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The following table and charts provide a snapshot of retail sales performance during the third quarter of 2017.

<table>
<thead>
<tr>
<th>Retail Spending (%)</th>
<th>Sep</th>
<th>Aug</th>
<th>Jul</th>
<th>Sep Y/Y</th>
<th>2016</th>
<th>2015</th>
<th>2014</th>
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<tr>
<td>Total Retail Sales &amp; Food Services</td>
<td>1.6</td>
<td>-0.1</td>
<td>0.5</td>
<td>4.1</td>
<td>3.2</td>
<td>2.6</td>
<td>4.3</td>
</tr>
<tr>
<td>Excluding Autos</td>
<td>1.0</td>
<td>0.5</td>
<td>0.5</td>
<td>4.0</td>
<td>3.0</td>
<td>1.4</td>
<td>3.8</td>
</tr>
<tr>
<td>Non-Auto Less Gasoline</td>
<td>0.6</td>
<td>0.1</td>
<td>0.7</td>
<td>3.2</td>
<td>3.9</td>
<td>4.2</td>
<td>4.6</td>
</tr>
<tr>
<td>Retail Sales</td>
<td>1.7</td>
<td>-0.1</td>
<td>0.5</td>
<td>4.2</td>
<td>2.9</td>
<td>1.9</td>
<td>4.1</td>
</tr>
<tr>
<td>Motor Vehicle &amp; Parts</td>
<td>3.6</td>
<td>-2.1</td>
<td>0.3</td>
<td>4.1</td>
<td>4.1</td>
<td>7.3</td>
<td>6.4</td>
</tr>
<tr>
<td>Retail Less Autos</td>
<td>1.1</td>
<td>0.5</td>
<td>0.6</td>
<td>4.2</td>
<td>2.5</td>
<td>0.4</td>
<td>3.4</td>
</tr>
<tr>
<td>Gasoline Stations</td>
<td>5.8</td>
<td>4.1</td>
<td>-0.5</td>
<td>10.7</td>
<td>-5.7</td>
<td>-17.6</td>
<td>-2.0</td>
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<tr>
<td>Food Service &amp; Drinking Places Sales</td>
<td>0.8</td>
<td>0.2</td>
<td>0.1</td>
<td>3.3</td>
<td>5.9</td>
<td>8.1</td>
<td>6.1</td>
</tr>
</tbody>
</table>

Source: Haver Analytics.

Chart 1. Retail Sales: Total (Excluding Food Service)

Source: Federal Reserve Bank of St. Louis.
Chart 2. Retail Trade: Nonstore Retailers.

Source: Federal Reserve Bank of St. Louis.

Chart 3. S&P Retail Select Industry Index.

Source: S&P Global Inc.
This article summarizes a roundtable education session in which top industry signage solutions providers, vendors and end users gathered to talk with Stuart Armstrong, Group President of ComQi about the implications of the Internet of Things. The discussion focused on delivering great experiences with an emphasis on how the customer is always the focus. In the end, it’s about the people, not the things.

Stuart Armstrong: What is IoT and is it important, or just a lot of noise?

Sean Anderson: Anything that’s programmable and has connectivity is the foundation for IoT. It’s similar across a lot of platforms, but the internet is the backbone. The devices can live online or sometimes offline. If offline, they can be connected via technologies like Bluetooth. The bottom line is: What is the device doing? What information can I send it? And what information can it send back to me?

Max Stevens-Guille: To add to that, one of the other things we feel is important is the analytics that you build upon, by bringing all that data back in one form, and then transforming it into something that’s more meaningful. Analytics help you understand more about how your infrastructure is working.

IoT has implications for omni-channel. Smartphones add a new communication capability that consumers bring with them to venues. We can look at a lot of data points, or instruments within a given environment, to understand what the consumer is interested in, and what actions they are taking, and form a closed-loop system that helps influence people.

That’s particularly interesting in retail, where store form factors are changing constantly. Some are downsizing; some are upsizing. There are brands inside other branded venues, pop-up stores, a lot of variety. IoT helps us bring all that data about what’s happening in those environments back into store operations.

Luke Wilwerding: At a high level, we look at it in terms of enhancing the customer experience, store operations, and new channels, both increasing and creating revenue streams.

Aaron Kleinhandler: You really just use these machines to guide the customer journey. When someone walks into a store, what’s the best way to control that experience? You can control what the store looks like, for the most part, and what products are there. What you can’t control is the customer experience – how they interact with your storefront. Using these connected devices and machines, and analytics, will hopefully help you inform the customer journey and influence the customer – to gain more revenue.

Armstrong: What does fan engagement mean in arenas and sports venues?

Michael Rocha: There are a lot of parallels to what retail is experiencing now and what sports went through five or 10 years ago, in terms of the experience fans had on their home TV. It became so advanced, and so good, that people weren’t going to the stadiums anymore. There was a big trend to upgrade the fan experience inside the stadiums, so it was worth going to the stadium again.

Retailers are going through something similar, where they have to enhance the shopping experience or customer engagement, so that people leave the screens at home. Customers want the same data available to them as at home, and want to enjoy the experience.

We do have some parallels, but some of the things that are unique to us are that we have a game or event to react to. In general, customers come to us only when there is an event, and we are trying to reach out to
them on a 24/7 basis. So, the minute they leave their house on the way to the stadium, we are engaging with them. When they are in the parking lot – tailgating – hopefully we are engaging with them. Throughout the event, and even on their way home, we have kept that connection. And that’s helping create a connection with our client’s brand, and helping their ROI.

**Armstrong:** If we had to invent shopper cards now, where would you like the shopper to give the retailers the card, at the beginning or the end?

**Wilwerding:** We have seen, both in retail and QSR, people checking in through a kiosk or a localized app. There are also Wi-Fi and beacon-based technologies being used for check-ins. Many retailers are now leveraging clienteling applications. One thing to think about regarding store associate technology is that it’s generally a private experience where the retailer or store associate may know a lot about the customer, but how do I go about intelligently sharing that information in a more social or communal setting – which is typically going to be a larger screen – where multiple people can interact?

There is both the identification and the journey through the retail or QSR environment. For example, in McDonald’s or Wendy’s, people are using both mobile apps and self-service kiosks to order, and to identify themselves at the restaurant for pick-up. Customer information is also shared when people are reserving tables online or through mobile apps. We are seeing services moving to electronic formats, which leads to more efficiency and personalization of the customer experience.

**Armstrong:** How can we connect with consumers before they get to the venue?

**Anderson:** As with many venues, the Six Flags mobile app is the underlying thread that ties everything together. The customer journey starts with people downloading the app or just visiting our website. People then decide a time or date to visit the park. We are not a destination park like a Disney or other Orlando park. We are more of a regional park, where our visitors are more likely to say, “I’m going to pop over this weekend,” or “I have time. My family and friends are here. What are we going to do? Let’s go to Six Flags!”

We are a very ad hoc, spur of the moment destination. But some level of planning is involved – so it’s important for us to have multiple platforms where guests can find the information they are looking for and start their journey.

Once they download the app, the journey starts. We have some people who like to “put their phones down” and enjoy the visual experience in the park, or put on the VR goggles and enjoy those rides. Other times, we have customers who like to optimize their day by getting information, such as what wait times are for particular attractions.

We try to understand the customer journey so we can get them into the park and on as many rides as possible, so they can have as much fun as possible. If we can help them understand that there is a smaller line at another ride (at the other side of the park), and it is something that fits their schedule, maybe they can hop over there. If there is a 20-minute wait for food at the Johnny Rocket's, maybe they can go to the panini place next door, which has a shorter wait.

It’s important that this information pops up on their phone while they are in the park because it will help them have a better experience. We are looking at devices and technology at those spots in the park to give that information – which is really difficult.

We are a seasonal park – we hire and fire 45,000 employees every single year. So that means training, onboarding, and potentially firing them at the end of the season. But what we are trying to do is get them
onboard and give them as much information as possible, so they can help the guests – and that’s a tough thing to do if the employees are new to the environment.

We are always looking at technology – new ways to automate components and gauge information that can supplement data, so we can give the guest the best experience.

**Armstrong:** How is digital signage being applied as one of the things in the Internet of Things?

**Kleinhandler:** A lot of my company’s focus is in the healthcare industry, which is also going through its own revolution. The idea that the patient is more of a customer, and the experience they are going to have, from way-finding to appointment setting to when they get in for their visit. Facilities are delivering relevant content either through digital signage or even on a patient’s own tablet or phone.

There is something similar in the automotive industry, where people are spending more time evaluating their purchase, or are waiting to see someone. This is the time that they will engage with relevant content, and where the customer wants to be engaged is highly important.

The other thing the healthcare industry is looking at is customer consistency. Using digital signage, other assisted selling tools, or interactive screens is all for consistency purposes. It’s very hard to have that consistency when you have 45,000 new employees every year. How do you enforce that consistency? Digital signage and assisted selling tools, scent marketing, and music help with that consistency. You want the same consistency and insights that you are getting online. Through omni-channel, you can get that consistency in-store. With the tools we have today, you can approach that very easily.

**Armstrong:** Are you seeing any innovation in IoT and digital signage to direct customer traffic to drive additional revenues?

**Rocha:** Yes. As an example, in arenas we are seeing a lot more connectivity between all the different systems. From POS, to inventory, to line control, even parking lots or crowd arrival time. We are able to monitor that and make decisions on what happens within the facility based on that information and data inputs and direct people to a more positive experience. If we know it’s a late arrival crowd, we can push back a major section of our entertainment set to a little later. If the hot dogs aren’t selling as fast, we may put them on sale. So, you are seeing that when everything is connected, it gives a lot more flexibility to us – to be quick in our reaction. Previously we would use the data from one event and hopefully fix it for the next event, or even the next season. Now we can react to something in a period and a half – which is pretty amazing.

**Armstrong:** Where there are huge amounts of increased data, there are new security risks. What should we be aware of regarding data security?

**Wilwerding:** Look at self-service kiosks in QSR environments, or a retailer via endless aisle. If you have a digital experience where you can’t actually buy at that point of service, you will lose revenue as people walk to the cashier. They may change their mind. If you can close the loop at the point of service, at a kiosk or non-traditional POS station, you’ll see attach rates and the volume of impulse purchases grow.

A couple of years back, people were using their e-commerce platform with credit card readers taking payment as a “credit card not present” transaction, and retailers paid a premium for this. But as self-service gathered momentum, brick and mortar retailers realized that they have to start giving stores credit for in-store e-commerce revenue. And they have to offer secure EMV transactions, otherwise called chip and pin transactions. It’s complicated, and it’s different from how things were being done even a couple of years ago.

**Anderson:** As a brand, you have to focus on standards. Six Flags’ CIO made a decision some 10 years ago to do so. And these standards are being implemented not only in the new and future parks, but also the existing ones. These standards help build security in a way that allows us to grow and expand really fast, and basically replicate the same model. For example, our data centers all look exactly the same. That helps reduce staff and keep a small set of knowledge and data that we maintain.

“We are always looking at technology – new ways to automate components and gauge information that can supplement data, so we can give the guest the best experience.”
Our POS is also always connected and online, and from there we were able to light up other devices like digital screens, et cetera. Security is very important to us; we have to maintain certain certification. We get audited, as well, and we always aim at surpassing those requirements. And now, we are expanding into Wi-Fi.

With IoT, you should also set policies and standards for any devices that are entering your network. So we go through this process before adding new devices to our network. We ask questions like, “How long will the device be on our network? What happens if the manufacturer goes out of business? What are the plans in place if a massive vulnerability is found? Will the manufacturer patch it? How fast can they patch it? Does the device know how to be patch itself? What are the credentials?”

**Armstrong:** How can retailers use that data to improve their operations?

**Kleinhandler:** Employees are a very important part of this customer journey. We did a concept store for a tire retailer — completely re-did the store, got rid of the counters, got the employees out front to be more consultative. They knew who their customers were, for the most part, but they didn’t train the employees in this new way of selling. There was this big disconnect. They were not hiring people who were comfortable with that style. You can use the data to design the store, but you also have to pay attention to employees and make sure they can interact with customers.

Another thing that I hear about in-store data is that we know what they bought, and when they bought it, but it is too late to influence the customer, at that point … and get them to buy more. So, it is important to recognize who is coming in, and incorporate things like social sharing.

**Armstrong:** How do you manage Big Data science and real-time analytics?

**Rocha:** Coming from the sports side, we have real-time data visualization all the time, and we use those tools. For example, in racing, we have the data regarding the tire pressure and engine/oil temperature of every car on every track coming at me five times a second. It’s a tremendous amount of real-time data that we have to parse through, and then, in real-time, decide what is the most relevant story we want to tell.

And what we are seeing is that these same tool sets are being applied to retail environments, where we are trying to take the customer through a journey. The difference is that in a stadium, thousands of people are taking the same journey at once, but in retail stores we are trying to take everyone through their own individual journeys. And the tools that we use for data visualization are being applied to these environments.

**Wilwerding:** I would like to add something about catalogs. When people think about shopping on their phones or online, there is cached data, which is past searches. For example, he or she looked at a particular pair of jeans and items to go with them. When you move the shopping experience in-store, you don’t have the previous search data to go with it. There are several unique artificial intelligence platforms we are partnering with to provide some of the predictive experiences you would expect when shopping online or in-store. We also see RFID coupled with endless aisle concepts that help augment the data and hopefully, enhance the shopper experience.

**Armstrong:** Are RFID tags being used in consumer venues?

**Anderson:** No, we haven’t worked with a lot of RFID, except for maybe in our retail stores, or for some supply chain applications. However, we are actively looking at Bluetooth for different use cases. We have a couple of
ways to capture wait times, and Bluetooth will help us to some degree, and will also give us better ways to engage with customers and make announcements throughout the park or through their journey during the day. We also are very interested in heat-mapping and facial tracking technologies, and using that to understand how long people are taking to get from one section of the park to another.

Wilwerding: On the retail front, however, we do see a lot more adoption of RFID. Many RFID programs first started on the supply chain side, but as we see more and more “buy-online and pick-up in-store” concepts, the technology previously utilized to manage inventory is now migrating into endless aisles, connected fitting rooms, and those types of experiences. And there are quite a few pilots going on that will soon make the news. So, to answer your question, RFID is being utilized more frequently than ever before for customer and front-of-house experiences.

"It's important for retailers to focus on data that is meaningful to them," said Max Stevens-Guille. In summarizing the roundtable discussion, he said that "IoT is more about evolution than revolution. The revolutionary aspects are what retailers can get out of it. However, you don't need to completely rip out your existing infrastructure to do so. It's important to talk to retailers and understand their objectives and the technologies that they are currently deploying."
In commerce, Customer Experience (CX) is the product of an interaction between an organization and a customer over the duration of their relationship. This interaction is made up of three parts: the customer journey, the brand touch points the customer interacts with, and the environments the customer experiences (including digital). A good customer experience means that all points of contact match the individual's expectations. Gartner asserts the importance of managing the customer’s experience.¹

The definition goes further to express that customer experience implies customer involvement at different levels – rational, emotional, sensorial, physical, and spiritual. Customers respond diversely to direct and indirect contact with a company. Direct contact usually occurs when the purchase or use is initiated by the customer. Indirect contact often involves advertising, news reports, unplanned encounters with sales representatives, word-of-mouth recommendations, or criticisms.

The Customer Experience Professionals Association declares on its website that “more and more companies recognize (the) importance (of CX) as a key ingredient in building and maintaining customer loyalty” and that “a growing number of professionals have responsibility for assessing and improving customer experience in channels (e.g., web, call center, brick-and-mortar store, mobile commerce, etc.), with products, and across entire organizations.”

CX professionals generally focus on customer journey mapping, customer engagement scripting by call centers, sales, and support staff, and the facilitation of business improvement processes across disciplines. Some play a role in data analysis and most are driven by improving Net Promoter Score² (NPS), which has been widely adopted by more than two-thirds of Fortune 1000 companies. NPS often influences compensation plans within the enterprise.

Digital Experience (DX) is the on-location manifestation of CX. DX can increase the focus of the on-location experience by the brand, retailer, transit provider, stadium, or attraction location operator. It commonly takes the form of dynamic signage for promotional, informational, or merchandising messages or interactive displays that respond to inquiries such as product availability and features comparison. Innovative commercial displays and video walls express brand attributes and can present images that enhance the ambiance, vitality, and attractiveness of the environment.

Examples of unique digital experiences based on dynamic display media are reflected as finalists and winners in award programs such as The Digital Signage Expo APEX Awards³ and Digital Signage Magazine's annual DIGI Awards⁴.

Dynamic media offers excellent digital experience value in these other situations too:

- Making a game (i.e., “gamification”) to enhance customer learning and the presentation of product/service features and benefits offers high levels of digital engagement. This can include multiple-choice or true-false questions that reveal the correct answer and then expand on the answer to illustrate benefits available to the consumer.
- Linking displays to physical devices offers high levels of consumer engagement. For example, a flat panel can present a camera’s view of a person’s running characteristics while on a treadmill.

• The phrase “lift and learn” has been coined to describe how information about a product is displayed on a digital display when the product is lifted for examination by a shopper. This has been used by athletic shoe providers and mobile phone companies to also allow for the comparison of the features of multiple products.

• User-generated content has been the subject of recent commentary by the BrainTrust of RetailWire, which suggests the high value of displaying customer images and comments when they can portray and make a positive reflection on a product or brand.

• At the Toronto Eaton Centre location of Nordstrom, an interactive flat panel allows children to compose and play music on a virtual piano keyboard. Entertaining and engaging the co-shopper adds to the selection and purchase experience of the primary patron.

Traffic and conversion are the two critical success factors in retail. When discovery and product examination are uniquely offered in brick-and-mortar retail stores where the purchase decision can be made and the customer provided with the immediate satisfaction of buying the product and taking it from the store, an effective digital experience can help fulfill shopper conversion.

But there is growing concern among retailers that they may be squandering the shopper visit. It hurts the brand to not respect the gift of a store visit by shoppers. Every visit should include discovery and the satisfaction of needs and wants fulfilled, with each visit fueling the desire for future visits.

A DX can engage the patron by providing information about products, enhancing inventory visibility and noting promotions as the way in which features and benefits of products ideally suit the consumer. Should conversion not occur on one visit, the in-store experience should motivate future purchases.

A visit is also the opportunity to promote future in-store events. Dynamic signage and other digital experiences can keep the store worthy of being on the outing itinerary.

Branding and merchandising have always been at the top of the list for investment worthiness of in-store dynamic signage. Increasingly, it is important to improve the vitality, ambiance, and innovativeness of the store, mall, transit station, or stadium. What has been intelligent behavior by marketers in the paid-owned-earned media model is now challenged as the importance of store visits and conversion increases. Quality of experience equals quality of commerce when the basis of value considers the broadest definition of benefits against price. Digital experience can be a large part of brand and location appeal.

Marketing has always been based on reason, observation, and revelation. And digital experience with media has tended to be biased toward the art end of the art-and-science scale. But with digital experiences, art and science can be integrated. Analytics can inform the art and the art can deliver quantifiable impacts. While messages and interaction can be focused on achieving specific results, such as awareness or sales lift, the digital medium is well suited for viewer engagement. Engagement could include motivating consumers to other communications devices such as an online information or an e-commerce site.

Garry Wicka, Head of Marketing, Commercial Division, LG Electronics USA, Inc.

6 http://www.retailwire.com/discussion/are-retailers-squandering-store-traffic.
Northwestern University’s Spiegel Research Center conducts ongoing, multifaceted research into how consumers engage with brands and how that engagement shapes customer value. The Center analyzed data from leading brands to quantify the financial impact of app usage.

Smartphones and tablets have unquestionably reshaped the consumer marketing landscape. But for marketers thinking about how to allocate their digital budgets, important questions remain about branded apps’ efficacy in influencing purchase behavior, brand loyalty, and customer lifetime value.

In this report, researchers found:

- Engagement through apps increased order size and frequency.
- Consumers’ buying strategies varied by device and by product type.
- Apps created a unique set of risks for brands.
- Spiegel teamed up with various brands to analyze engagement.

Questions Addressed in This Research

- How much does app adoption influence customer order frequency and size?
- What types of products do shoppers buy on mobile vs. desktop?
- Should brands encourage engagement on apps over other types of devices?
- What are the characteristics of apps that drive customer value?
- What are the risks of creating a sub-par app?

Insights from Peapod

Spiegel’s research into data from online grocer Peapod showed that apps are indeed powerful drivers of customer value – and this value is maximized when the apps are part of a multi-device strategy that understands the various ways that shopping and engagement occur in a digital ecosystem. By decreasing time between orders and increasing order sizes, app engagement grows customer lifetime value.

Spiegel analyzed data from the online grocer’s customers from 2011 to 2013 – a timeframe during which the adoption of Peapod’s mobile app significantly increased. This research allowed researchers to examine how customers’ purchase behavior changed as they adopted Peapod’s app. Specifically, researchers compared...
order size, order frequency, and types of products purchased by consumers who used personal computers (PCs), smartphones, tablets, and various combinations of these devices to complete their orders. Findings include:

1. Apps Users Purchase More Frequently: Shoppers who made purchases using smartphones or tablets had significantly shorter time spans between purchases than shoppers who ordered only on PCs.

Multi-device shoppers using a PC, smartphone, or tablet shaved almost five days off their time between purchases. This translates to approximately five additional orders per year per user.

Smartphone-only purchasers increased frequency by 18 percent over PC-only purchasers, while tablet-only purchases were 12 percent more frequent. The increase in order frequency after downloading the app was even greater for low-spending customers.

2. Multi-Device Shoppers Place Larger Orders: Not only do multi-device shoppers purchase more frequently, they also place larger orders – and the more devices used, the larger the increase. Shoppers who used all three devices had 11 percent larger orders than PC-only shoppers. This illustrates the strong correlation between multi-device engagement and customer value.

Researchers found that shoppers who used only a smartphone or only a tablet when compiling an order had smaller order sizes than shoppers who used only a PC. This suggests that shoppers like using smartphones and tablets for speed and convenience when making smaller, simple purchases, but are less likely to use mobile devices alone for more elaborate orders. As a result, the optimal multi-device approach should leverage smartphones as an addition to, rather than a replacement for, PC and tablet orders.

3. Multi-Device Shoppers Are More Valuable: The combined impact of increased frequency and basket size among multi-device shoppers translates to significant gains in “lifetime value” for retailers utilizing a multi-device online sales approach.

The lifetime value of shoppers who use all three devices was $255 greater than the value of PC-only shoppers. This equates to a bump of more than 50 percent, illustrating the importance of multi-platform engagement (see Chart 1).

Chart 1. New Customers’ Lifetime Value by Device.
As a result, brands should build digital platforms that encourage shopping experiences that span multiple devices, not just a single device. Apps should be developed in the context of a multi-channel strategy.

4. Shoppers’ Buying Strategies Vary Across Devices: The products that were the most likely to be purchased via mobile fall into “habitual” buying patterns – either brands frequently purchased, or categories in which brand choices have been long established. Conversely, the products that were least likely to be purchased online were ones that the consumer had less experience purchasing.

Consumers do not, it appears, “do mobile all the time.” Cross-platform strategies improve customer value.

Insights from Air Miles Rewards Program (AMRP)

Canada-based AMRP is one of the world’s largest coalition loyalty programs. AMRP’s members earn points for purchasing at partnering sponsors across various categories, including groceries, gas, banking, and auto repair. Members then redeem the points for rewards such as merchandise, gift cards, and air travel. AMRP’s app, launched in 2012, allows members to view account balances, redeem points, find nearby offers, and check-in at participating sponsors.

Spiegel’s research examined the purchase behavior of AMRP members who downloaded the app in September 2012. Researchers looked at point accruals and redemptions for the six months before and after members downloaded the app. Researchers also compared behaviors to members who are similar in terms of demographics and spending but did not download the app.

1. Consumers Spend More – and More Frequently – When They Engage with an App: Researchers found that mobile adopters spent significantly more after downloading the app than non-adopters. As shown in Chart 2, adopters outspent non-adopters in each of the six months following the download. In the month of initial download, spending jumped nearly 50 percent.


The impact of app engagement on consumer spending became more dramatic when researchers drilled into specific features. Members who used the app to check-in at participating sponsors saw a 19 percent increase. Members who used the app to look up information saw a 24 percent increase in post-adoption spending. Members who used both features saw a 48 percent increase. (See Chart 3.)
An app is more than an access tool; it is the brand experience.

When developing an app, include functionality that generates several levels of customer engagement. With AMRP, Spiegel's research found that customers who engaged deeply in an app by participating in a brand’s “Check-in Challenge” contest spent more.

2. App Adoption Creates an Immediate – But Not Necessarily Sustainable – Bump in Customer Activity:

The impact of downloading an app on spending and customer activity is greatest immediately after adoption. In September, the month when the app was downloaded by the AMRP members studied, there was a clear spike – both in terms of the frequency of point redemptions and the size of point redemptions. (See Chart 4.) This bump quickly disappeared as users disengaged with the app. It is important to note that the research does not definitively indicate whether the decline was driven by active disengagement.

Habit-inducing apps make users more likely to engage on a regular basis and less likely to consider other brands. Brands should anticipate and take advantage of the bump in engagement that occurs immediately after the app is initially downloaded. Brands may want to consider offering special promotions during that first month or sending personalized messages to help the user learn how to use all of the app’s features. However, brands should take care to avoid oversaturating users with notifications that are too frequent and/or not valuable or relevant to users’ daily lives.
3. When App Use Decreases, So Does Purchase Behavior: Research into AMRP participants found that as adopters went longer without using the app, spending per month decreased substantially. Unfortunately, a major drop in app usage soon after download is the norm for most apps. As the research showed, if consumers disengage from an app, they can disengage from a brand and purchase less than they did before downloading the app. Brands should guard against launching apps that customers will stop using because of technical glitches or failure to provide utility. Conversely, brands should work to create apps that become a part of their customers’ daily routines.

What These Insights Mean for Brands

Based on Spiegel’s extensive research into how branded apps affect purchase behavior, it is recommended that brands follow these six principles when developing and supporting apps:

1. **Give users a reason to keep coming back.** Apps usage increases order frequency and size, but only if it gives users a reason to keep using the app. Think about incorporating loyalty programs, gamification, and other tools for driving continuous usage.

2. **Encourage multi-device shopping.** Shoppers who engage across multiple devices are more valuable. Create a seamless shopping experience across devices, and don’t try to push people to become “app-only” customers.

3. **Do not use a one-size-fits-all approach across devices.** Consumers have different buying strategies for different devices. For habitual purchases, use alerts and other tools that make it easy for users to complete the purchase. For high-consideration products, use the app as a place for users to begin their buying journey.

4. **Deliver relevant value for users’ daily lives.** When developing an app, be relentlessly focused on how it creates tangible value for users. Think of the various ways that an app can make users’ relationship with the brand more interactive, entertaining, valuable, and/or efficient.

5. **Create “sticky” experiences.** Create strategies for overcoming the tendency for users to forget about the app soon after the initial download. Create “sticky” engagement experiences that make using the app a recurring part of customers’ daily or weekly routine.

6. **Protect against the downside.** A bad app experience can hurt a brand and destroy customer value. Before launching an app, rigorously test to make sure it is functionally sound, provides unique value, and protects users’ data. Also make sure to have a strategy for providing fresh content.

The researchers report that the data-driven insights on these topics will allow marketers to make informed decisions about the role that branded apps should play in a cross-platform, integrated marketing strategy.

Download the complete Branded App ROI report, including a Pre-App Launch checklist, from Spiegel Research Center.
Many retailers have rolled out RFID technology in their stores, while others are just now testing its ability to improve operational efficiencies and ensure a more accurate inventory count. This roundtable discussion focused on how several retailers approached their RFID system deployments.

Four panelists also offer their advice to retailers who are considering a test of RFID technology: detail the objectives, the business strategies, and what you are trying to accomplish with RFID before testing it in your stores.

The panelists responded to a series of questions posed by moderator Steven Keith Platt, Director and Research Fellow, Platt Retail Institute, and Director of Research, Retail Analytics Council.

The roundtable participants included:

**Steven Keith Platt**: This our fourth retail research roundtable. The first addressed big data, analytics, and the omni-channel customer. Our second focused on RFID challenges and opportunities. The third considered the role of emerging technologies in retail. All three are available on the PRI and RAC websites. I am grateful for the outstanding feedback that we have received on these research panels, and for the participation of our panelists.

Today’s topic is: “Insights into Deploying RFID Systems in Retail.” We are going to talk about the experiences various retailers have had with their RFID deployments, as well as benefit from the input of a leading industry consultant. Our goal is to gain insights from our panelists that may be valuable to retailers considering the use of RFID systems.

What I would like to do first is go around and ask everyone to introduce themselves and then we'll jump into it. So Allan, if you'd be kind enough to start out.

**Allan Smith**: I am the former CIO at Lululemon. Before that, I was in architecture engineering for many years at Gap Inc. So, I've had quite a run in retail. Right now, I'm doing some strategy consulting for a variety of companies. I have a lot of experience with RFID strategy formation ever since the GAP days and culminated with an implementation while I was at Lululemon across the fleet.
Karl Bracken: I’m the Senior Vice President for supply chain transformation at Target Corporation. In my current role and in my past role, we implemented RFID across the home and apparel categories at Target. Prior to that, years ago when I first came to Target after business school at Northwestern, I was involved in research we were doing on the application of RFID in our prescription pharmacy business as well as in some of our distribution nodes. I can talk about our experiences 14 years ago versus what we’ve seen in the past couple years when we moved forward with implementation.


Marshall Kay: I've been working with RFID in the retail space since 2003. That's when I was bitten by the bug. I'm the founder of a retail consulting firm called RFID Sherpas, which I formed in 2007, that helps clients evaluate and utilize RFID and IoT solutions. We don't resell any of the solutions, which gives us the opportunity to offer vendor-neutral advice. We then help our clients get the most from their investments.

One other thing I should point out is that for about 11 years now, I've been authoring Apparel magazine’s annual report on RFID and IoT. It's been interesting to watch the evolution of the technologies in this space.

Platt: Rene, please introduce yourself.

Rene Saroukhanoff: I'm Senior Director of Data and Analytics at Levi's. I have been here for almost three years and before that, I too was at Gap, Inc., where I spent time in inventory allocation, which is where, obviously, the interest in RFID and related technologies started. We have done a pilot here at Levi's and I have tried to keep up with it as much I can, but the pilot was managed through another group so I was kind of an interested spectator in it.

Platt: Karl, why don't we start with you if I could just generally ask, what's your interest in RFID technology?

Bracken: Our interest in RFID initially was in ensuring that we could have more accurate count integrity of our inventory throughout our network. You can imagine that in a big box retail store with 85,000 items in each store, count integrity can be quite challenging, particularly when you're turning inventory quickly. That's especially true in categories where you have product that gets misplaced, broken, or stolen.

That was one of the major use cases for us. As we got into it and did our research, and then rolled it out, we found that it also has greatly enhanced our ability to pick product quickly for ship-from-store and pick up-in-store offerings. In our store, on our sales floor, it has been very useful to use the Geiger counter functionality on the RFID readers to find apparel, for instance, to speed up the pick, pack, and then shipping that product directly to consumers. Largely, it is about count integrity and shrink avoidance, but we've gotten other sorts of labor efficiencies from our rollout.

Platt: Allan, my understanding is that you have, in the past, successfully deployed RFID across an entire chain – you went systemwide. Is that correct?

Smith: Yes, that's correct. That project was initially targeted at improving in-store efficiency through improved in-store operations. The target always was to move that model throughout the entire fleet – all categories, all stores. For all intents and purposes, it's fully rolled out with the exception of a few international stores, which was the smaller part of the footprint, but it was intended to be a full rollout. After we had implemented it and gotten the benefits of the in-store operational improvement back to front, the whole omni-channel business case came front and center. We were able to start to move on a strategy of driving ship-from-store and pick up-in-store, and really get to a position where we had systemic visibility across all our stores and e-commerce to know exactly what was in-store and online. To achieve the omni-channel fulfillment rates we were looking for, and to drive a best in class customer experience, very high inventory accuracy was required across all our stores and e-commerce.

Platt: A lot of the top-line benefits, such as accuracy and omni-channel fulfillment, have been documented and discussed. But, when it comes to implementation, particularly, you look at a store like a Target, or we've worked with Macy's, where the technology has to be very pervasive from the vendor to the floor. I believe that
a lot of retailers are struggling with this monumental task. Marshall, when you work with your clients, how do you ensure that they maximize their return on investment?

Kay: Well, Steven, this is really about people first. These are people initiatives, not only technology initiatives. We advise our clients to always look at things through the eyes of the store associate because if it doesn't work for them, then it's not going to work.

That goes right to questions including: What will the reports that the associates are going to be working with look like? On what devices? How intuitive are they? What does the training look like? It also requires working with other parts of the organization on the data that they are going to be getting and how they will be able to make the most use of it.

Platt: Allan, when you were implementing, or in your experience subsequently, what do you see as some of the major impediments to adoption from a retail perspective?

Smith: One of the things that will qualify everything, at least from my perspective on RFID implementations, is that in a vertical, it does eliminate a lot of challenges. Meaning, both a Gap as well as a Lululemon have primarily vertical supply chains, and that gives a lot more control.

That said, there are still a lot of hurdles to implementation. I think the first thing is getting the proper sponsorship and buy-in from the functional groups across the different organizations, starting with stores and the supply chain. I feel that selling RFID to a Board of Directors and the senior executive team is more straightforward than keeping the next layer down of operational functional leaders enrolled and aligned. So, I think it's critical to have the business functional leaders with IT as strong enablers to push through technical roadblocks or other types of solutions that you need to maintain.

That's first and foremost. Then, I agree 100 percent that having the in-store operational aspects of it very well understood and communicated and then having associates trained to the point where they view it as a benefit to what they do day to day, closes the circle in terms of sponsorship and buy-in for a successful rollout.

Platt: Karl, you have some different issues. You obviously have your own private label, but certainly Target has a lot of other brands, and a fairly large footprint, lots of SKUs. What are some of the hurdles you encountered and how have you gotten around them?

Bracken: A large percentage of our apparel and soft home categories is our own brand product, so from that standpoint, it was where and how to adhere the RFID tags to the items – both from a labor standpoint and getting the tags adhered, but then also ensuring that they are in a place where we would get the best possible read. That means the highest accuracy of count integrity as we're scanning the floor. That was something that we had to work through.

We had originally planned on wanting to scale this more broadly across other categories throughout our store. That's still our goal – to extend it further – but one of the hurdles we've been working through is determining where it makes sense on a category-by-category basis to use RFID. Where do you run into physical limitations with the tags not working? For instance, if you were to put it on bottles of water, reading an RFID tag through water doesn't work very well. Or items that contain metal and sit directly on a metal shelf; it doesn't work very well there either.

So, the use cases have proven, for us, to be different across product categories. That's a key learning and a challenge for us as a discount mass merchant that carries a lot of different product categories. It has required a business-by-business look at where we can get the benefit from it. The third thing that we've been monitoring for years is when do you get to the point where the tag cost has come down enough and the reader technology is advanced enough and cost-effective enough that mass implementation will lead to a positive ROI. We feel like we're there now, but initially we had been looking at readers in the ceilings of stores and things like that, which are going to be far more expensive and not as effective. Getting to handheld scanners and lower tag costs has definitely helped to make that financial analysis a lot more advantageous.
But we still are challenged with things like making sure we are not counting backroom inventory and inventory on the sales floor at the same time. How do you avoid that happening? Which product categories can effectively utilize RFID and which ones are much harder technically to solve? Those are some of the things we've been working through.

Platt: Please expand on that a bit, in terms of categories, just because that's an interesting point. For example, in toys, you had great results and accuracy and then, in sporting goods, you didn't. Were there any surprises or trends or reasons behind some categories working and others that didn’t?

Bracken: A couple of the categories where count integrity in the store inherently is the worst, but where RFID tags have proven to not be effectively able to be implemented for us, are things like cosmetics. The cosmetics department has this issue across retail regardless of the retailer. This tends to be an area with higher counting integrity problems. But, using RFID tags in that category is a challenge because of the physical nature of the product, and figuring out how to get the tags onto the product in a way that makes sense.

And then, how do you scan effectively and count everything, with so many small items, in our case, in a 24-foot planogram. That can prove to be a challenge. So, the cosmetics department is one example where there were challenges. I already mentioned that big, bulky products that have liquid in them are a challenge for us. Think detergent, bottles of water, things like that.

Another category that has been a challenge for us is electronics, where there is a lot of metal in the item to begin with. Where do you adhere a tag so that you can actually get a clear read if you're scanning with a wand scanner? That proves to be a challenge because, if it's on the bottom, for instance, and it's adjacent to or flat on the shelf, that can impede the effectiveness of the reading during the count.

We found in hanging apparel and in our soft home category – think pillows and things like that – the count accuracy has been really quite solid. We haven't run into any major issues there. Again, the only real issue you have to watch out for there is making sure that we're not actually accidentally counting product in the backroom as well, if we're trying to just count the product on the sales floor. Having a barrier that blocks the reading of the backroom inventory versus the sales floor inventory is something we've been working through over time as well. I hope that gives you a little example across categories.

Platt: Marshall, when you work with retailers, and you have been in the area a long time, what have you bumped into in terms of major impediments to adoption and deployment?

Kay: First, I'd like to expand on what Karl was just saying. There really should not be a problem preventing stock room inventory from being read by employees counting the sales floor (and vice versa). Applying inexpensive shielding to stockroom walls is part of the normal set-up process when a store gets up and running with RFID. Whenever you expand the number of RFID-enabled product categories in your store, you need to check to see if additional shielding is needed.

Now let's return to your question, Steven. One of the challenges is kind of a good news challenge. But it's a challenge nevertheless, which is that there is always something newer and better in the works that seems to be just around the corner. So, Karl spoke about the overhead solutions – something that we often call Hands-Free RFID. There are some great solutions being developed. Some of them have been in the marketplace for several years, but are just now starting to get traction, and there are others that aren't well known yet, but are very promising too. Whether it's an innovation like that or it's an innovation like robots being used to count in the store, these ideas also get attention. It's natural for retailers to be wondering: should I wait just a little bit longer and proceed with a different form of solution, or should I just go with the tried and true methods and tools?
Platt: Rene, I’ll pose the same question to you, which is, what are the impediments to adoption and deployment. I believe you said that you are not systemwide on the retail side. Is that correct?

Saroukhanoff: That’s correct. We’re piloting it right now in our stores, a few of them. One of the things is, how do you translate something that you’re doing in a proof of concept in a store and scale that out on a larger level? There are impacts to business process. There’s employee training. Anytime you’re touching store operations, it becomes a bit of a big deal. It’s a little easier to manage now because we have one of our pilot stores that is on the bottom floor of our headquarters building.

It’s easy to pop down there and check in and see what’s going on. As you try to scale that out to greater and greater numbers, you start running into different challenges. That has been the number one challenge, just trying to understand how you scale this. The other thing is, you find this obviously any time you’re counting inventory, while RFID does help improve that accuracy, you are still getting into issues of, how do I know what I just counted was right?

All kinds of things can go wrong, like a tag falling off of the product, so I’m not going to count it even though it’s there. I’m going to adjust my inventory one way, but then if I do a physical count, I’m going to adjust it back the other way. There are all these nuances that pop up as we try to understand how we are going to scale this out to more and more stores.

Platt: Allan, when any business is looking at making a major investment in technology, the old ROI equation pops up. What are some of your thoughts on what that model should look like?

Smith: That’s a great question. I think with this technology; it comes under a prioritization scheme. In most organizations, there are limited dollars to apply to a bunch of different needs. I think everybody probably has that same issue. But, I think the two that are the most telling are this technology’s operational improvements and how you really drive the top line with omni-channel. I think the operational excellence just depends on the maturity of the existing store and the complexity. For some people who have had the ability to invest in improving operations without RFID, it may not be the big ROI but certainly getting that foundation. Omni-channel really puts it in a different category given where digital is going within a lot of organizations. Those are two elements. The third, at least in my experience, that’s probably harder to work with, is the upstream accuracy that you get from just reducing the inaccuracies in systems and the flow of data back to your allocation and replenishment.

If you can get the right product in the right place at the right time – which is the Holy Grail – based on inventory accuracy, that clearly is a huge upside for most organizations. But, creating that business case and justifying it is probably the hardest challenge of those three. Certainly, with the advent of omni-channel, that’s the one that probably is right in the center of being able to execute against ROI and something that is part of an organization’s transition from brick and mortar to this whole digital landscape that’s so prevalent.

Platt: Inventory visibility becomes huge. Karl, how about you? How have you thought about the ROI on this?

Bracken: I think very similarly to what you’ve heard before from the others. The sales upside is very difficult to calculate. Obviously, a big part of it is the right product in the right place at the right time, and ensuring that products are in stock when they need to be in stock. We were looking at better count integrity. You should be able to streamline how much inventory you are carrying and where you are carrying it to get the same or better level of in-stocks. For us, that was a big component of it.

The other piece was the advent of omni-channel and for us, the ability to find product that you otherwise couldn’t find for pick up-in-store and ship-from-store. Execution and being able to do that much more quickly was a big component of it for us. We could find the product that our guest had ordered online more effectively in stores and then get it shipped out more quickly.

Those were the two big components for us on why we felt that RFID was necessary, and frankly, why we went after apparel as our first use case. Not only was it easier technically than some other categories, but also it was one of the harder categories to be able to find the product in-store to be able to then use it for ship-from-store or pick-up in-store.
Kay: I’d like to expand on the omni-channel topic a little bit. The convergence between digital and physical has been cited as the reason why certain large retailers have elected to accelerate their programs. H&M, for example, in Europe, the second largest specialty apparel retailer in the world, recently said on an earnings call that 2018 is going to be a big rollout year in terms of what they have planned for RFID.

They have spoken specifically about the desire to have much better inventory visibility. This relates to new promise windows and shipping windows that they are looking to move into to get products in the hands of their customers quicker – whether it’s through in-store pickup or getting it to them at home. That's really a big development for the industry. H&M joins Zara, which has essentially completed its rollout, according to the CEO on a recent earnings call. And, the chairman of the world’s third largest specialty apparel retailer, Fast Retailing, which owns UNIQLO, gave a presentation this year – which can be found on the company’s website – where he spoke about his desire to operate with all of their merchandise being tagged. It’s omni-channel that is really driving this.

Platt: Oftentimes retailers have some private label items, but not necessarily all of it and my query is: I'm not seeing a lot of those retailers seek to integrate to the Distribution Center (DC), integrate to the vendor, the third-party vendor. Rene, you are more integrated than most and Allan's probably in a similar position. I’m just curious what you think are some of the benefits of extending beyond the four walls.

Saroukhanoff: Right now, the pilots have been primarily focused on really getting it right within the store and obviously, selling it to our customers. In terms of integration, we haven’t explored that a lot but there are obvious use cases for being able to track your inventory through the entire chain, from the factory down through the pipeline into our warehouse.

We may be cross-docking it into our customer’s warehouse and then they send it off to their stores. Just knowing where the inventory is along the chain is going to help improve visibility. It's going to help improve the ability to inform a consumer of when and where they will be able to purchase that product and help us get it to them on time. Having better visibility relates to all those points down the line. Once more and more points are being integrated across the entire supply chain, it gives you that improved visibility of where the hang-ups are in the inventory, where it's getting stuck, where it's getting dropped off and lost.

Platt: Allan, I’d like to ask you to answer the same question, because you were with a more vertically integrated firm. Maybe you can address some of the attributes of moving RFID technology beyond the four walls.

Smith: Similarly, the priority was really to focus on what’s within the four walls. Moving out, the next opportunity was for the DCs to be able to start looking at how RFID could be leveraged. When we started establishing priorities, we found that what really causes the inaccuracy at the end of the day is the human touch points with product. In the store is where that happens the most. As you move up the supply chain, there are fewer touches to your individual products. It’s more case and pallet level. That’s part of the exploration – there are opportunities, but probably not the same as there are in just getting your store lined up to improve accuracy.

Platt: Karl, your thoughts on eventually ending up totally back end-integrated into your vendor supplier base?

Bracken: Longer term, I think that's something that we would like to do. The more you can get visibility further up the supply chain, the better. We started with product that was private label because we could control that all the way back. There are some categories in our stores where the vendors already are adhering the tags and we can benefit from that.

Doing a full-scale move toward RFID tagging with our vendor base is going to take awhile. Directionally, it's the ability for us to see inventory further upstream and have a sense of where it is would be beneficial over time.

Platt: Marshall, from your experience, what do you find typically are things that retailers expect, don’t expect, are surprised by, or should be better prepared for?
Kay: In terms of surprises, I think that retailers get surprised by the ideas their store associates have regarding new ways to use RFID in the stores. Also, a big thing that's coming down the pike, that has received attention on and off over the years, but I think in the next 18 months is going to get a lot more, is the issue of loss prevention. I know your previous question focused on the DC and the supply chain, but based on the conversations we have with many of our retail clients, there's a tremendous appetite to start retiring some of the older Electronic Article Surveillance (EAS) technology being used for loss prevention and leveraging RFID for that too. It's not just to replicate what EAS does at the exit door, but it's also to be able to do additional things with RFID that EAS technology just isn't capable of doing.

Platt: Karl, what is some advice you might offer to retailers when considering RFID?

Bracken: I would say that the business case is a little bit of art and science. You have to make some assumptions about what you will think as far as sales lift and the benefits to the top line by implementing RFID. But, I would say the widely reported-on count integrity benefits of RFID are legitimate, based on what we've seen. The halo effect of those benefits beyond just the kind of direct business case in driving out-of-stock improvement to things like better omni-channel execution and what it unlocks for further count accuracy upstream are well worth it.

A lot of retailers have tested it and have been nervous about broader rollouts. We have been pleasantly surprised with the benefits we've garnered by rolling it out. In some cases, there were benefits above and beyond what you can just naturally find in an assumption-laden ROI analysis. Generally speaking, we've been very pleased.

Platt: Allan, how about you? What is some of the advice you'd offer retailers concerning implementation of the technology?

Smith: One, RFID technology itself is very well proven in terms of the ability to read a tag and encode a tag. There's still some innovation going on, as was mentioned earlier, with the readers and handhelds, but I find that in pilots, there is a lot of focus on “Does it work?” from an RFID technology perspective.

While that's important, what is more important is how you can get the business process around the technology to work effectively. Unlike other kinds of technology pilots within a retailer's landscape of systems, everything in the store is truly operational. It's really all about how you can execute the process to see that the associates don't get confused and that they are able to do things, day in and day out under sometimes very peak loads. Treating RFID pilots as production level simulations of process is the key. The message is actually about process more than just the tech itself.

Platt: Rene, what is some advice you might offer to some retailers considering the technology?

Saroukhanoff: I consider RFID to be an analytical exercise as well. One of the things that I always try to encourage on any type of analytical exercise is to list out the objectives, the business strategies, and what you are trying to accomplish with it first. That's just general advice on every new technology deployment. All of these technology and process improvements need to have an end strategic business goal that they are trying to achieve.

Even if it's something that doesn't have benefits that are easily tangible, so you struggle to put a dollar amount against it, as long as it fits into some kind of a strategic goal, that's where to start. From there, you start listing out the questions or the things you're trying to achieve, and that becomes the guiding light. Otherwise, it become an exercise of, “Hey, there's this really cool technology; let's see what we can do with it.”

I don't think that's a really effective way to approach any type of new technology to say, “We have this solution; let's go find the problem.” It's better to start with a problem statement and then use that to decide if the technology is a good fit, because then you'll find all the other haloing benefits, but you really need to be focused on a business strategy first.

Platt: Good advice. Marshall, what kind of general advice would you give to retailers considering an implementation?
Kay: I agree with that comment about the halo effect. We often say that inventory accuracy is the gift that keeps on giving. My advice would be to avoid calling this an RFID initiative. Instead, call it your inventory accuracy initiative. RFID is just what gets you there, but inventory accuracy is the real destination.

Platt: My thanks to all of you for your time today.

Editor’s Note: Please see the following resources for additional information on RFID:

PRI Research Article: RFID Challenges and Opportunities.
STORES Magazine: RFID is Ready to Revolutionize the Retail Industry.
The consumer electronics retail industry is a highly competitive market and has many past casualties such as CompUSA, RadioShack, Circuit City, and others. Apple Inc. opened the Apple Store to showcase its product line. Then, Microsoft entered the market and opened the Microsoft Store. The purpose of this study is to investigate and compare the Apple Store and the Microsoft Store, as well as their position in the marketplace from a consumer standpoint.

Research Objectives

First, the researchers wanted to investigate and compare consumer behavior differences between the Apple Store and the Microsoft Store. Second, the researchers wanted to conduct comparative analyses to measure customer engagement between the two retailers using a 10-point metric for their research. The researchers developed a 15-item instrument that consists of two analytics: (a) Customer Behavior and (b) Retailer Behavior. This study used a quantitative methods design. The researchers also conducted observational research on the retailers for this study. Four statistical tests on the data were conducted as well as a cross-tabulation, t-test, chi-square analysis, and partial least squares structural equation modeling (PLS-SEM).

The researchers split into two teams to collect data: The Apple Team and the Microsoft Team. The research teams collected data from seven states and six cities. The data consisted of a sample (N = 52) of stores nationwide. The study uncovered some significant findings in the research comparing the two retailers. Based on the results of the research as evidenced on the four analytics, the Apple Store significantly outperformed the Microsoft Store. The findings of the study further indicated that the Apple Store overwhelmingly outperformed the Microsoft Store in terms of store attributes. The Apple Store had a 2-to-1 ratio of positive attributes compared to the Microsoft Store. The Microsoft Store has struggled competing against the Apple Store. This is evident in the results of our findings in the study. The marketplace is highly competitive and there are several cautionary tales of failure with past retailers in a similar market space. The Apple Store has a proven success pattern against the Microsoft Store in the highly competitive consumer electronics retail industry.

Introduction

A variety of factors can influence consumer behavior and it is important to study these factors in order to develop a strategy for the most effective retailer behavior. A modern vision of consumer behavior depends on analyzing consumers’ purchasing trends, their use of goods, as well as their emotional responses to the proposed products (Kardes, Cronley, & Cline, 2014). The examination of consumer behavior analytics and associated retailer behavior analytics is also important while comparing consumers’ behaviors and sales in Apple and Microsoft stores, two giants in the sphere of information technology (Arthur, 2014).

In order to create market advantage, analysts in Apple and Microsoft should pay much attention to examining how consumer behavior can influence their sales, and what differences can be observed in relation to the progress of these stores (Erevelles, Fukawa, & Swayne, 2016). Thus, Apple Stores and Microsoft Stores have many similarities in terms of size, design, and products, but there are also differences in consumer and retailer behavior, which influence these companies’ sales (Arthur, 2014). Despite the fact that there are many studies which investigate aspects of consumer behavior and principles of Apple’s and Microsoft’s marketing
strategies, there is still a gap in the literature regarding the comparison of consumer and retailer behavior analytics in relation to Apple and Microsoft stores (Arthur, 2014; Yaeli et al., 2014).

The goals of this paper were to conduct a market research study and examine differences in consumer behavior and retailer sales behavior observed in Apple and Microsoft stores. Relevant information and subsequent literature on the topic were analyzed prior to conducting the study. This was done in order to determine the following objectives to address the research gaps: (a) to determine statistically significant differences between Apple and Microsoft retail stores in terms of customer behavior analytics; (b) to determine statistically significant differences between Apple and Microsoft retail stores in terms of retailer behavior analytics; (c) to determine statistically significant differences between Apple and Microsoft stores in terms of retailer attributes and behavioral analytics; (d) to determine predictor variables that could influence customer behavior analytics and retailer behavior analytics in relation to the studied stores.

In order to reach the goals of the study and address the stated objectives, a quantitative study based on a survey was developed with reference to analyzing the data related to 52 retail stores, including both Apple and Microsoft retail stores located in four different market segments of the United States: (a) Region 1 - East Coast Area; (b) Region 2 - Midwest Area; (c) Region 3 - South Area; and (d) Region 4 - West Coast Area. To reach the complex goal and address all objectives formulated for the study, it was important to develop a reliable research instrument, which included three parts: a 15-item survey instrument, a 5-point Likert scale, and a close-ended questionnaire. The received data was analyzed with the help of quantitative analysis software to conduct statistical tests, determine frequencies, indicate comparisons based on the crosstab analysis, and provide the results of a t-test, correlation, and PLS-SEM modeling.

The findings received as a result of the complex data analysis were used to address the purpose of the study based on comparing the performance of Apple and Microsoft retail stores in terms of the observed consumer behavior, retailer behavior, and associated analytics and sales. It was important to conduct a series of tests in order to receive the most credible and reliable data. Furthermore, it was necessary to compare those results in order to conclude possible differences in studied analytics and stores’ performance.

**Prior Research on the Retailers**

**The Apple Store**

Since 2000, Apple has been the leader in innovating technology including computers, music, music players, phones, and tablets. Their leadership status with each of their products had been cemented when the rest of the tech world followed (Ferdig, 2013). Apple, Inc. (then Apple Computer, Inc.) incorporated in January 1977, assembled a three-point marketing philosophy:

- **Empathy** – Apple truly understands its customers’ needs better than any other company.
- **Focus** – Apple says, to do a good job of the things it decides to do, it must eliminate all of the unimportant opportunities.
- **Impute** – People do judge a book by its cover. Apple presents itself in a creative, professional manner, and indicates that it will impute the desired qualities. Amazingly, 35 years later, this philosophy remains at the core of what makes Apple so effective at creating and profiting from loyal customers (Moorman, 2012).

Apple’s branded stores create a unique customer experience. The Apple Store creates interoperability between its hardware devices such as computers, tablets, smartphones, music players, and watches that showcase capabilities such as video, music, photography, apps, and software. Apple leverages product knowledge
and complimentary services demonstrated by its one-on-one tutorials, product repairs, and workshops to provide an unparalleled customer experience. The complimentary services enhance the value proposition because if a customer can operate a new purchase then customer satisfaction will increase. Apple uses this among many other devices to dominate in the physical tech environment (Zoeller, 2017).

The Microsoft Store

Since taking over as CEO just three years ago, Microsoft's Satya Nadella, says he has used a combination of effective leadership and brilliant business moves to return the tech company to relevance. His advice is "Don't be a know-it-all; be a learn-it-all" (Bariso, 2017). But is this actually enough? The market divulges the answer.

Is Microsoft stuck in a rut of corporate denial? Nothing has changed at Microsoft between 1995 and 2016 in terms of how Microsoft conceives, designs, and executes on its products. When people think of Microsoft, they do not typically think of magical technology products, they think of how Microsoft used its Windows monopoly to overtake its competitors and limit customer choice. Microsoft is perceived in the marketplace as a company that produces products with limited style or design, and it is evident that a lack of taste and culture hurt the Microsoft brand in the market retail space (Lynch, 2016).

While the Microsoft stores may resemble the existing Apple stores in some measure, they lack an element that has been critical for establishing Apple’s brand — quality. For every architectural element that Microsoft duplicated from Apple’s retail stores, it has failed to copy the materials, craftsmanship, and pride that go with them (Edible Apple, 2009). Microsoft stores do not attract curious people passing by their entrances in busy shopping malls, nor demonstrate true customer loyalty. In short, data supports that Microsoft retail stores fail to outpace Apple retail stores’ performance in the marketplace. To improve the situation, the Microsoft Store is crafting solutions such as the presence of exclusive in-store demonstrations and a preview of games for the Xbox system hoping these strategies are able to intrigue young people who tend to be high consumers (Bitfeed, 2015).
Microsoft did not execute as deftly as Apple and Samsung because by the time it entered the door of technology retail space, the market was already saturated and full of competitors. Instead of innovating while the market was maturing, Microsoft waited beyond the inflection point of growth and then tried to fundamentally change the personal computer (PC) all at once (vonnie.com, 2013).

The Windows Store app market is still working to increase sales, but this is acceptable especially since it operates every other Windows app ranging from Windows 7 to the present-day versions. There is no shortage of software to run on this platform. Apple’s App Store – and not Microsoft’s – is where the real change is occurring. It seems the newest, best, craziest, most world-changing bits of software are increasingly available in the iPhone and Android spaces first, and almost never for the Windows platform. One example is the fact that consumers are unable to obtain an official version of Snapchat on a Windows device (Weinberg, 2015). For Apple users who embrace Snapchat, this could be a deciding factor for future purchases.

Microsoft must learn from Apple that its retail strategy needs to align with the product strategy. Along with this comes delivering a great experience, connecting with customers on a regular basis, and providing in-store tech support which can help the company understand its retail and customer experience (Reisinger, 2015). Microsoft hoped to emulate Apple’s success with stores featuring virtually identical layouts, display furniture, and features such as its own version of the “Apple Store Genius Bar,” but has never really attracted the same kind of excitement (Digler, 2015). Windows 10 Mobile platform was not suitable for the average mobile user due to a lack of apps. Microsoft’s Windows phone platform now commands 0.3 percent of market share. Not only are new apps unlikely to be developed for Windows 10 Mobile, but older apps will probably eliminate their support and move to better platforms sooner rather than later (Allison, 2016).

Like the Apple Stores, the Microsoft Stores include a plethora of hardware, software, and accessories with several devices to try and a place to ask technical questions. Like the Apple Store, Microsoft's retail stores have a warm decor, plenty of helpful staffers, and an array of PCs, phones, and devices, but do lack customers. Microsoft resists the notion that their store is a mere copy of the Apple Store. (Fried, 2016). However, the new Microsoft Store will mimic the Apple Store’s shiny, modern, industrial wood, metal, and glass architectural style. Retail benefits Apple because the company’s products appear more beautiful to consumers than its competition, which seem less familiar. Additionally, Apple retail stores benefit Apple because its products are one-of-a-kind and look as if they come from the same company because of their similar aesthetic value. So the Apple Store has a unified appeal that the Microsoft Store is unable to fully replicate (Elgan, 2010).

The Apple Store’s dominant business model lies in its "walled garden" approach to consumer experiences. The company creates a compelling end-to-end experience by excelling in software development, hardware engineering, and design. Microsoft’s competitive advantage, on the other hand, lies far more in its PC-era platform status as well as licensing of operating systems. Microsoft appears well situated to establish a meaningful share of the market, augmenting its cash-cow software platforms over the long term (Tonner, 2017).

Framework and Models

Theoretical Model

The following theoretical model is presented with the proposed construct as a basis for the study. The model proposes that retailer behavior is affected by market influences. Market influences affect retailers and this has an effect on customer behavior and retailer behavior. This consists of two factors: (a) Customer Behavior; and (b) Retailer Behavior [see Figure 1]. The researchers determined that retailer behavior consisted of two of these factors. Retailer behavior influences both customer metrics and retailer metrics.
Conceptual Model

The conceptual model, as illustrated in Figure 2, states that there is a relationship based on market forces such as market week and market segments. The model proposed for this study states that market forces influence the retailer (retail store type) and thus the retailer has an influence on both the customer analytics metrics and retailer behavior analytics metrics. The proposed research model includes indicators, latent variables, and hypotheses. The model integrates the market forces (segments and market week) with Customer Behavior Analytics and Retailer Behavior Analytics constructs to understand the relationship in store performance. The proposed path model contains relationship lines connecting from the independent variable indicators to dependent variables and indicators shown in Figure 2. Furthermore, this influences the latent variables (Customer Behavior and Retailer Behavior). Those relationships are integral to retail store performance.

Figure 2. Conceptual Model of the Study for Retailer Behavior.

METHODOLOGY

Data and Methods

This study focuses on a sample of Apple retail stores and Microsoft retail stores in the United States. The researchers determined that, for this observation study, both of the retailers were relatively homogeneous in terms of demographic and socioeconomic patterns as well as locations, thus helping to reduce issues with heterogeneous samples. All of the Apple and Microsoft retail stores in the sample were located in malls across the country.

Sampling Frame and Data Collection

The population for this study consisted of 270 Apple retail stores and 107 Microsoft retail stores across the United States. The sampling frame included a list of all the Apple retail stores and Microsoft retail stores in the U.S.

The sampling frame for this study is a representative, convenience national retail store sample of both Apple retail stores and Microsoft retail stores from around the country. We collected data from stores in four regions: (a) Region 1 - East Coast Area; (b) Region 2 - Midwest Area; (c) Region 3 - South Area; and (d) Region 4 - West Coast Area. The sample (N = 52) consisted of 28 Apple retail stores and 24 Microsoft retail stores. We collected data from seven locations: California, Indiana, Michigan, North Carolina, Texas, Virginia, and Washington, DC.

Data collection consisted of 52 questionnaires completed by the research teams across the nation, resulting in a response rate of 100 percent. The research teams submitted their observations and surveys for data collection and analysis. The questionnaire developed by the research team was pretested during a pilot study completed by the lead researcher of both teams in August 2016. Subsequent data were collected from September 2016 to March 2017 (eight months), the duration of the study.

The first section of the questionnaire collected information on Customer Behavior Analytics metrics and retail store evaluation based on observation of customer behavior. The questions in this section included six five-point Likert-style questions (1–5 scale, ranging from 1 = very low to 5 = very high) on observing customer be-
behavior inside the retail store. However, two questions in this section are considered metrics-based, as they did not directly address customer behavior but rather analytics related to their behavior. Question 1 asked a metric question: How many customers were in the store? (using a 1–5 scale, 1 = 1 to 5 customers all the way to 6 = 21 and over). Question 6 asked a metric question: Concerning customer purchases, on average how many products did the customer purchase in the retail store? (using a 1–5 scale, 1 = zero products, and 6 = 10 or more).

The second section of the questionnaire collected information on Retail Staff Behavior Analytics metrics and retail store evaluation based on observations of the retailer behavior. The questions in this section included six, five-point Likert-style questions (1–5 scale, ranging from 1 = Very Low to 5 = Very High) on observing retailer behavior while customers were either in or absent from the retail store. However, question 7 was a metric question: How many employees (or staff) were on the sales floor in the store? (based on a 1–5 scale, 1 = 1 to 5 customers and 6 = 21 and over).

The last section of the questionnaire asked open-ended questions prompting a narrative observation for the research team where they described their observations. The open-ended questions were as follows: (a) Question 13: What were your general observations of the retailer? (b) Question 14: Based on your observations, what were the positive characteristics of the retail store? and (c) Question 15: Based on your observations, what were the negative characteristics of the retail store? These questions allowed the research team to develop a narrative about the store observed that was not otherwise captured in the Likert-style or metrics questions in sections one and two of the questionnaire.

The researchers used random sampling procedures for collecting data from the retail stores. By including different Apple and Microsoft retail stores across the country, the results of the study can be generalized to more than one city, state, and, possibly countries other than the United States.

The data used for this study were collected through in-store visits and observations with two teams: The Apple Team and the Microsoft Team. All of the research teams were over the age of 18 to ensure their ability to conduct the research, read and understand the questionnaire, and collect the data. All questionnaires were self-completed and collected by the interviewer immediately after the interview. Before recording their observations on the questionnaire, the researchers ensured all questions were answered and completed the open-ended questions with their comments and observations. The respondents answered all questions. A total of 52 researcher survey responses were used for data analysis, which represented a 100 percent completion rate. Tables one and two present the profiles of the Apple retail stores and Microsoft retail stores in this study.

Pilot Study and Instrument

The instrument used for this study was a researcher-developed, first-generation instrument. The initial questionnaire was pre-tested with a convenience sample of 20 retail stores (10 Apple stores and 10 Microsoft stores) in two market areas located in Texas and Michigan. The research teams conducted pre-testing of the instrument to determine if there were any conflicts and issues with what would be measured. Based on the initial pilot test, there were no issues detected with the observation instrument. The store visits were conducted for three weeks to a month in the two market regions and areas across the United States.

The instrument contained a multi-dimensional structure. It is based on a five-point Likert scale, 5 = Strongly Agree to 1 = Strongly Disagree. The instrument items were randomized in the questionnaire to minimize the impact of order bias. This indicates which items measured each source of the customer or retailer observation. Since the instrument is a first-generation, researcher-developed tool, the researchers were concerned with reliability and validity. The researchers used a Pearson’s Cronbach Alpha to measure the two analytic factors and 12 metrics within each analytic factor. The instrument also identifies the items that are identified during reliability analyses and indicates the reliability coefficient of 0.6 and above for a baseline of reliability of the scale.

Statistical Design and Tests

Software and Tools. There were two primary software packages and tools used to conduct the study. First, SPSS (Statistical Package for Social Science) Version 23.0 for Windows 10 was used for conducting the statistical analyses. Second, SmartPLS Version 3.0 was used to conduct the PLS-SEM (Partial Least Squares Structural Equation Modeling) to measure and analyze the collected data from the customer and retailer observations.
Statistical Analyses

The study used both descriptive and inferential statistics to measure the results of the data collected. The study used a variety of multivariate statistical methods to measure the results of the data (mean, standard deviation, frequency, Pearson’s correlation coefficient, one-way ANOVA, independent sample t-test, Cronbach’s alpha, and PLS-SEM). The hypotheses were measured at the significance alpha coefficient of 0.05.

A two-step approach was used to test the hypotheses: (1) assessment of the measurement (outer) model followed by (2) the assessment of structural relationships. This approach was emphasized in order to focus on the importance of the researchers’ need to assess the reliability and validity of the measurement model and to draw conclusions based on the data. The role of individual level psychological variables demonstrates results of the structural relationships. The PLS-SEM was used for analyzing data such as the regression relationships between the independent variables and the latent variables (Hair et al., 2013). One of the advantages of this method is that it is invariably more reliable as compared to covariance-based structural equation modeling (CB-SEM; Hair et al., 2013). This approach offers a more robust analysis than non-normality or multicollinearity and does not have challenges with smaller sample sizes. The CB-SEM is better suited for larger sample sizes (N = 200).

RESULTS

Background on Study Results

This study conducted research and collected data on Apple and Microsoft retail stores. The researchers conducted a comparison based on two analytics: (1) Customer Behavior and (2) Retailer Behavior. First, the researchers wanted to examine the sociodemographic characteristics in the sample of both stores. For this, examining the data collected for this study, the following statistical tests were conducted: (a) descriptive statistics, (b) cross-tabulation, (c) t-test; (d) ratio analyses on store attributes; and (e) Pearson Correlation (not included); and (f) structural equation modeling.

Statistical Analyses Design

First, the team examined the sociodemographic characteristics in the sample of both stores. Simple descriptive statistics (frequencies) were used to describe the sociodemographics in the sample. Second, simple cross tabulation techniques examined and compared the characteristics of the two retailers based on both metrics and the two analytics, Customer Behavior and Retailer Behavior. Third, a t-test compared the means and standard deviations of the two retailers and compared their characteristics. The independent sample t-test was used to describe and compare the two retailers based on a normal distribution with the metrics and rubrics. It was also used to compare both retailers and equal variance in the sample of stores. Fourth, a ratio analysis compared the results of the data collected on the two retailers based on positive and negative store attributes as observed by the researchers. Lastly, a PLS-SEM (Partial Least Squares-Structural Equation Modeling) was used to examine the relationships between the variables within the data.

Table 1. Market Demographics: State Locations of Retailers Data.

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>n</th>
<th>percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retailers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Apple Store</td>
<td>28</td>
<td>54.2</td>
</tr>
<tr>
<td>The Microsoft Store</td>
<td>24</td>
<td>45.8</td>
</tr>
<tr>
<td>Market-States</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texas</td>
<td>10</td>
<td>19.2</td>
</tr>
<tr>
<td>Michigan</td>
<td>10</td>
<td>19.2</td>
</tr>
<tr>
<td>Virginia</td>
<td>8</td>
<td>15.4</td>
</tr>
<tr>
<td>North Carolina</td>
<td>6</td>
<td>11.5</td>
</tr>
<tr>
<td>Washington D.C.</td>
<td>4</td>
<td>8.3</td>
</tr>
<tr>
<td>California</td>
<td>6</td>
<td>11.5</td>
</tr>
<tr>
<td>Indiana</td>
<td>4</td>
<td>7.7</td>
</tr>
<tr>
<td>Tennessee</td>
<td>4</td>
<td>7.7</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
<td>100.0 percent</td>
</tr>
</tbody>
</table>

(N = 52)

Descriptive Characteristics

The market state demographics of the retailer’s data of the study sample are shown in Table 1. Data was collected from 28 Apple Stores and 24 Microsoft Stores. Most of the data was collected from the states of Texas (19.2 percent), Michigan (19.2 percent), and Virginia (15.4 percent).
The data below represents demographics on market week data and city locations of the retailers. The market week is the data collected during the week on the retailers. This comprised 58 percent of the data collected on the retailers. The results show that 19.2 percent of the sample was from the state of Texas. However, 11.5 percent of the population sample of stores came from four city areas: Tysons Corner, Va., Charlotte, Los Angeles, and Troy. (See Table 2).

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>n</th>
<th>percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market Week</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week Day</td>
<td>30</td>
<td>57.7</td>
</tr>
<tr>
<td>Weekend</td>
<td>22</td>
<td>42.3</td>
</tr>
<tr>
<td><strong>Market-Cities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texas Area (Austin, Dallas, Houston, San Antonio)</td>
<td>10</td>
<td>19.2</td>
</tr>
<tr>
<td>Troy (Area)</td>
<td>6</td>
<td>11.5</td>
</tr>
<tr>
<td>Shelby Township (Area)</td>
<td>4</td>
<td>7.7</td>
</tr>
<tr>
<td>Tysons Corner (Area)</td>
<td>6</td>
<td>11.5</td>
</tr>
<tr>
<td>Charlotte (Area)</td>
<td>6</td>
<td>11.5</td>
</tr>
<tr>
<td>Bethesda (Area)</td>
<td>4</td>
<td>7.7</td>
</tr>
<tr>
<td>McLean (Area)</td>
<td>2</td>
<td>3.8</td>
</tr>
<tr>
<td>Los Angeles (Area)</td>
<td>6</td>
<td>11.5</td>
</tr>
<tr>
<td>Indianapolis (Area)</td>
<td>4</td>
<td>7.7</td>
</tr>
<tr>
<td>Nashville (Area)</td>
<td>4</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>52</td>
<td>100.0</td>
</tr>
</tbody>
</table>

(N = 52)

RESULTS

Customer Behavior Analytic: Cross-tabulations of the two retailers

A cross-tabulation analysis of the two retailers was conducted. The researchers examined the Customer Behavior Analytic. Table 3 presents the results from cross-tabulation analysis between the Apple Store and Microsoft Store. When the researchers examined variable one, Customers in the Store, the Apple Store outperformed the Microsoft Store overwhelmingly with a metric of 22 to three. Next, the researchers examined variable two, Customer Engagement, and again, the Apple Store outperformed the Microsoft Store with a metric of 13 to six. Lastly, the researchers examined variable three, Customer Mood, and yet again, the Apple Store outperformed the Microsoft Store considerably with a metric of 15 to three.

In the next statistical test, the team conducted a chi-square analysis. A 2 x 2 chi-square analysis was performed investigating the effects of customer behavior in the retail stores. Variable 1: Customers in the Store resulted in a reliable chi-square coefficient (X2 = 32.410a; p < .01). The variable, Customer Engagement resulted in a reliable chi-square coefficient (X2 = 7.924a; p < .01). The variable, Customer Mood resulted in a reliable chi-square coefficient (X2 = 19.627a; p < .01). In summary, the chi-square test was significant in three out of three comparisons (see Table 3).
Table 4 presents further results from the cross-tabulation analysis between the two retailers’ customer behavior. When the research teams examined variable four, Customer Activity, the Apple Store outperformed the Microsoft Store with a metric of 14 to three. With variable five, Customers Seeking Help, again, the Apple Store outperformed the Microsoft Store overwhelmingly with a metric of 16 to three. Finally, when examining variable six, Customer Purchases, once more, the Apple Store outperformed the Microsoft Store with a metric of 7 to one.

In the next statistical test, a chi-square analysis was conducted. Variable four, Customers Activity, resulted in a reliable chi-square coefficient ($X^2 = 19.712a; p < .01$). Variable five, Customer Seeking Help, resulted in a reliable chi-square coefficient ($X^2 = 23.862a; p < .01$). Finally, variable six, Customer Purchases, resulted in a reliable chi-square coefficient ($X^2 = 17.381a; p < .01$). In summary, the Chi-square test was not significant in three out of three comparisons. (See Table 4.)

### Table 4: Cross-tabulations 1: Customer Behavior Metrics Data

<table>
<thead>
<tr>
<th>V1-How Many Customers Were in the Store?</th>
<th>Apple Store</th>
<th>Microsoft Store</th>
<th>Total</th>
<th>$X^2$ (df)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 5</td>
<td>0</td>
<td>12</td>
<td>12</td>
<td>32.410</td>
</tr>
<tr>
<td>6 to 10</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>11 to 15</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>16 to 20</td>
<td>5</td>
<td>2</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>21 and over</td>
<td>22</td>
<td>3</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>24</td>
<td>52</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>V2-Overall, How Engaged Were the Customers in the Store with the Merchandise?</th>
<th>Very Low</th>
<th>Low</th>
<th>Neutral</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple Store</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Microsoft Store</td>
<td>4</td>
<td>3</td>
<td>8</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>24</td>
<td>12</td>
<td>11</td>
<td>19</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>V3-Overall, What Was the General Mood of the Customers in the Store?</th>
<th>Very Low</th>
<th>Low</th>
<th>Neutral</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple Store</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>Microsoft Store</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>24</td>
<td>12</td>
<td>11</td>
<td>18</td>
</tr>
</tbody>
</table>

*Note: The chi-square tests were used to test significance at *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$
Retailer Differences: Test of Retailer Differences in Customer Behavior Analytics

When the research teams conducted the statistical tests, data analysis occurred. A t-test analyzed the data measure differences in means between the Apple Store and the Microsoft Store. As illustrated in Table 5, to compute t-values, the standard deviations and means were measured to compare the two retailers. This allowed the team to determine whether the “positive” and “negative” mean deviations are statistically significant and not the result of coincidence; the findings are subjected to one sample t-test. This would also serve as a basis for answers to the research questions. Based on the results, the team determined the metrics that were significant in the data. First, the variable, Customer Count, proved to be highly significant (p = 0.001). The metric, Customer Mood/Ambience, also showed some significance (p = 0.015). Finally, the metric, Customer Activity, was also significant in demonstrating results of (p = 0.009). The results were examined resulting in three significance coefficients in the t-test (See Table 5.)

<table>
<thead>
<tr>
<th>Analytic 1: Customer Behavior Variables</th>
<th>Apple Store</th>
<th>Microsoft Store</th>
<th>(N = 52)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>V1: Customer Count</td>
<td>4.71</td>
<td>.659</td>
<td>2.17</td>
</tr>
<tr>
<td>V2: Customer Engagement</td>
<td>4.07</td>
<td>1.120</td>
<td>3.17</td>
</tr>
<tr>
<td>V3: Customer Mood/Ambience</td>
<td>4.32</td>
<td>.816</td>
<td>2.75</td>
</tr>
<tr>
<td>V4: Customer Activity</td>
<td>4.25</td>
<td>.928</td>
<td>2.50</td>
</tr>
<tr>
<td>V5: Customer Actively Seeking Help</td>
<td>4.25</td>
<td>.967</td>
<td>2.17</td>
</tr>
<tr>
<td>V6: Customer Purchases</td>
<td>2.93</td>
<td>1.359</td>
<td>1.63</td>
</tr>
</tbody>
</table>

**Note:** *This indicates test is significant at p < 0.001.

Retailer Behavior Analytic:
Cross-tabulations of the Two Retailers

In Table 6, a cross-tabulation analysis of the two retailers occurred. The team examined the Retailer Behavior Analytic. Table 6 presents the results from cross-tabulation analysis between the Apple Store and Microsoft Store. When the team examined variable seven, Employees on the Sales Floor, the Apple Store outperformed the Microsoft Store with a metric of eight to zero. Next, variable eight, Store Ambience, yielded the Apple store performing higher than the Microsoft Store overwhelmingly with a metric of 15 to three. Finally, the team examined variable nine, Employees Customer Centric, and the Apple Store outperformed the Microsoft Store with one of the highest metrics thus far of 20 to five.

In the next statistical test, a chi-square analysis was conducted. A 2 x 2 chi-square analysis was performed investigating the effects of customer behavior in the retail stores. Variable seven, Employees on the Sales Floor, resulted in a reliable chi-square coefficient (X² = 42.059a; p < .01). Variable eight, Store Ambience, resulted in a reliable chi-square coefficient (X² = 19.329a; p < .01). Finally, variable

Table 6. Cross-tabulation 1: Retailer Behavior Metrics Data

<table>
<thead>
<tr>
<th>VT: How Many Employees Were on the Sales Floor in the Retail Store?</th>
<th>Apple Store</th>
<th>Microsoft Store</th>
<th>Total</th>
<th>X² (df)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 5</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>42.059</td>
</tr>
<tr>
<td>6 to 10</td>
<td>3</td>
<td>14</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>11 to 15</td>
<td>9</td>
<td>0</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>16 to 20</td>
<td>8</td>
<td>0</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>21 and over</td>
<td>8</td>
<td>0</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28</strong></td>
<td><strong>24</strong></td>
<td><strong>52</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>V8: How High Was the Positive Ambience (mood) in the Store?</th>
<th>Apple Store</th>
<th>Microsoft Store</th>
<th>Total</th>
<th>X² (df)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Low</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>19.329</td>
</tr>
<tr>
<td>Low</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>3</td>
<td>13</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>8</td>
<td>3</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Very High</td>
<td>15</td>
<td>3</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28</strong></td>
<td><strong>24</strong></td>
<td><strong>52</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>V9: Were the Sales Staff or Employees Customer-Centric (helpful) in the Retail Store?</th>
<th>Apple Store</th>
<th>Microsoft Store</th>
<th>Total</th>
<th>X² (df)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Low</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>20.285</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>9</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>3</td>
<td>8</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Very High</td>
<td>20</td>
<td>5</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28</strong></td>
<td><strong>24</strong></td>
<td><strong>52</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Note: The chi-square tests were used to test significance at *p < 0.05; **p < 0.01; ***p < 0.001
nine, Employees Customer Centric, resulted in a reliable chi-square coefficient ($X^2 = 20.285a; p < .01$). In summary, the chi-square test was significant in three out of three comparisons. (See Table 6.)

Table 7 presents further results from cross-tabulation analysis between the Apple Store and Microsoft Store with customer behavior. When the team examined variable 10, Store Employee Engagement, the Apple Store outperformed the Microsoft Store with a metric of 19 to four. With variable 11, Store Greeting/Customers, again, the Apple Store outperformed the Microsoft Store with a metric of 16 to four. Finally, in variable 12, Sales Staff Knowledge, the Apple store outperformed the Microsoft Store with a metric of 25 to seven.

In the next statistical test, a chi-square analysis was conducted. Variable 10, Store Employee Engagement, resulted in a reliable chi-square coefficient ($X^2 = 23.726a; p < .01$). Variable 11, Store Greeting/Customers, resulted in a reliable chi-square coefficient ($X^2 = 11.609a; p < .01$). Variable 12, Sales Staff Knowledge, resulted in a reliable chi-square coefficient ($X^2 = 20.108a; p < .01$). In summary, the Chi-square test was significant in three out of three comparisons. (See Table 7.)

### Table 7. Cross-tabulation two: Retailer Behavior Metrics Data.

<table>
<thead>
<tr>
<th>Variable Description</th>
<th>Apple Store</th>
<th>Microsoft Store</th>
<th>Total</th>
<th>$X^2$ (df)</th>
</tr>
</thead>
<tbody>
<tr>
<td>V10 - How Engaging Were the Sales Staff with the Customers?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Low</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>23.726a</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>8</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Very High</td>
<td>19</td>
<td>4</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>24</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>V11 - How Frequently Did the Sales Staff Greet Customers When They Entered the Store?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Low</td>
<td>1</td>
<td>6</td>
<td>7</td>
<td>11.609a</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>6</td>
<td>9</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Very High</td>
<td>16</td>
<td>4</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>24</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>V12 - How Knowledgeable Were the Sales Staff in Assisting Customers With Questions?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Low</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>20.108a</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>1</td>
<td>6</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Very High</td>
<td>25</td>
<td>7</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>24</td>
<td>52</td>
<td></td>
</tr>
</tbody>
</table>

*Note: The chi-square tests were used to test significance at *$p < 0.05$; **$p < 0.01$. ** **$p < 0.001$*

### Retailer Differences: Statistical Tests of Differences in Retailer Behavior Analytics

In analyzing the data, the research teams conducted a t-test of differences in means between the Apple Store and the Microsoft Store with Retailer Behavior. As shown in Table 8, based on the results, the researchers found four metrics that proved to be significant in the data. First, the variable, Employee Count, proved to be highly significant ($p = 0.001$). Second, the metric, Store Employee Engagement, also showed some signifi-
cance (p = 0.002). Third, the metric, Store Greeting/Customer, also had significant results at (p = 0.025). Finally, the metric, Sales Staff Knowledge, also had significant results at (p = 0.000).

Based on these results, the Apple Store proved to be superior to the Microsoft Store in the metrics. The team examined the results and found there were four significant metrics. (See Table 8.)

RESULTS

Attributes Ratio

The results of the retailer attributes ratios between the two retailers are presented in Table 9.

The team measured the two retailers’ attributes ratios (A:B = C:D) based on three key criteria. In our sample of stores nationwide (N = 52), the team examined positive and negative attributes. There were some notable and significant findings that results in the ratio statistical tests. There were two significant findings from the results.

First, when the team measured the overall general observations ratio, the results showed the Apple Store had more positive observations compared to the Microsoft Store by a four-to-one ratio. The results were surprising. The researchers did not anticipate the ratio being such a significant margin between the two retailers. Second, when the team measured the negative observations ratio, the results showed the Apple Store had fewer negative observations as compared to the Microsoft Store by a zero-to-one ratio. This ratio was not too unexpected considering the observations of the retailers.

Next, the team measured the retailer attributes ratios. Researchers measured both positive and negative attributes as observed by the research team. The results from the research showed the Apple Store had more positive attributes as compared to the Microsoft Store by a two-to-one ratio. This was a significant and overwhelming disparity between the two retailers. In terms of the negative attributes of the two stores, there was a significant disparity. When measured, the negative attributes of the two retailers showed the Microsoft Store leads in negative attributes compared to the Apple Store by a two-to-one ratio. This was astonishing to the researchers since those same characteristics and patterns of attributes were consistent with the two retailers nationwide. The Apple Store overwhelmingly outperformed the Microsoft Store in nearly every metric.

Partial Least Squares Structural Equation Modeling Results

This study conducted research on the Apple Store and Microsoft Store to determine if there were any comparative differences in terms of customer behavior and retailer behavior. To empirically test the proposed conceptual model, the research team used the Partial Least Squares
Structural Equation Modeling (PLS-SEM) approach for this study. SmartPLS 3.0 software provided an analysis of the data.

The PLS-SEM method was chosen to examine the relationships that exist with smaller sample sizes. Relationships were examined between the target constructs and variables in the model. First, the PLS-SEM model was utilized to examine the outer model. Next, the team examined the relationships between the constructs and their indicators to be assessed (Figure 3.) Next, researchers examined the path coefficients, bootstrapping standard errors, and group sample sizes that were used to calculate the Levine’s test of statistical significance of the inner and outer model relationships.

The path coefficients and levels of significance showed that two of five posited relationships were significant and meaningful. Those relationships that were discovered showed there were some significant and non-significant relationships in the data.

Based on the results of the study, interesting findings surfaced. First, the research team examined the path coefficient between the market and customer behavior and found it was a marginal relationship (.0308). When examined, the path coefficients between the retailer and Customer Behavior Analytic and Retailer Behavior Analytic yielded a significant relationship. For the Customer Behavior Analytic, the indicator loadings showed a (-0.704) coefficient. This means there is an inverse relationship with the data. This indicates that when the score of one variable increases, another variable’s score will decrease. When researchers examined the Retailer Behavior Analytic, the indicator loadings showed a (-0.765) coefficient, therefore showing an inverse relationship in the data. Again, due to the negative coefficient, this identifies an inverse relationship in the data.

Finally, when examining the two constructs, Customer Behavior Analytic and Retailer Behavior Analytic, the research team found that there was a relationship. When examined, the relationships between the two constructs provide indicator loadings showing a (0.752) coefficient. This shows a powerful relationship between the two constructs. (See Figure 3.)

Figure 3. PLS-SEM of Retailer Behavior and Consumer Behavior Analytics.
Overall Results: Retailer Scorecard Performance Assessment Results

The overall performance scorecard of the data is shown in Table 10. The table shows the overall results of the analytics and statistics between the Apple Store and Microsoft Store. The team examined the performance of the two retailers based on three analytics and statistical tests. Based on the results, the Apple Store consistently outperformed the Microsoft Store in every metric, all of the analytics, and all statistical tests. The results were consistent and defining. The performance of the Apple Store is superior. The Microsoft Store underperformed significantly to the Apple Store in every statistical test.

<table>
<thead>
<tr>
<th>Retailer Scorecard Assessment Categories</th>
<th>Apple</th>
<th>Microsoft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytic 1: Customer Behavior Metrics</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>Analytic 2: Retailer Behavior Metrics</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>Analytic 3: Retailer Attributes Analytic Ratios</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>Statistical Test 1: Descriptives and Frequencies</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>Statistical Test 2: Cross-tabulations</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>Statistical Test 3: Independent Sample t-test</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>Statistical Test 4: Correlation (*not shown)</td>
<td>*N/A</td>
<td>*N/A</td>
</tr>
<tr>
<td>Statistical Test 5: The PLS-SEM Model</td>
<td>*N/A</td>
<td>*N/A</td>
</tr>
</tbody>
</table>

* Note: Not applicable

The two photos below are an example of the retail store visits around the country. These were typical stores for both retailers in our field research of their stores. Notice the customer traffic in both retailers and the differences. This is typical of our field study research.

Discussion

The purpose of this research was to compare the performance of Apple and Microsoft retail stores. The research design used observations to collect data on the consumers' and employees’ behavior and conducted comparative analyses to measure the difference between the two retail stores. The researchers are the primary instrument for the observations, which utilized two-part structured questions for data collection. Part one contains 12 closed-ended, structured questions with the questions being distributed equally among the customers and employees. The researcher documented specific observed details in part two under three open-end questions. The sample population for this research involved 52 retail stores as the participants for the study.
Conclusions

There were four key findings discovered in the analysis phase of this research. The findings yielded an overall result indicating that the Apple Store and the Microsoft Store have distinct differences in this shared market space. First, the retailer behavior analytics results were significant. The Apple Store outperformed the Microsoft Store on nearly every metric, analytic, and statistical measure.

Second, the market locations did not prove to be an influence on store performance. The city and state market segments had no influence on the store analytics. The analytics were similar across the seven locations. The Apple Store consistently outperformed the Microsoft Store.

Third, the market days had a marginal influence on the sales of the retailers as indicated in the results. The research team delineated the market sales days as: (a) Market Weekday Sales and (b) Market Weekend Sales. The results indicated there was some influence on the sales in the stores. Both the market weekday sales and market weekend sales had marginal influence on customer behavior and retailer behavior analytics within market segments.

Finally, the Retailer Attributes Ratio results were significant, with a noted difference in the store attributes ratios between the retailers. The Apple Store had a higher ratio of positive store attributes as compared to the Microsoft Store. The Apple Store overwhelmingly outperformed the Microsoft Store by a two-to-one ratio of positive store attributes. However, in terms of negative store attributes, the Microsoft Store had a higher ratio of negative store attributes with a two-to-one ratio as compared to the Apple Store.

The conclusions drawn from these findings indicate the Apple Store has dominated the market in terms of both retailer analytics and customer behavior analytics. As compared to the Microsoft Store, the results tremendously favor the performance of the Apple Store. The consumer market is largely more responsive to the Apple Store than the Microsoft Store.

Implications for Practice

The implications illustrated in the research findings clearly show that the Apple Store is the market leader when compared to the Microsoft Store. The city and state market segments utilized in the research were a sample of all retail stores from across the U.S. and had no influence on the stores’ analytics. However, the data collection conducted on the weekdays and weekends did show marginal influence among the consumers and retailer sales associates’ behavior.

As an end result, the market research on the consumers and retailer sales associates’ behavior yielded favorable results for the Apple Store. The Apple Store has built a solid brand and culture, well-established ecosystem, esthetic store designs, and strong customer service/support model. These attributes of the Apple Store contributed to the significantly wide gap in performance margin with the Microsoft Store.

Recommendations for Research

The recommendations for future research include surveying the landscape for emerging retail competitors and assessing the future challenges e-commerce will bring to the electronic devices (i.e., computers, phones, video games and consoles, and software, etc.) marketplace. There are emerging electronic device suppliers who have realized the opportunity of using a brand-focused retail store. The evolution of technology continues to reshape how businesses survive and this will be a credible market trend to observe and research.

Emerging Threats?

Samsung and Motorola: Samsung and Motorola have entered the retail space currently dominated by Apple and Microsoft. A study incorporating these additions to the electronic devices retail market, Samsung and Motorola, would provide a comparison among the consumers and retailer sales associates’ behavior. The economy has witnessed a tremendous meltdown of retail stores that failed to transition into the e-commerce marketplace by maximizing the availability of technology through Management Information Systems (MIS) platforms. Moreover, retailers are successfully expanding their brands across many retail categories and pose the greatest threat in the brand-specific retail stores market. Amazon and Walmart are
the most successful e-commerce retailers. Amazon, Walmart, and other retailers have developed robust MIS/e-commerce platforms, which provide the flexibility to evolve with consumers. Therefore, future research on how e-commerce contributes to market expansion is relevant as well.

Amazon: Amazon is entering the retail market. The new 1,800-square-foot Amazon store is also a new test of entering the retail market. This is also a test for Amazon’s willingness to trade privacy for convenience in the real world. Currently, Amazon is not yet in the consumer electronics market. The new Amazon Go store logs customers in when they walk through the door, knows instantly when they pick an item up from the shelf, automatically tallies what they put in their carts or shopping bags, uses past purchases to improve their shopping experience, and automatically charges their accounts when they walk out – no need for checkout lines – making it nearly frictionless to buy something.

Amazon’s acquisition of Whole Foods in August 2017 adds another dimension to the disruption of the retail industry. Collecting, analyzing, and using data to enhance customer interactions and market to specific targets is Amazon’s strong suit. Industry analysts suggest that Amazon will run this new part of its business based on what the data supports.

Google: Google is trying to enter the consumer electronics retail market like Microsoft. Google wants consumers to get a better feel and hands-on experience with its own product line of products (e.g. Chromebooks, Nexus tablets, and smartphones) as well as products offered by other hardware vendors like Samsung and HTC. Google’s retail business model is very similar to the Microsoft Store (Miles et al., 2017). This is a red flag to both Apple and Microsoft.

*Note: This research won “Best Research Award in Marketing” at the 2017 Academy of Business Research Conference (ABR), March 23, 2017, New Orleans, La. Dr. Miles would like to thank both of the research teams for their outstanding contributions to this successful project: The Apple Team (Josh Garcia, Wanda Goodnough, and Pantea Shakibkhoo); and the Microsoft Team (Edward Wiggins, Aimy Steele, and Charelle Lans).

REFERENCES


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D. Anthony Miles, CEO and Founder, Miles Development Industries Corporation.

Pantea Shakibkhoo, Vice President of Sales, Supersonic Inc.

Aimy Steele, Ph.D. in Curriculum and Instruction, University of North Carolina at Charlotte.

Edward Wiggins, President and CEO, Orbis Novitas Solutions, LLC.
Why Effective Content on Digital Signage Drives Sales at Retail

By Philip M. Cohen, CEO, Cannabis Medical Network Holdings

There are many different kinds of shopping experiences, whether in-person at a brick and mortar location, on a store’s website, or on a desktop, tablet, or mobile device. Customers visit a retail channel largely to shop – to choose among a myriad of products in vertical or horizontal categories.

People who are physically in a store location are poised to become customers – that’s why they are there. However, when a consumer visits a highly specialized physical store location for a particular purpose, product, or experience, they are choosing to visit a retail destination.

What is a retail destination?

A retail destination not only provides products serving a single sector, but this type of location also will specialize in that sector, often supplying information and expertise unavailable at a general-purpose retail outlet. For instance, at a sports store, a customer can get a tip on his golf swing when purchasing a new putter, often along with other golf accessories. Or at a pet superstore, a consumer knows he or she can get grooming advice when going to purchase dog treats or other pet accessories.

This is an important distinction. A retail destination offers an unlimited ability to expand a consumer purchase every time a customer walks into the store. Why? Because everything offered is something they need now or will need in the future.

Expanding the Basket

Upselling is not new to retail, but operating a retail destination presents a unique opportunity to expand every sale by providing information and guidance. Customers do not know what they do not know. Presenting information that provides options that customers may not have previously considered is a reason to expand the purchase “basket” – enabling customers to buy more than they originally came in to buy.

Selling at the Point of Sale

Usually, by the time a customer has arrived in the store, he or she has done homework, culled through a series of options, identified purchase choices, and will make comparisons in person ahead of a final purchase decision.

But that does not mean that the customer is immune to in-store guidance. Impacting that decision at point of purchase is where digital signage shines. For example, when it comes to a cannabis dispensary, a digital screen gives the dispensary operator the ability to suggest and display a full list of options related to the product that brought the customer into the store. In a retail destination, that product should be just the beginning of the customer conversation.

However, the opportunity to cultivate customer engagement, provide additional information, and help guide each purchase to a more expansive conclusion is altogether dependent upon displaying effective content.

What is effective content?

Effective content is communication that compels a customer to consider products that did not make their short list. Effective content motivates the purchase of more product than what was initially planned, validates the original purchase intent, and/or prompts impulse purchases that were not initially being considered.

Effective content is informative and relevant. It is something new that the customer was not initially aware of and helps position the dispensary operator as an expert and resource for additional information. Effective content prompts customers to ask for more information or take a particular action.
What makes content effective?

Creating customer engagement is what makes content effective. But to be engaging, the message must first resonate with the audience. Content should address customer concerns and questions, which means content must be developed with the customer in mind. Knowing who the customer is and on what he or she will base a purchase decision is essential to ensuring that the customer will be interested in the information displayed.

Don’t assume that information alone will suffice. To motivate customers to purchase, there should always be a call to action that encourages a purchase. Such motivation can encourage immediate purchase through showcased or “featured” products, “today’s specials,” or “buy one get one at half price” offers.

Developing a Digital Signage Content Strategy

Before crafting any message, it is essential to develop a content strategy to ensure that your communications are planned out, resonate with your target audience, and serve your business goals. Creating a strategy forces a retailer to think through the communication process, based on several points:

1. **Articulate business goals.** These could include sales goals for particular high-margin products; signing a certain number of customers up for regular e-newsletter communications to build a steady customer base; and/or communicating particular information to make sure customers are better educated about the products available.

2. **Identify Audience.** A rule that holds true in marketing is that 20 percent of the customers buy 80 percent of the goods. Knowing who fits into the 20 percent will allow retailers to speak and cater to a customer’s needs, build long-term relationships, and upsell successfully.

3. **Create a Communications Calendar.** Your communication strategy should accommodate any seasonality in your market that changes buying patterns. Sometimes that means an influx of visitors, or the return of residents from vacations. Capitalize on gift-giving opportunities around established holidays and birthdays of those in your customer database.

4. **Plan Regular Message Updates.** Pay attention to the length of time customers spend in the store on average. How long is a customer’s attention available to absorb whatever messaging you develop? Consider communicating in small “modules” of information that can be quickly absorbed and changed frequently so information is always new.

Designing the message.

When selling any product, it is essential to craft and communicate a customer-focused message, which means defining the goals and target audience comes before the message crafting and designing process. That means a retailer may wish to conduct a customer survey, which could be a simple in-store questionnaire tied to inviting customers to sign up to receive opt-in email information about new or featured products.

What if they don’t buy now?

The value of a single consumer to a retailer is represented by what he or she will likely spend during the entire association with the store. That means that the relationship with a customer is much more important than the value of a single visit – no one likes to feel pressured. Every visit adds up to the lifetime sales total, so encouraging and guiding each encounter becomes an important step toward the next time the customer is in the store.

Philip M. Cohen, Chairman and CEO, Cannabis Medical Network Holdings.
PRI Research Articles

Platt Retail Institute undertakes a variety of research projects throughout the year. The results of this research are published as Research Articles (available for free download from the PRI website with registration). Some of the available PRI Research Articles include:

**Insights into Deploying RFID Systems in Retail.** Many retailers have deployed RFID technology, while others are just now testing its impact on their operational efficiencies. This roundtable discussion focuses on how several retailers approached their RFID deployments, including insights from a leading industry consultant.

**The Role of Emerging Technologies in Retail Roundtable.** Emerging technologies, from robots to RFID, are affecting the way retailers operate, both in the customer environment and in the back of the store. This roundtable discussion is focused on a variety of new technologies that are becoming part of the retail landscape.

**RFID Roundtable: RFID Challenges and Opportunities.** This roundtable discussion, sponsored by SML and supported by the CSCMP, features eight panelists who focused on retail application and adoption of Radio Frequency Identification (RFID).

**Retail Analytics Roundtable: Big Data, Analytics, and the Omni-channel Customer.** Sponsored by Tyco and supported by the CSCMP, this is a roundtable discussion among six panelists, representing five retailers and Intel’s Internet of Things Group.

**“Big Data, Analytics, and the Omni-channel Customer.”** Sponsored by Tyco and supported by the CSCMP, this research article is a overview of a roundtable and explores how retailers are using analytics to manage inventory, understand customers and their behaviors, support omni-channel strategies, and improve supply chain management.

**Customer and Inventory Insights Generated by Location-Based Analytics, and the Introduction of an Online–In-Store Behavioral Bonding Model.** Commissioned by Tyco, this research article explains that with the rapid changes in shopping behavior and especially the relationship between online and in-store consumer activities, it is highly important for retailers to make technological investments in an integrated information platform.

**Deployment and Test of the Digital Life Experience at an AT&T Retail Store.** This research, sponsored by Lighthaus Logic, describes a test conducted by AT&T in its Arlington Heights, Illinois, retail store. The test was designed to determine if having a more robust user experience in an interactive environment would lead to increased customer adoption and sales of the Digital Life service, an AT&T technology that encompasses a variety of home security and home automation options.

**The Future of Retail: A Perspective on Emerging Technology and Store Formats** was released in conjunction with the PRI Retail Forum at Digital Signage Expo 2014. The goal of this Research Article is to inform the reader about the disruptive changes occurring in the retail industry, and to help retailers prepare for and embrace evolving retail formats and technologies. This research is sponsored by Two West.

**Retail Attitudes and Adoption Trends of Multi-Channel and Omni-Channel Marketing** was research undertaken to gain insights into retailers’ attitudes about multi-channel use and the adoption of omni-channel marketing strategies. While most retailers use multiple channels to reach their customers, it was noteworthy that the retailers who participated in this research expect email and mobile marketing to increase in importance while the physical selling location is expected to fall. This research was sponsored by Digital Signage Expo.

**Digital Signage’s Role as Part of a Multimodal Approach to Deliver Emergency Messaging on Campus** explains the rapid adoption of digital signage networks as an important communication tool on university campuses. In 2010, PRI released a Research Report, "Communication Effectiveness in Higher Education," which illustrated that digital communication networks (DCNs) are becoming a viable alternative to older forms of on-campus communication. PRI conducted additional research, sponsored by Digital Signage Expo, Four Winds Interactive, Intel, and NEC Display Solutions, to delve further into the role of digital signage in delivering emergency messages on campus.
With the assistance of leading academic institutions, PRI publishes groundbreaking industry research related to in-store marketing, digital communications networks, retail analytics, and more. PRI Working Papers may be downloaded for free with registration.

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Omni Channel Summit  
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**February 26 - March 1, 2018**
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Las Vegas Convention Center  
Las Vegas

**April 19-20**
Global Retailing Conference  
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Tucson, Arizona

**April 27, 2018**
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Have an article idea for the *Journal of Retail Analytics*? Contact melissan@plattretailinstitute.org to receive the Publication Guidelines.