data that is pouring into their enterprise. Others are more likely to acknowledge they don't have the IT expertise to either design relevant applications or the business expertise to analyze or use the data they do gather.

RSR believes that it is unlikely we'll be finding brilliant data statisticians coming to the typical retail enterprise any time soon - there are more lucrative opportunities with technology vendors or in the financial services industry. ***The imperative then becomes finding pre-packaged applications that can consume data from multiple sources and are easy for the end user to operate***. In particular, data visualization presents a big opportunity for retailers.

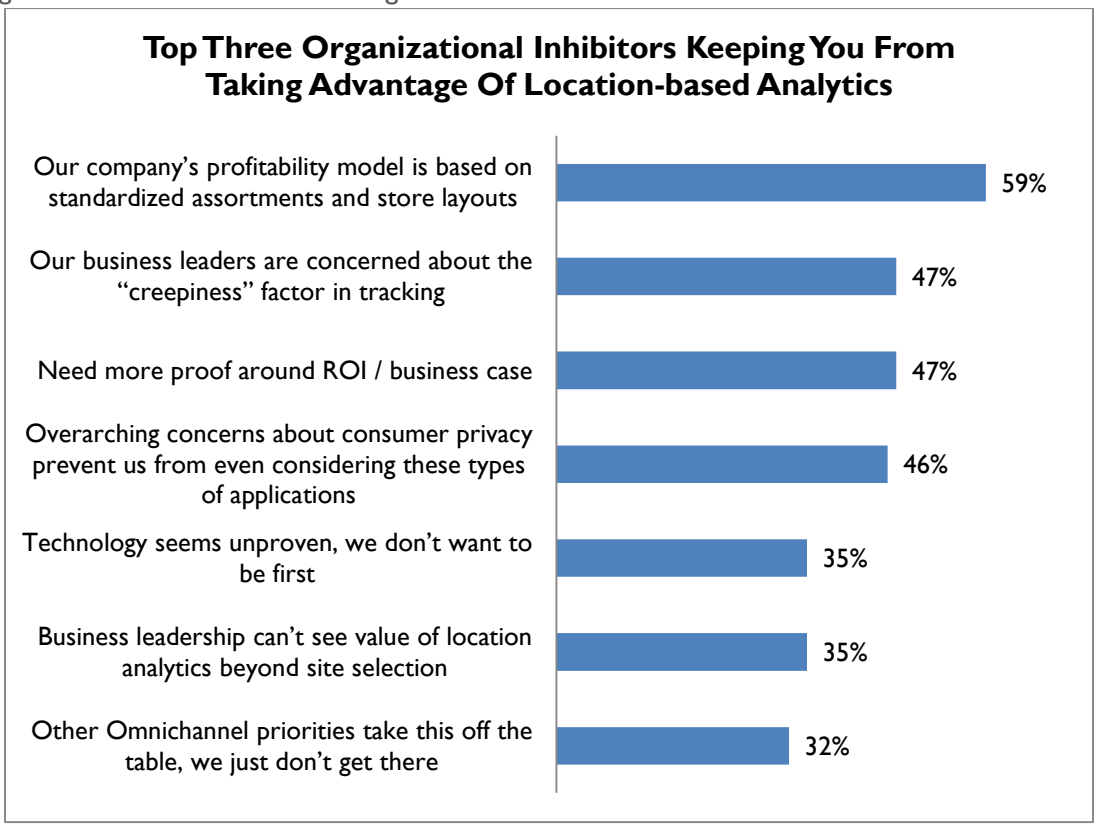
But moving beyond the operational issues, there are some core organizational issues that must be addressed.

Change Comes Hard To The Industry

One would think that all retailers would welcome the opportunity to use location-based data to create more localized assortments in stores and distribution centers. It's a chance to make the entire supply chain network more efficient and optimize sell-through.

Much to our surprise, as we can see in Figure 17, retailers are more frequently likely to cite the value of *standardized* assortments as a key to their profitability.

Figure 17: Outdated Thinking Dominates



Source: RSR Research, January 2018

It is rather alarming that ***retailers are telling us that they are clinging to a profitability model that is basically dying***. On the one hand, most recognize the value of localized and even personalized assortments. We have heard this loud and clear year-after-year in our Merchandising and Omnichannel benchmark reports. On the other hand, retailers cannot find a way to drive the needed change in their business models to actually give customers what they want.

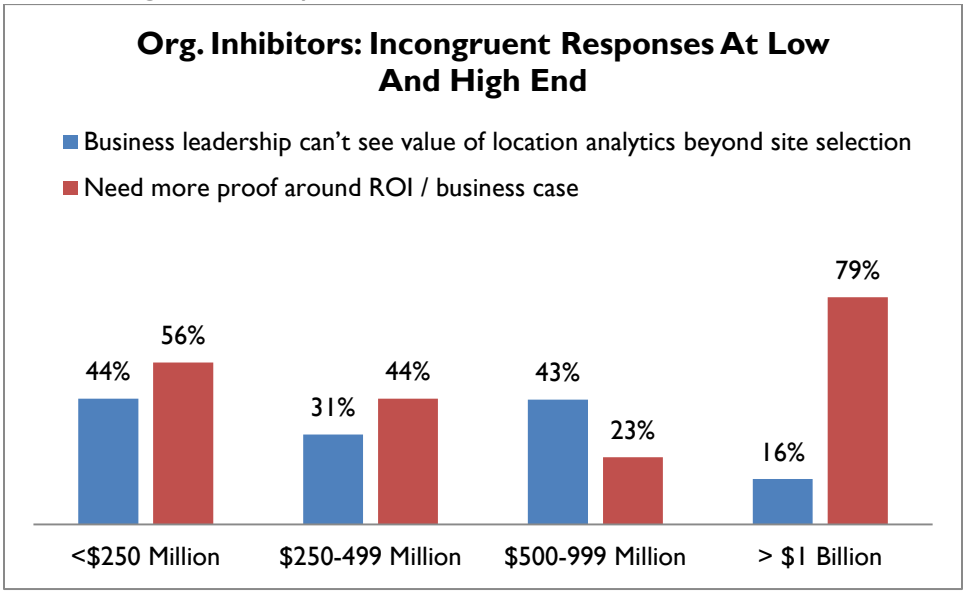
Following behind this hesitation to change, we finally see worry over the "creepiness factor" of getting too personal - and fear of looming consumer privacy issues. When we looked at the enthusiasm expressed over getting mobile phone location data earlier in this report, this concern strikes us as incongruous and odd.

Similarly, after so much enthusiasm, we see many citing concerns that the industry needs more proof of ROI. Again, this is very incongruous. Why be excited over receiving the extremes of personalized location data when you aren't even sure there's any value to it, and as we've also noted, don't have the ability to do anything with it anyway?

Responses At Revenue Extremes Are Disappointing And Odd

Clinging to "standardized assortments and layouts" is the likely driver of the largest retailers' concern over the ROI/Business case of using location analytics (Figure 18).

Figure 18: Incongruous Responses



Source: RSR Research, January 2018

This remains worrisome. ***We are concerned that these retailers have their heads in the sand, and will only adjust when their fortunes begin to decline***. After all, investors expect both sales AND profitability growth. That's the business case and the ROI.

We are not so surprised to see the smallest retailers looking for proof of value. Theoretically, they "know" their customers better than their larger brethren. We are, however, surprised to see mid-market retailers missing the value of location analytics. As they are growing, they move into markets that are unfamiliar, and quite simply can't keep up with trends by location in any kind of a meaningful fashion.

And, as we previously mentioned, we can appreciate the internal conflict the largest retailers have around moving away from standardized assortments to more tailored ones. We do see examples of leading retailers moving in that direction, but typically it comes as a reaction: after sales and profits have fallen. It would behoove these retailers to be more proactive in this regard.

Overcoming Inhibitors: *Now* Privacy Is The Most Frequent Concern???

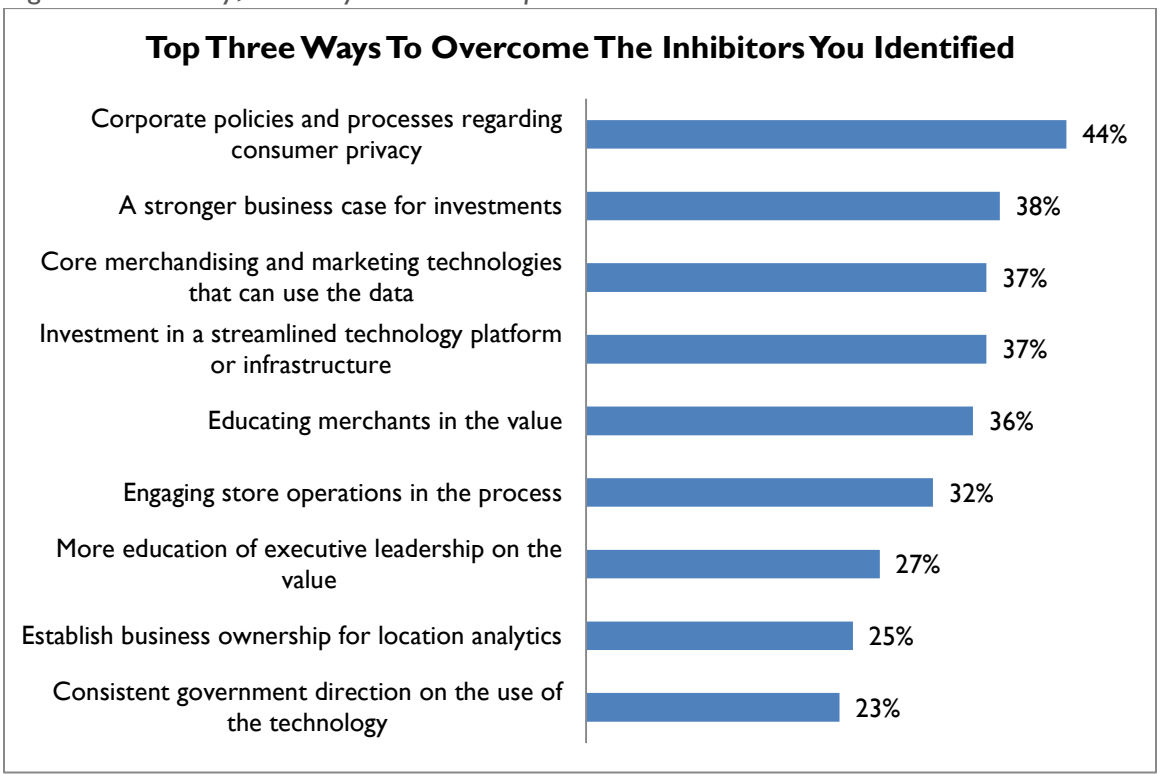
When looking at ways to overcome inhibitors, we were also very surprised to find that retailers tend to gloss over their business model issues and move right to consumer privacy.

As we'll see in Figure 19 below, around a third of respondents each cite business case related choices as a top-three opportunity to overcome inhibitors, while 44% focus on policies and processes around consumer privacy.

And despite the largest retailer concerns around executives not seeing the value, just slightly more than a quarter believe educating those executives on the value will help move projects forward.

We can draw only one conclusion: ***fear of change trumps almost all other concerns, and it will be hard to shake the industry out of its lethargy***.

Figure 19: Sadly, Privacy Policies Top The List

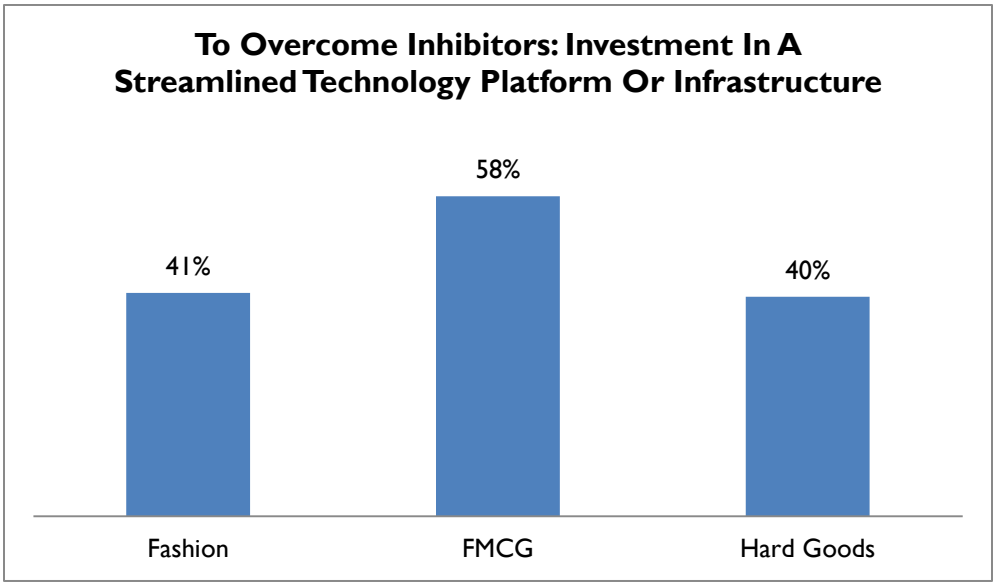


Source: RSR Research, January 2018

For Once, FMCG Retailers Focus In A Positive Direction

Most fascinating for us was to see that retailers selling Fast Moving Consumer Goods are most likely to seek a streamlined technology platform to help move themselves forward (Figure 20).

Figure 20: FMCG Retailers Have Vision



Source: RSR Research, January 2018

They are far less ambivalent about technology to support location analytics. No doubt, the low margin and highly competitive nature of their business is opening them up to new things. And their technology portfolio is generally small enough that bringing in a new, streamlined infrastructure is both attractive and useful for them.

This begs the question: what kinds of location-based analyses ARE interesting to retailers? To find the answer we'll move on to Technology Enablers - or in this case, the specific analyses that location data can support, the perceived value of each, and both retailers' current and planned usage.

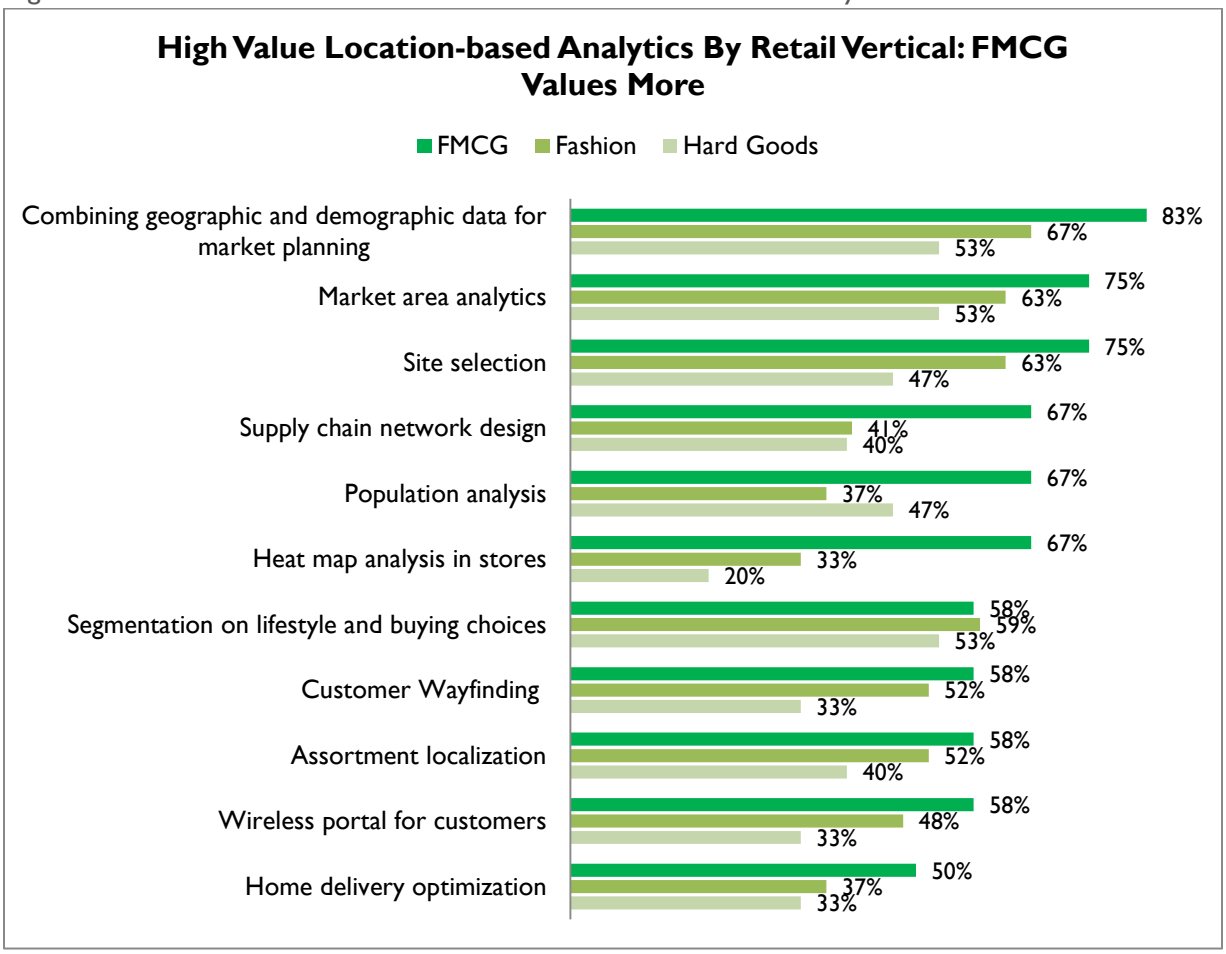
Technology Enablers

Value Perceptions Vary Dramatically

There's no doubt that location-based analytics represent an important opportunity for retailers. That begs the question, "Which analytics do they believe are most important for them?" Answers vary across vertical segment, almost inexplicably. And because differences are so stark, rather than look at aggregate value perceptions, we are diving right into differences by vertical.

Much to our surprise, for most location-based analytics, the traditional technology laggard of Fast Moving Consumer Goods is at least as (if not more) excited about the opportunity they present (Figure 21).

Figure 21: FMCG Excited About Most Location-based Analytics



Source: RSR Research, January 2018

What's Driving FMCG Value Perceptions?

In the Organizational Inhibitors section of this document, we observed that the technology portfolios of retailers selling fast moving consumer goods tend to be "lighter" and less engrained than those of other segments. They are known to be technology laggards. But the world has changed. Now, those light infrastructures work to their advantage. They are more inclined to favor

a “streamlined technology platform or infrastructure” to provide location-based analytics and don’t see as many roadblocks to actually getting it done.

This openness extends to the kinds of data they might get out of those streamlined solutions. Retailers selling food find themselves in a tremendously competitive environment. More and more retailers are using food as a traffic driver and encroaching on their space. Retailers ranging from mass merchants to chain drug stores are increasing the percentage of groceries as part of their assortment. And then, if that wasn’t bad enough, Amazon went out and bought Whole Foods Market, sending shock waves through the industry from the United States to Europe. Suddenly, Omnichannel has become a stark reality for them, and ***the more they know, the better they hope to compete***. Beyond that, Dollar Stores and discount grocers like Aldi and Lidl threaten to eat into their market basket if stores are not compelling and convenient.

It’s clear that the FMCG vertical is willing to try all kinds of things to remain competitive. Everything from market planning through analytics, to understanding how consumers are walking their stores – all are worth a look. Most profoundly, we see the desire to combine geographic and demographic data for market planning. Where should stores be located? What’s the most logical traffic flow to and from the store?

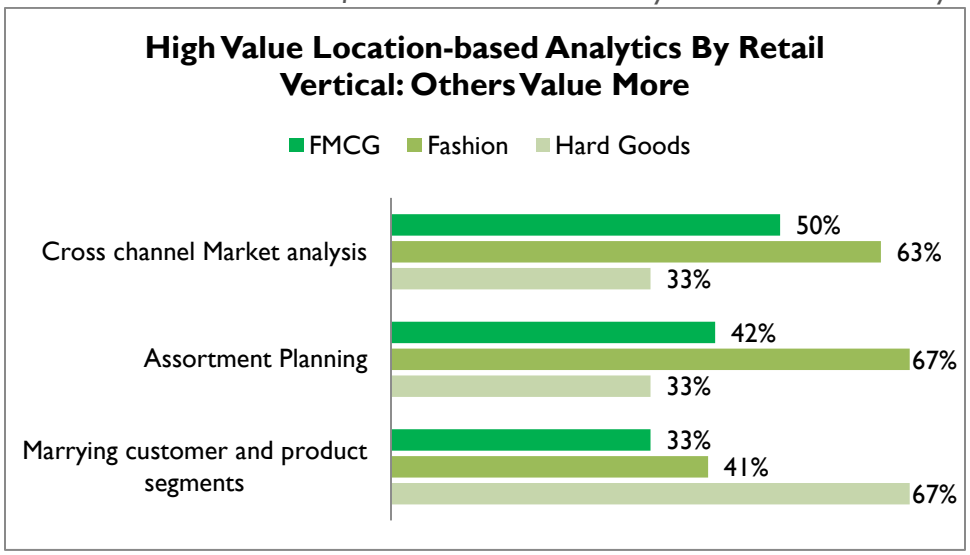
In different parts of the country, at different times of the year, these questions are critical. In hot southern states, Publix has decided it’s imperative to have stores every forty blocks or so. Why? The further one has to travel, the more likely frozen foods will melt, especially in the summer.

Similarly, Wegman’s has serious decisions to make around its New York locations. Requirements stores in the Buffalo city center will be very different than for stores in the suburbs, where drive-time is also an issue - even though that issue is more about heavy snow than it is about melting ice cream.

What About Other Segments? What Do They Value?

It’s worthy to note that several location-based analytics were found more valuable by other retail segments, as we can see in Figure 22, below.

Figure 22: A Small Number Of Location-based Analytics More Prized By Others



Source: RSR Research, January 2018

This data is far less surprising. Fashion and apparel is the largest selling category online, and is also in the vanguard of Omnichannel fulfillment. As those retailers continue to reduce their store count, understanding the path to purchase for their most valuable customers will help retailers decide where stores should remain and the most economical fulfillment locations.

Similarly, assortment planning has long been a demographic-based attribute of the fashion industry. Urban and suburban customers tend to shop and buy differently. Planning that assortment is critical.

Finally, for hard goods, given the generally high-ticket price, understanding customers and their relationships to products is critical to maximizing the use of working capital. ***We are frankly disappointed to see that this segment is not nearly as concerned about home delivery optimization***. To us this is a clear opportunity missed.

So Who Has What, And Who Is Happy With What They Have?

The bottom line is that whether looking at the data by segment or looking at the data in aggregate, it's clear that these are still early days for location-based analytics. Only a smattering of retailers across all segments has systems they are happy with.

- 33% of fashion retailers are happy with their market analytics;
- 33% of retailers selling fast moving consumer goods are happy with their market analytics and their ability to combine geographic and demographic data for market planning; and,
- 47% of hard goods retailers are happy with their ability to combine geographic and demographic data, and 33% are happy with cross-channel market analysis.

A significant amount of money has been allocated for various kinds of location analyses. For example, in following through on fast moving consumer goods, we find some big plans (Figure 23):

Figure 23: FMCG Has Some Big Plans For Location-based Analyses

	*Hard Money	Soft Money
Combining geographic and demographic data for better market planning	25%	33%
Segmentation on lifestyle and buying choices	17%	50%
Cross-channel market analysis	25%	58%
Site selection	8%	75%
Assortment planning	25%	50%
Assortment localization	33%	42%
Marrying customer and product segments	17%	50%
Population analysis	25%	33%
Market area analytics	25%	33%
Home delivery optimization	25%	17%
Supply chain network design	33%	33%
Customer wayfinding	8%	58%
Heat map analysis in stores	17%	25%
Wireless portal for customers	25%	25%

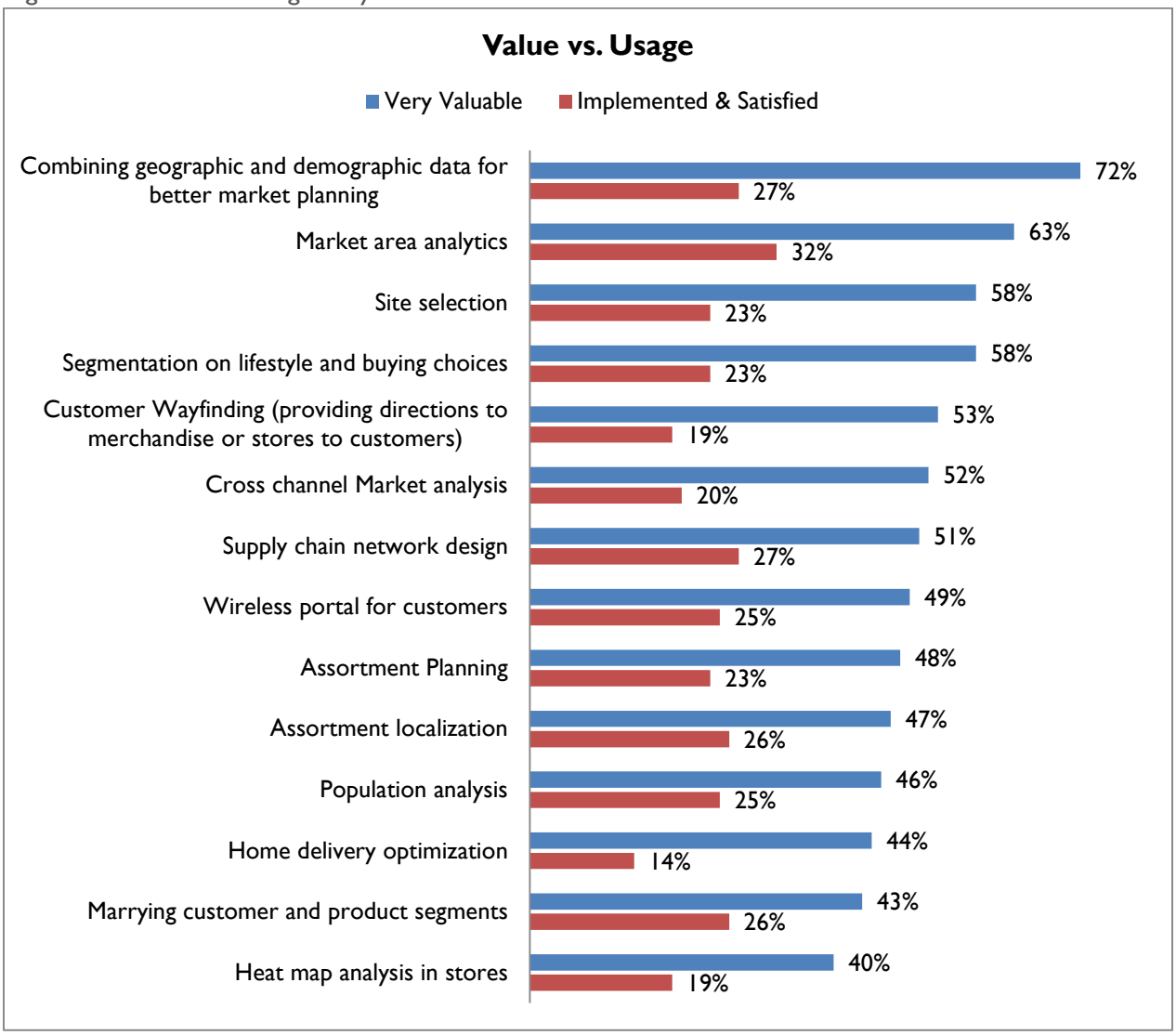
Source: RSR Research, January 2018

**As a point of reference, RSR defines "hard money" as projects already budgeted, and "soft money" as projects that are planned, but not yet budgeted. Typically budgeted projects have an eighteen month time horizon, while planned projects generally have a three year time horizon.*

Are We Setting Ourselves Up For A Fall?

RSR talks often about "magic bullet syndrome" – those technologies retailers believe will save their businesses. We worry that while location-based analytics can be incredibly helpful, retailers across the board have unrealistic expectations of the improvements they will get from implementing them. When we look at the value vs. usage gap in Figure 24, it becomes quite evident that this is the case.

Figure 24: Still A Long Way To Go



Source: RSR Research, January 2018

It is incumbent on project sponsors and technology vendors to set very clear expectations with prospective clients on what these analytics can and cannot do, prior to signing contracts. There is a vast realm of broken dreams from companies who sought magic bullets, rather than the kind of step-wise approach that brings a retailer sustained success.

Where Do We Go From Here?

There's no doubt that retailers sense the value they might gain from location-based analytics. In some cases, they are under-estimating the value, and in other cases, they are drastically overestimating these technologies' capabilities.

As we've said many times before - hope is not a strategy. It is certainly incumbent on retailers to move beyond "standardized assortments" to more precise targeting of assortments to consumers where they want to shop. And it's also imperative that the most efficient way to service these locations is also considered, calculated and implemented.

It's also important that retailers move more quickly than they have in the past. These analytics will be of great help, and without them, we do worry that some retailers will be falling into the boneyard of history.

Towards that end, we will present recommendations for success in the following last section of this report.

BOOTstrap Recommendations

Our recommendations generally follow a similar vein to the ones we present today. Be pragmatic, be smart, and be aggressive. We worry over extremes on both sides of the paranoia spectrum. Neither is retail facing an "apocalypse," nor is the industry about to experience a renaissance and transformation brought on by any one technology: not the Internet of Things, not Artificial Intelligence or any other buzzworthy tech brought to the fore.

What *is* happening is the growth of new technologies that will support sound retailing practices and simplified processes. Just as the Internet of Things will support more efficient access to inventory and other assets, Artificial Intelligence will facilitate finding patterns in data that previously were observed through intuition or otherwise completely missed.

When retailers take these new capabilities and feed them into existing technologies like location-based analytics, they'll glean insights that will improve their effectiveness. Having said that, they will not, in themselves, save a failing business.

Towards that end, we recommend the following:

Be Very Aware Of Privacy Concerns

Europe appears to be even more sensitive to consumer privacy concerns than the U.S. is. What seems to be okay today may not be acceptable tomorrow. Err on the side of caution, and disclose, disclose, disclose.

Frankly, a long email to consumers explaining new privacy policies will not be read, nor will it be absorbed. Plain English descriptions of what you are doing, broken into manageable chunks will help consumers decide if they want to opt in or out of any kind of tracking technologies.

We were rather concerned at most of the privacy related responses in this survey. Please be aware: consumer trust is a fragile thing. Once broken, it is hard to recover. Be careful!

There Are No Magic Bullets

Retail remains a relatively simple business: plan, buy, sell, analyze, rinse and repeat. Technology can help you plan, and help determine how much to buy, but it will never be able to tell you WHAT consumers are going to want. To learn what they want you need a sense of art, and the ability to ask them the right questions. You also need the ability to grab a winning product when you find one, and get it into consumer hands. Location-based analytics can help you decide where to put a product, but not necessarily if that product is a winner or not. Never discount the value of the merchant.

Technology Investments Matter

There are times when technology can't really help. It can't help a failing business model, for example, but it can help hone a marginally or very successful one. Retailers have historically been unable to spend what it takes to make technology work for them in a pro-active way. Those days are over. Amazon.com brought them to a close. The time has come to over-invest for a time, to get up to speed and get on an equal footing with consumers and over-IT-investors like Amazon.

Infrastructure First, Then Value-Add

Location-based insights offer exciting possibilities, but some fundamental investments must be made first. First, retailers must have a corporate network capable of handling the data that IoT devices are capable of generating. Secondly, an analytical platform that can turn all that raw data into insights is critical. Third, and perhaps most importantly, retailers need to import the talent necessary to develop the use cases that will drive adoption.

Expect The Unexpected: Insights Can Be Very Counter-intuitive

Conventional wisdom has been wrong on many occasions. The beauty of advanced analytics is not just in re-affirming what you thought you knew, but often in showing you things you never would have considered.

Do you know the physical paths your customers take to your stores? Do you know who your most aggressive closest competitor is? Do you know where your online buyers are clustered? Do you know where the best place to put your next distribution center should be?

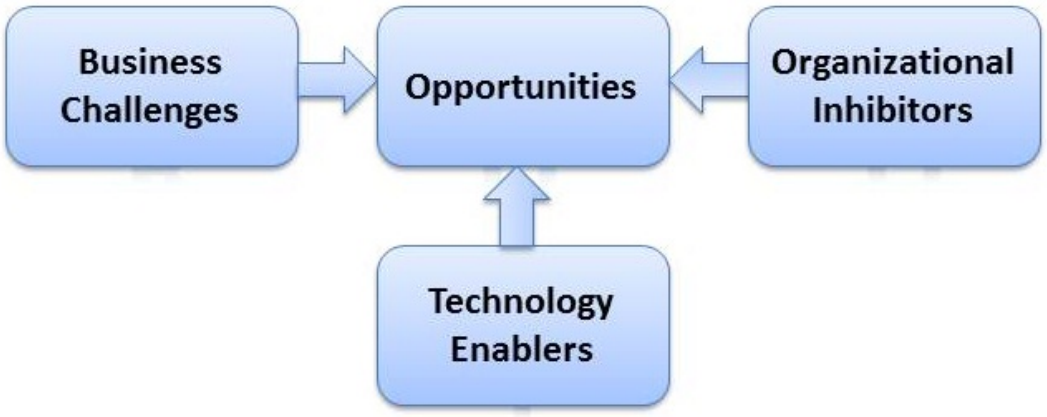
These are the questions that location analytics can help answer. Expect to be surprised.

Appendix A: RSR's BOOT Methodology©

The BOOT methodology© is designed to reveal and prioritize the following:

- **Business Challenges** – Retailers of all shapes and sizes face significant **external** challenges. These issues provide a business context for the subject being discussed and drive decision-making across the enterprise.
- **Opportunities** – Every challenge brings with it a set of opportunities, or ways to change and overcome that challenge. **The ways retailers turn business challenges into opportunities often define the difference between Winners and "also-rans."** Within the BOOT, we can also identify opportunities missed – and describe leading edge models we believe drive success.
- **Organizational Inhibitors** – Even as enterprises find opportunities to overcome their external challenges, they may find **internal** organizational inhibitors that keep them from executing on their vision. Opportunities can be found to overcome these inhibitors as well. Winning Retailers understand their organizational inhibitors and find creative, effective ways to overcome them.
- **Technology Enablers** – If a company can overcome its organizational inhibitors it can use technology as an enabler to take advantage of the opportunities it identifies. Retail Winners are most adept at judiciously and effectively using these enablers, often far earlier than their peers.

A graphical depiction of the BOOT Methodology© follows:



Appendix B: About Our Sponsor

Esri provides the world's most powerful mapping and spatial analytics software. Our product, ArcGIS applies The Science of Where to connect everyone, everywhere through a common visual language. It combines mapping and analytics to reveal deeper insight into data. For Retailers ArcGiS extends the key capabilities retailers need to understand why things happen where they do. Every transaction in retail happens in a specific place for a reason. Using ArcGIS, leading retailers find hidden insights in their data, enabling them to understand their customers and their enterprise.

Visit us at esri.com.

Appendix C: About RSR Research

Retail Systems Research ("RSR") is the only research company run by retailers for the retail industry. RSR provides insight into business and technology challenges facing the extended retail industry, providing thought leadership and advice on navigating these challenges for specific companies and the industry at large. We do this by:

- **Identifying information** that helps retailers and their trading partners to build more efficient and profitable businesses
- **Identifying industry issues** that solutions providers must address to be relevant in the extended retail industry
- **Providing insight and analysis** about a broad spectrum of issues and trends in the Extended Retail Industry