HighStreet Collective's *Retail Innovation Radar*™

4th Quarter 2018 Report



A report that measures shoppers' adoption of in-store technologies.

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"Today's retail innovation becomes, tomorrow's shoppers' expectation."

-HighStreet

<u>CAUTION:</u> IGNORE HUMANISM AT YOUR OWN PERIL

Today, **64%** of U.S. consumers and **59%** of all consumers feel companies have lost touch with the **human** element of customer experience.

- PwC Customer Intelligence Series

What Is It?

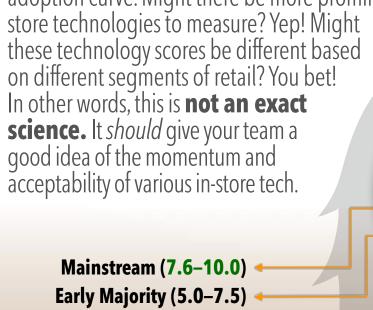
HighStreet's Retail Innovation Radar™ Report is a quarterly report that measures **twelve** influential technology innovations in <u>brick and mortar</u> <u>retail</u>. It is based on **shopper acceptance** of these technologies, <u>not</u> on the technological advances of the innovations.

How Does It Work?

The closer the dot is to the center of the shoppers' radar screen, the more mainstream the technology is. The further out the dot is, the less likely it is that the technology has been adopted by the shopper mainstream. The larger the dot, the bigger impact on retail.

How Is It Scored?

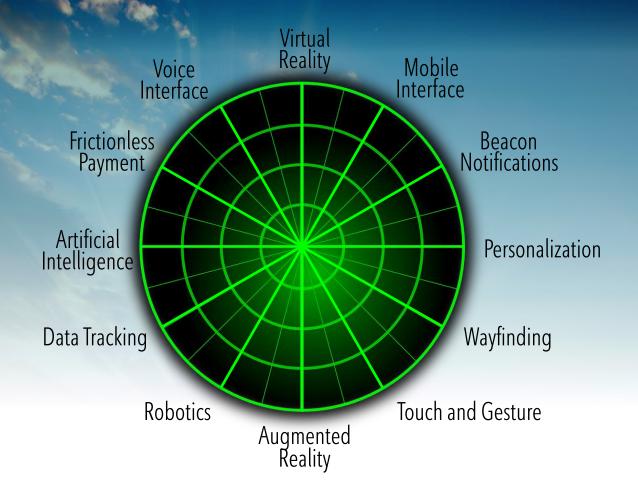
This report is based on research of recent **retail installations**, **shopper stats and our opinion** of where these innovations live in the technology adoption curve. Might there be more prominent in-



Early Adopter (2.5-4.9)

Innovator (0.0–2.4)





Why These 12?

Social media video walls, RFID experiences at the shelf, beacon-based proximity notifications, digital wayfinding, in-store kiosks, artificial intelligence-enabled robots – the tech choices can be overwhelming. Which ones should be used? For what human purpose? Which ones are scalable? How should they be woven into the store experience? These are all questions we help our clients answer each and every day.

As we meet and talk with brands and retailers at conferences around the country, the top question we are constantly asked is, "which technology should we use in our store?" In response to that question, we decided that we would put out a report of the top technologies on the minds of retailers - these are the most asked about.

Are there others? Of course. And as time passes, if an emerging technology supplants one of the chosen twelve, we will gladly adjust the radar.

This Quarter in Retail Tech: Editor's Note

Holiday 2018 is expected to be a banner year for retailers. 2017 saw a 4.9% increase in sales over the previous year, and that was the biggest increase since 2011. According to Deloitte, **2018 will see anywhere from a 5.0% to a 5.6% Holiday sales increase over last year.** And, e-commerce is expected to eclipse 22% growth over last year's Holiday season. Singles Day 2018, Alibaba's equivalent to Black Friday or Amazon Prime Day, saw a 24-hour sales figure of \$30.8 billion, eclipsing last year's record of \$25.3 billion. Does this e-commerce Holiday boom mean the end for brick and mortar?

Hardly. According to research from Pitney Bowes, 61% of global Holiday shoppers last year "felt let down by their online shopping experience during the last holiday season." That figure is up from 47% in 2017, and 41% in 2016. Combine that dour figure with the fact that 42% of consumers shop instore for festive environment, according to Bazaarvoice, Inc., and you've got a recipe of a ripe opportunity for brick and mortar this year.

As retailers look to lure and wow shoppers this year, there are a handful of expectations that shoppers bring with them:

- 1. Giving you my money should be easy
- 2. Make my visit worth the drive
- 3. Only show products for me
- 4.1 still want human contact

In this issue of the Retail Innovation Radar Report™, you'll discover some in-store tech and retail case studies that will help you deliver on these ever-heightening shopper expectations.

This quarter (Q4, 2018), frictionless payment takes a huge leap (+0.9) thanks to Amazon Go



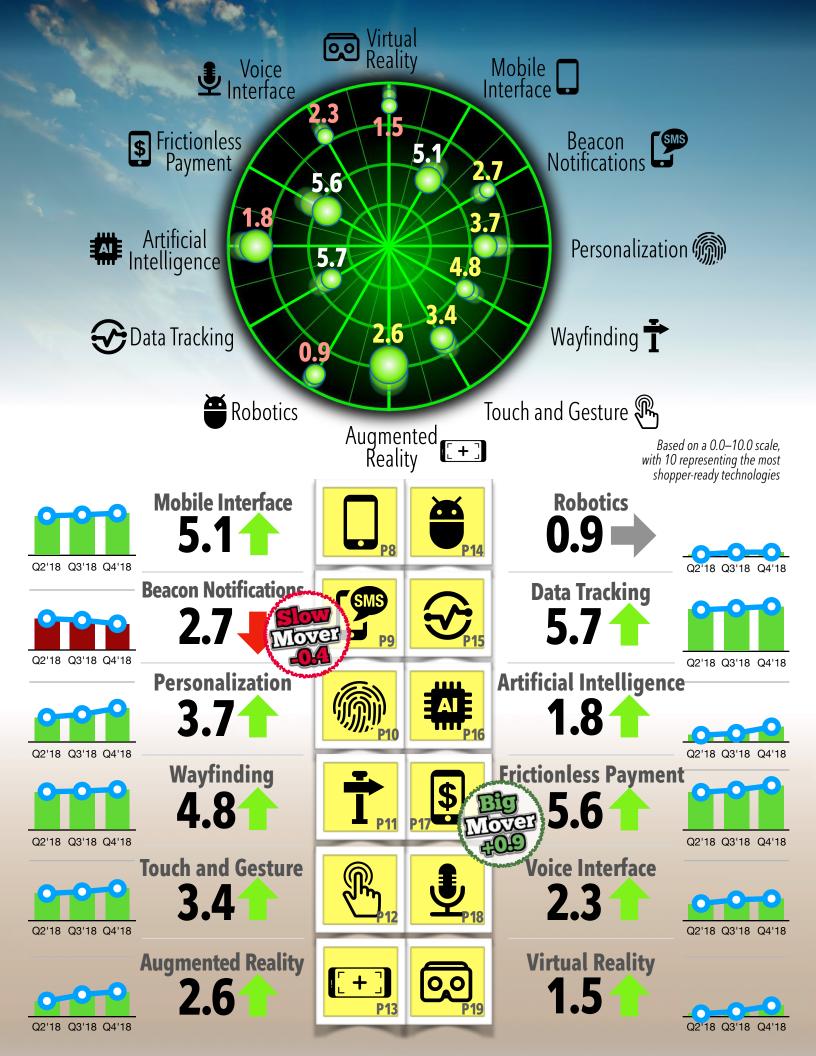
2018 Holiday window at Selfridges in London

and all of the other retailers who are experimenting with cashierless stores (page 17). Face[Note] tempts the brave by transparently taking in-store selfies of customers in exchange for a discount, and sees an opt-in rate of 7.8% (page 15). NEC ushers in a new era of digital signage, bringing the personalization front and center (page 10). The constant drive for human contact gets a nod thanks to WAAS (wayfinding as a service), as startup Cartogram looks to transcend simple GPS in getting people off the couch and to the right shelf (page 11).

Lastly, it looks like we have our first casualty among the core 12 technologies, but it will be replaced by a technology swiftly on the rise (page 9).

Happy Holidays to all, and may your cash register sing you into the black in 2018.

— Ed King, Editor



Definitions

Mobile Interface

Aside from negative behaviors like showrooming, it's the planned and encouraged use of a shopper's mobile device (including apps) inside the store to remove friction from the shopping experience or enhance the experience in some way.





Robotics

Shopper-facing robots (*not* back-office uses) used inside the store. Often used for entertainment, wayfinding, and solutioning.

Beacon Notifications

The use of beacons or other technologies that send automatic notifications to a shopper's mobile device based on proximity to the store, a department, the shelf or a particular product.





Data Tracking

The conscious willingness of shoppers to allow brands and/or retailers to use technology to use their data to enhance the experience, or receive value in exchange.

Personalization

The use of data to personalize a shopper's instore experience. This could include a personal shopper service (items curated specifically for each shopper based on gathered data), use of recognition technology to understand a shopper's past purchases and preferences, or a pricing structure customized to each shopper.





Artificial Intelligence

Technology that emulates the human brain in thinking, learning and acting like a human. Often used to help curate products based on a shopper's preferences, past purchase history and "look-alike" algorithms.

Wayfinding

The use of technology to help shoppers navigate the store. This could include digital signage, map-based kiosks, or mobile apps..





Frictionless Payment

Technology that takes the friction out of the payment process in a physical retail environment. Technologies include facial recognition, mobile payment, RFID tracking, deep learning algorithms, computer vision and sensor fusion.

Touch and Gesture

The use of a shopper's hands, arms, and/or legs to interact with a screen or in-store experience.
This could include touch-screen kiosks.





Voice Interface

Shoppers use of voice-activated technology inside the store. Often used for product searches and/or wayfinding.

Augmented Reality

The use of a shopper's mobile device as a lens to the in-store experience. By using AR, the shopper discovers and unlocks engaging content, and personalized experiences.





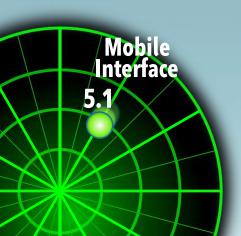
Virtual Reality

Wearable technology that emulates a spacial / 3D experience. This is specifically the use of VR inside of a physical brick and mortar store.











5.1 1

Mobile 4.8 Last Qtr. Interface

HighStreet's Take: This Holiday season, retailers are finding new ways to leverage mobile devices inside their stores. Once spooked by 'showrooming' shoppers, retailers are beginning to discover that ones' mobile device can be used to reduce friction and create enhanced shopping experiences inside the store.

RETAIL TECH QUARTERLY

BY HIGHSTREET COLLECTIVE

Pinterest Comes to Life Inside Store

Pinterest Pincodes will be placed on designated hero products inside The Conran Shop's flagship Chelsea store in London. 1,600 red-topped ceramic Pins will lead visitors into the store, where shoppers can scan custom codes with their mobile device to discover curated ideas and other content.

Click here for the article.

60% of consumers believe that **by 2025**, they will carry just a phone and no wallet.

- Synchrony Digital Study, 2018

...in other mobile news...



Kohl's to Offer Pickup Lockers & Mobile Checkout This Holiday Season

Click here for the article.



B8TA Equips Associates With 'Bat Phones' For **Quick Answers to Shoppers' Questions**





Beacon Notifications



2.7 Beacon
3.1 Last Qtr. Notifications



RETAIL TECH QUARTERLY

BY HIGHSTREET COLLECTIVE

Radar Introduces Electronic Shelf Labels

An electronic shelf label (ESL) system is used by retailers for displaying product pricing on shelves. Typically, electronic display modules are attached to Typically, electronic display modules are attached to the front edge of retail shelving. These modules use electronic paper (E-paper) or liquid-crystal display (LCD) to show the current product price to the customer. They are additionally powerful for customer. They are additionally powerful for inventory purposes, providing deeper shelf information, wayfinding, planogram compliance and dynamic merchandising.



Billion by 2023.

Electronic shelf

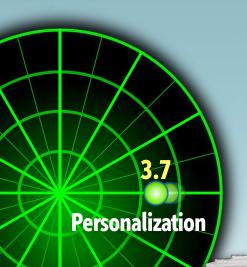
label market to hit

\$1.4

according to a report by MarketsandMarkets



HighStreet's Take: Beacon notifications are being de-listed on our radar, and will be replaced. Shopper acceptance of in-store notifications on their mobile device is actually declining. At some point, we may bring it back, but starting Q1, 2019 we will replace beacon notifications with Electronic Shelf Labels (ESLs).





3.7 2.9 Last Qtr.

Personalization

HighStreet's Take: As the proliferation of choice (both products and places to obtain these products) increases, shoppers are growing more exhausted. One of this quarter's trends is "Only Show Products" For Me." Technology providers and retailers continue to up their games, offering more curated shopping trips.

RETAIL TECH QUARTERLY BY HIGHSTREET COLLECTIVE

NEC Makes Responsive Content Real

NEC's new ALP new data intelligence platform brings in new era in smart digital signage. Using gaze cameras and a CMS, it can auto-render digital signage content to best cater to the person looking at it. Even better? The behind-thescene analytics.

Click here for the article.



- Seeing Beyond the Loyalty Illusion,

41%

of consumers are

loyal to brands that offer them

the opportunity

to personalize

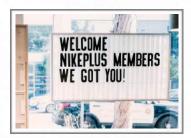
products.

...in other personalization news...



Uniqlo IQ Makes Digital Recommendations Hip + Human

Click here for the article.



Nike Gets Exclusively Exclusive By Noticing Neighborhood Sales Patterns



4.8 1 4.5 Last Qtr.

Wayfinding

Wayfinding

4.8

HighStreet's Take: As GPS interfaces continue to improve, consumers will continue to demand better (and more intuitive) wayfinding solutions in their shopping trip. WAAS "Wayfinding as a service" is on the up, with savvy retailers knowing that sometimes shoppers don't want to be stuck with a techonly solution. Sometimes, they just want to ask someone for directions. Unless you're a man. Then you never ask for directions.

RETAIL TECH QUARTERLY

BY HIGHSTREET COLLECTIVE

Mall of America Paves a New Path

Always on the cutting edge, Mall of America re-imagined wayfinding for their massive facility with a fresh approach at kiosk-based wayfinding. Translated in 9 languages, it reduces search times to seconds. It also has an option to text a map view with step-by-step navigation or live-text with a digital concierge.

Click here for the article.

22% of hoteliers planned to add or upgrade location technology in

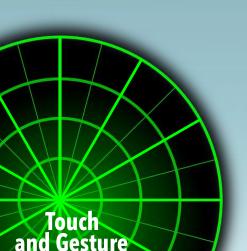
- 2018 Lodging Technology Study



...in other wayfinding news...



From Couch to Shelf, Cartogram Seeks to Solve the End-to-End **Wayfinding Conundrum Using** 'Wayfinding as a Service' Model



3.4 3.0 Last Qtr.

Touch and **Gesture**

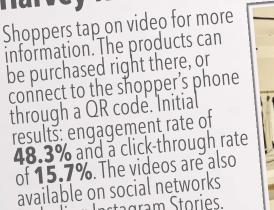
HighStreet's Take: We aren't seeing a lot regarding this technology right now. It could be that the increased adoption of QR codes and other mobile-enablement initiatives inside the store make kiosks less appealing? Certainly it's in the retailers best interest to allow the shopper to use the supercomputer in their pocket rather than investing in expensive kiosks in the store.

RETAIL TECH QUARTERLY BY HIGHSTREET COLLECTIVE

Harvey Nichols: Shoppable In-Store Vids

information. The products can be purchased right there, or connect to the shopper's phone through a QR code. Initial of 15.7%. The videos are also available on social networks including Instagram Stories.

Click here for the article.







Gesture Recognition Market - Segmented by Technology, March 2018 Study

The gesture

recognition

market is

expected to reach

\$23.5

Billion

by 2023.

...in other touch and gesture news...



Wayfair to Combine Endless Aisle and Physical Experiences in Pop-Up **Fashion This Holiday Season**







2.6 1 2.3 Last Qtr.

Augmented Reality

HighStreet's Take: AR arguably holds the most promise for in-store shoppers to help remove friction, and enhance the positive emotional experience they seek when shopping. The industry is waiting for the next Pokemon-type killer app to awaken shoppers' interest in the technology. It's likely not that far away. Maybe by the end of 2019, it will hit critical mass?

Augmented Reality

2.6

RETAIL TECH QUARTERLY BY HIGHSTREET COLLECTIVE

Foot Locker/Nike House of Hoops Pop-Up

Foot Locker got a jump on the new basketball season with Nike via a pop-up store at the opening of the LA Lakers' season with LeBron James. It featured an AR "hunt" game for consumers which can unlock the third prong: limited-edition shoes in James's Nike line.



– BRP's Retail's Digital Crossroads: The Race to Meet Shopper Expectations report

45%

of customers

would more likely

shop at a retail

brand that offered

AR. Yet, only **15%**

of retailers offer

this capability.

Click here for the article.

...in other augmented reality news...



FDA Approves Microsoft HoloLens AR System for Medical Use... Will Retail Follow?



0.9 0.9 Last Qtr.

Robotics

HighStreet's Take: Still in the novelty stage, consumer-facing robots are increasing - like Flippy, the short-order cook. Primarily used for simple tasks (and definitely not ready for critical thinking), delivery robots are being tested at a variety of venues. For the sake of us all, please do not replace humans with robots...not yet anyway.



RETAIL TECH QUARTERLY BY HIGHSTREET COLLECTIVE

Vegas Hotel Testing Robot Delivery

Vdara Hotel & Spa launched two robots responsible for delivering snacks, coffee and other products directly to guest suites. Upon arrival, the bot calls the room. Once the goods are exchanged, a screen asks how the guest's stay is. A 5-star rating gets a little dance from the cute bot.



Click here for the article.

7 Million

retail employees could be replaced by technology within the next decade.

- US Bureau of Labor Statistics

...in other robotics news...



Autonomous Delivery Robots Will Be There in a Dash

Click here for the article.



Caliburger's \$100,000 **Short-Order Robot Cook** Named Flippy Has Customers Flipping Out



5.7 Data Tracking
5.3 Last Qtr.

HighStreet's Take: As millennials and generation z continue to seek ways to use their personal information as currency, retailers and technologists are experimenting with transparent opt-in programs. Shoppers are becoming more and more aware of being tracked inside the store. Retailers should be upfront with it, and offer a value-exchange for those who opt in.

5.7 Data Tracking

RETAIL TECH QUARTERLY BY HIGHSTREET COLLECTIVE

Face[Note] Makes Selfies 'Creepy Cool'

Apple's FaceID opened up a whole new world for facial recognition. For younger shoppers who are accustomed to using their personal data as currency, Face[Note] fits the bill. By taking a selfie inside the store (for a discount), shoppers are recognized by sales associates when they return. In early tests, nearly 8% of shoppers opt in.

- PwC Customer Intelligence Series

63%

of U.S. consumers

say they would

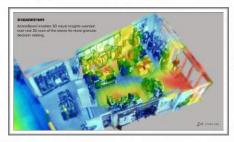
share personal information for a

service they say

they truly valued.

Click here for the article.

...in other data tracking news...



Live at Foot Locker, Audi and **Scotch and Soda, StoreDNA Takes** a 'Google Analytics' Approach Inside the Store



Artificial 1.8 Artificial 1.4 Last Qtr. Intelligence

HighStreet's Take: All is one of those topics that is highly misunderstood, yet referenced all the time in our business. Is AI important and will it be a critical piece of the future in retail? No doubt. But simple decision trees (if you like this, then you'll also like that) has been around for decades, and is NOT AI. One of the best video tutorials on what AI really means to retailers can be found here: Click here for the article.

Artificial Intelligence

RETAIL TECH QUARTERLY

BY HIGHSTREET COLLECTIVE

AI, Cashier-Free Checkout Tested at Walmart

According to Retail TouchPoints and TechCrunch, Walmart's lab will operate inside a Levittown, N.Y. store, not in Bentonville. Al is expected to be used to better calculate stock, ID when items are on the wrong shelf and quickly report spills.

Click here for the article.

45% of retailers say that they want to be using AI to enhance the customer experience by 2020.

– BRP, 'Customer Experience/Unified Commerce Benchmark Survey', May 2017

...in other AI news...



New Balance Uses Al Cameras to Detect and Reward 'Fashion Exceptions' in NYC

Click here for the article.



Forever 21 Sees Initial Success in Their New **AI-Powered Visual Search Function**

Click here for the article.

Walmart :



5.6 4.7 Last Qtr.

Frictionless Payment

5.6

Frictionless Payment

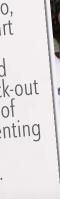
HighStreet's Take: Amazon is reportedly planning to open 3,000 new Amazon Go cashierless stores by 2021, according to Bloomberg. But others are guickly following Amazon's lead. Kind of like when Roger Bannister broke the 4-minute mile barrier, now that cashierless stores are real, retailers' mindsets are open to the possibility.

RETAIL TECH QUARTERLY

BY HIGHSTREET COLLECTIVE

Zippin and Zip Out, Says Amazon Go Rival

Beating rival Amazon Go to the punch in San Francisco, Zippin uses cameras, smart shelf sensors, scales and machine learning-trained algorithms to make check-out a thing of the past. One of many retailers experimenting with a true frictionless payment retail solution.



Click here for the article.



Noncash transactions will post a compound annual growth rate of

> 13% until the year 2021

World Payments Report 2018, Capgemini and BNP Paribas

...in other frictionless payment news...



Dirty Lemon Takes Trust to a New Level: **Unmanned Stores Rely** on Texts to Transact

Click here for the article.



Honest Bee's Habitat Store in Singapore Uses a Scan Tunnel for Self Checkout



2.3 2.2 Last Qtr.

Voice Interface

HighStreet's Take: I still can't get my head around shoppers talking to a device in-store (and not a human) to help them find a product or dive deeper into product knowledge. Innovators like Starbucks are incorporating voice into their mobile app to ease the friction of ordering, and pickup in-store.

Voice Interface

RETAIL TECH QUARTERLY

BY HIGHSTREET COLLECTIVE

Al and Voice Tech to Overtake Humans?

"What we really want is a kind of superhuman sales assistant that you can have a conversation with - an Al that would be showing you product, answering questions and taking into account your circumstances to sell you something. It has the potential of basically what a really good sales person would do." – William Tunstall-Pedoe, creator of the Alexa technology.



"By 2020, **50%** of all searches will be conducted via voice."

Andrew Ng, Co-Founder of Coursera;
 Stanford CS adjunct faculty

Click here for the article.

...in other voice interface news...



Starbucks Steps up their Voice Game by Enabling Alexa to Place and Pay for Orders On-the-Go



1.2 Last Qtr.

Virtual Reality

HighStreet's Take: VR has yet to make a meaningful splash inside the store. While some have used it for novelty or to help sell headsets, others are using it to bring the store to the shopper. And others, like Walmart, are using it in-store, not for shoppers, but for employee training. Will VR provide a mainstream benefit to brick and mortar shoppers? The jury is still out.



RETAIL TECH QUARTERLY

BY HIGHSTREET COLLECTIVE

Walmart Brings VR to the Backroom

Walmart is using VR to train employees on real-world scenarios too obstructive or inefficient to recreate in real life. Sticky issues like spills, confrontations and the dark side of Black Friday are topics in the training curriculum. Could VR instore be far away at the 'mart?

Apprecia

The market for AR and VR in retail will reach

\$1.6 by 2025.

- Profiles in Innovation series,

Click here for the article.

...in other virtual reality news...



Virtual Visitors Walk the **Store Aisles (and Buy) from** Home Thanks to Virtual APT

HighStreet Collective *About the Contributors*



Ed King Co-Founder ed@HighStreetX.com

Ed King is Co-Founder, **Customer Experience Strategy** for HighStreet. We call Ed "The Mad Scientist" for a reason. Give him insights and he'll not only get to the why, but he'll uncover the non-conscious reasons they're happening – and which ones are CX gold. And here is where the magic resides: Ed's background as a creative director, change management consultant, sidebar empath and querrilla neuro-maestro makes him a left brained/right brained strategic weapon. The only thing he loves more than cracking category conventions is sharing the data stories around the results.



Laura Davis-TaylorCo-Founder
LDT@HighStreetX.com

Laura Davis-Taylor is Co-Founder, Retail Strategy for HighStreet. She was literally born into retail. Wandering malls serving as the eyes of her blind, fashion-addicted mom, Laura cultivated a sixth sense for understanding what makes a great store experience. Twenty years later, she's been a brand planner, internet maven, store design strategist, innovation instigator and she even 'wrote the book' on in-store digital media. She thrives when in a hive of activity, so don't be surprised when she's talking about 5 things at once. Don't worry, it will make sense the end-just fasten your seatbelt!



Sanjay GidwaniPrincipal Consultant
sanjay@HighStreetX.com

Sanjay Gidwani is Principal Consultant, Global Business Strategy for HighStreet. Sanjay's global experience consists of Harrods of London and Prada. Also, in Australia, Sanjay and his brother co-founded the country's largest party supplies business. On the back of this success, he introduced Halloween retailing to Australia, opening Australia's first chain of Halloween pop-up stores, and was widely recognized in Australian media as the voice of Halloween, seasonal and gift retailing. Sanjay has served on multiple Boards, and holds an MBA from the Australian Graduate School of Management.

Working With HighStreet

We are **retail experience designers** for the demands of 21st century shoppers. And the speed needs of 21st century retailers and brands.

As "consultant practitioners" we work with retailers and brands to help them **assess** their instore experiences, **craft innovation strategies** for shopper needs, **create unique experience signature concepts** to bring the store to life,

build working prototypes, and **measure the impact** of store experiences.

Our **7-Step Innovation Funnel™** Methodology helps craft the most meaningful experiences for today's connected shoppers while delivering business results any CFO would be proud of.

Contact any of us at the emails above. We look forward to talking to you about your store innovation challenge!