

Recovering Lost Revenues in Retail with IndoorGPS

- Consumers are accustomed to using mobile apps for navigation in daily life
- Up to 40% of shoppers fail to find at least one product they intended to buy in every shopping trip
- Retailers are experiencing a 3-5% loss in revenue relating to unlocatable products
- Accurate indoor navigation can help shoppers find products in store and hence regain lost revenue for retailers
- 39.8% of global companies are already using some form of indoor location technology
- Indoor navigation that is based on geomagnetism is more accurate and easily scalable because no hardware installation is required



Background

In an era when shopper experience and convenience are king, any consumer can relate to the frustration of having trouble locating an item in a store. How much time have you wasted looking for an item? And how many times have you not found it, and just given up?

Shoppers and retail professionals alike can agree that searching for products in stores, whether large or small, is oftentimes a challenge. This creates a stark opposition to the ease of online shopping. Inability to locate helpful store personnel and insufficient or inadequately updated store signage often leads to fraught shoppers wandering around the store, searching for a specific item - which in many cases, they never find.

For over 10 years now, industries across the world have been devoting resources to research, develop, and implement indoor navigation with various technologies. Locating people's position inside buildings (and inside stores specifically), just like we do outdoors using GPS, would be a game-changer. 39.8% of global companies are already using some form of indoor location technology (based on LBMA 2019 survey).

Until recently, the existing procedures to enable indoor positioning involved purchase, widespread installation, and maintenance of various hardware components to connect and detect users' devices. Those components, such as Bluetooth beacons, pose cost constraints that prevent the market from deploying, while other solutions that rely on existing infrastructure, such as Wifi access points, result in insufficient accuracy.

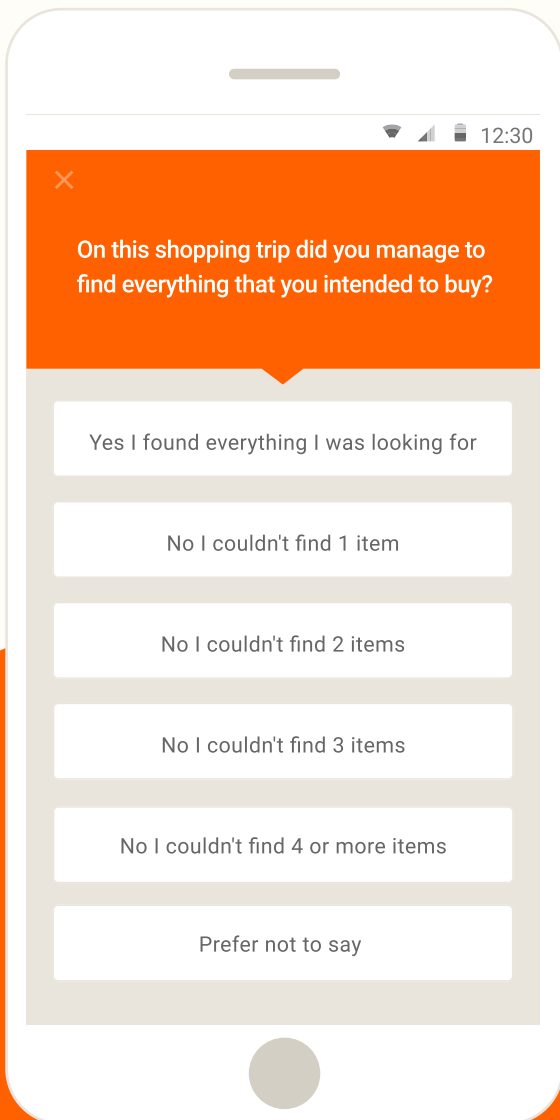
Research Evidence

With VYPR, a UK-based specialized agency, a survey was conducted to better understand how frequently shoppers are unable to locate items they want to buy.

The poll was distributed to a database of 40,000 consumers during and immediately after their shopping trips, asking how many products they intended to buy but could not find within the time they allocated for their shopping journey. Thousands of answers were collected.



We used VYPER's 40,000 consumer community in UK to understand how frequently shoppers don't find products they look for



This study, as well as several others, revealed a few interesting insights:



Most shoppers allocate pre-defined and limited amounts of time for their shopping journeys. Typically, this time varies from 30-90 minutes, depending on the size of the store.



Most shoppers enter a store with a list of intended items to purchase, and usually add impulse items. Purchases of impulse items decrease towards the end of the shopping journey as shoppers become more stressed for time.



Shoppers are unlikely to extend their shopping trip in order to find all the products on their list - and finish their shopping journey within the allotted time, **often leaving without the items they were unable to find.**



It may be surprising to learn that the challenge to find items in-store exists in large format stores, as well as in smaller format stores of 300-500 square meters (~3200-5400 square feet).

VYPR Shoppers Survey Results

* A clear distinction was made between items that were not found because they were not in stock, and items that were in fact on shelf but were not found by shoppers. The results of this study refer only to items that were not found, but were in stock and on shelf.



VYPR survey results show consistently that **20%-40%** of shoppers complain that during a shopping trip, they cannot find **at least** one product they intended to buy.



The 20%-40% range in results can be attributed to range in store size– generally, **the larger the store, the higher** the percentage of shoppers unable to find products.



More than **half** of these shoppers were unable to find **two or more** products in a shopping trip.

Nielsen Data

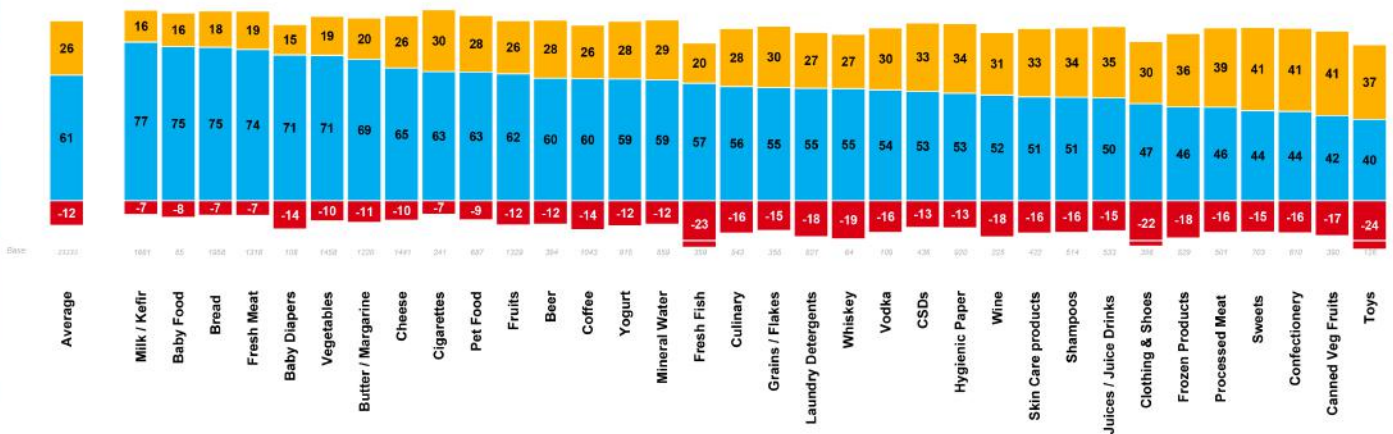
Nielsen Shopper studies quantify the “missed opportunities” - products that were planned but not purchased, per FMCG category as ranging from **7% to 16%**.

In this analysis no distinction was made between items that were in stock and on shelf and items that were not in stock.

Considering accepted OOS (Out Of Stock) and OSA (On Shelf Availability) levels across categories, we can deduce that about 50% of the missed opportunities (the red bars) below can be attributed to products that were on shelf but not found.



CATEGORY OPPORTUNITIES AMONG ALL WHO EITHER PLANNED OR BOUGHT PARTICULAR CATEGORY



Toys, Clothing & Shoes, Fresh Fish, Alcohol categories, Laundry Detergents are among those who have significantly larger share of lost opportunities. Meantime Sweets, Confectionery, Canned Vegetables & Fruits have the highest share of impulse purchases.

LOST: Planned, but didn't buy
FULFILLED: Planned and bought
IMPULSE: Didn't plan, but bought



Base: all who either planned or bought particular category
 Q.8 vs. Q.9 Planned vs. Bought - By Category

Analysis – Lost Revenues by Retailers



VYPR shopper study results indicate that significant portions of customers fail to find one or more products while shopping.



This alone translates to mass incomplete shopping trips – resulting in both revenue loss and unsatisfied customers.



Retailers are experiencing a **3-5%** loss in revenue relating to unlocatable products.



This conclusion is consistent with the Nielsen "Missed Opportunity" methodology, presenting similar lost revenue percentages after deduction of "Out of Stock" items.

How Retailers Can Recover These Lost Revenues



Recovering these revenues for retailers has become a technology objective, and major progress has been made towards this goal in the past few years.



Shoppers are accustomed to navigating their way through the world with a smartphone in-hand, using mobile apps like Waze and Google Maps. By adjusting the in-store experience to use the same navigation, it will become straightforward, simple and stress-free.



The challenge is to provide an easy and intuitive way to navigate in-store, without disrupting store operations, while keeping it affordable.



To enable shoppers to easily find products in-store:

1

The location must be **accurate** enough (for most use-cases no more than 1 meter/3 feet)

2

The solution needs to be **stable and robust** – no waiting times and no inaccuracies

3

The experience could be seamlessly **embedded inside the retailer's mobile app**

4

The **awareness** should be raised with supporting signage in-store and communication, utilizing associates to promote the app and experience

5

Gamification and incentivizing **location-based promotions** provide encouragement to use this functionality

Technology and Solutions

GPS-based mobile apps like Waze, and Google Maps are already mainstream - helping people to find their way from location to location in their everyday lives. But they don't work indoors. In the last few years, significant developments have evolved in the world of Indoor GPS, with several technology solutions working to help shoppers find their ways in-store. Most of existing IndoorGPS solutions are based on Beacons and/or Wifi triangulation, and require hardware installations, making them less scalable and lacking in accuracy.

Geomagnetism Technology

Recently, headway has been made in Indoor Positioning by the technology company Orient, which uses geomagnetism technology. Geomagnetism doesn't require any hardware or reliance on facility infrastructure, presents better accuracy of 1 meter (3 feet), and is offered in a Software-as-a-Service (SaaS) model – making it a promising alternative.



How does it actually work?

Geomagnetism is the science of the magnetic properties of Earth.

Earth's magnetic field exists all around us. Indoors, every building distorts it, creating unique magnetic characteristics. By identifying the specific geomagnetic features of any given space, indoor positioning can be achieved without any hardware installation, creating an ubiquitous service similar to outdoor GPS.

With improvement of smartphones' sensors (including the compass) in the past 5 years, their ability to provide an accurate magnetic reading has come to life, enabling them to pinpoint a device's location within any particular building's space based on magnetic characteristics.

State-of-the-art algorithms have been developed by Oriient to allow software-only indoor positioning. By matching magnetic readings to the database of buildings, it is now possible to accurately locate any smartphone that moves inside any building, anywhere in the world.

All it takes to enable geomagnetic IndoorGPS in a store, a shopping mall, a hotel, an airport, a campus or a hospital, is for an Oriient mapper walk through the building with a standard smartphone in hand, collecting sensors data. From that point the shoppers, visitors and employees can find their whereabouts via the facility's mobile app with Oriient's integrated SDK.



Benefits of Geomagnetic Indoor Positioning:

- Cost-effective solution, without hardware nor installation, SaaS model, no CAPEX
- A user-friendly navigation experience on users' smartphones for easy product search
- High accuracy of 1 meter (3 feet), ensuring a high quality user experience
- Increase preferred sales by offering location-based promotions
- Revive shopper experience by converting shopping lists to in-store routes with navigation
- Gain actionable insights to shopper behavior and store traffic
- The same system can be leveraged to many more use-cases, including to optimize operations and store workforce such as merchandizers and pickers

To find out more about how it works and how this solution can help retailers recover lost revenues

[Click Here](#) 

About Orient

Orient is a pioneer in magnetic-field-based indoor positioning.

The technology powers location-aware mobile apps in any indoor environment with a scalable and easy to deploy solution (doesn't require installation nor hardware). Focused on the Retail and Smart Building verticals, Orient provides a convenient wayfinding experience for customers on their own smartphones, and allows facilities to improve their service and operations.

Orient allows brick-and-mortar retailers to engage with customers digitally: to avoid losing foot traffic, reach them at the right place and time, with high accuracy and get full visibility to their shopping journey.

Learn more at www.orient.me



About the Location Based Marketing Association

The Location Based Marketing Association is an international group dedicated to fostering research, education and collaborative innovation at the intersection of people, places and media. With chapters throughout North America, Europe, and Asia, the association continues to advance its mission; to educate, share best practices, establish guidelines for growth and to promote the services of member companies to brands and other content-related providers.

Learn more at <http://www.thelbma.com>