THE TRUE STORY OF YOUR SHOPPERS' JOURNEY TO PURCHASE













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GROW REVENUE







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A BI and Behavioral **Analytics Platform** Built for Online Businesses







Delighting Your Shoppers Throughout their Online Experience

Shoppers, online and offline, want the same thing. A simple, enjoyable shopping experience, with an attractive display of product items and information, a good price and easy checkout experience, and let's say, a feeling of a personal relationship, either by communicating to the retail worker, or by receiving a personalized discount, or a personalized attractive offer to complete the purchase. We're all people, and whether buying online or offline, if we want something and already spent the time and effort driving to the store or searching the web for it, we all want a pleasant experience that leads to results – a good bargain for whatever item we came to buy (and probably some more items that were offered on the way).

But that's all theory. According to Monetate's eCommerce quarterly published in February 2017, the conversion rates for desktops, smartphones, and tablets were 4.14%, 1.55%, and 3.56% respectively in the last quarter of 2016. That's a lot lower than conversion rates in physical stores. A lot of times it's the same shopper and the same products, but a much lower online conversion rate. The question is why? It could be the presentation of too many options, or the easy exit, or the lack of personal engagement that the shopper experiences in the store. Or maybe it's a difference in the way product is presented?

As Prof. Dan Ariely, a researcher, author and thought leader on behavioral economics says: "Most people don't know what they want unless they see it in context. Don't underestimate the power of presentation."

Yes. The saying you only get one chance to make a first impression looms large over this area. To answer these types of questions, we must rely on the power of behavioral analytics. Behavioral analytics enables us to analyze customer behavior over a defined time period, which leads to data driven insights, paving a path to optimizing conversions and maximizing business growth.

Think of the millions and even billions of event data streams collected on your site – each click, download or purchase – as steps in a powerful customer story that is waiting to be told. Your job as a growing eCommerce business is to connect the different data points to understand customer behavior. By analyzing raw data collected over a specific time period, focusing on the entire customer journey rather than specific events frozen in time, as with traditional analytics, you'll be able to listen more carefully to the story your customer is telling you.



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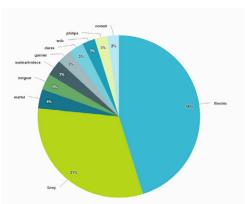
A Consolidated Overview and Dashboard of Daily KPIs





A Consolidated Overview and Dashboard of Daily KPIs

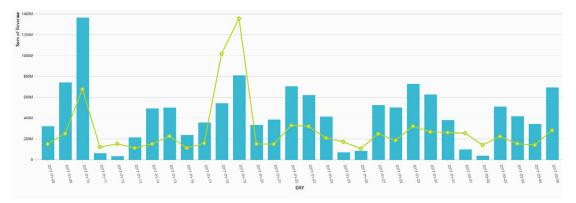
**** An overview dashboard for eCommerce metrics | No more siloed hours



DAU **214,933** Users **5.505.000**

Total Purchases 14,622,266

Revenue \$ 10,604,539



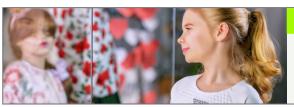
Behavioral analytics gives you the tools not only to answer these vital questions for business growth, but to act on them so you can engage with your customer in a deeper and more personal way than your competition. In this ebook we'll delve into more detail on the insights advanced behavioral analytics can deliver and the different engagement engines that will delight your shoppers at every step of their journey.

In the competitive world of eCommerce, time is of essence. You need to constantly monitor your KPIs. However, instead of seeing them as fragments of data in the shopper's journey, you need to see the full data picture.

With the ability to fully analyze your shopper's journey, you'll not only know how many shoppers visit your shop daily, where they are visiting from, and the top products and categories they are viewing, but you'll be able to combine it with stock, product and financial data associated with the time period you define. You'll also need to be able to analyze the purchase journeys of anonymous shoppers who only later reveal their identities with a purchase, as well as unify the shopper identities who switch between different devices.

Successful eCommerce businesses who understand how their shoppers behave over a defined period-and are listening intently to the story they are telling will be empowered to go beyond the basic KPIs to answer complex business questions. These include:

- What exit doors are shoppers using to leave my site after browsing the store over the last week?
- Which items were they browsing?
- Did they add any of those items to their cart before abandoning the site?
- What is the highest ARPU rate among shoppers?
- Is it greater for shoppers who view 10 product pages or more? Or those who view fewer than 5?
- Which product pages are these shoppers viewing?
- How many times on average are shoppers visiting my Brazilian themed site and viewing men's suits before converting? During which time period? What is the Shopper Lifetime Value (SLV) of these visitors?



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First Impressions: Your Customers at a Quick Glance

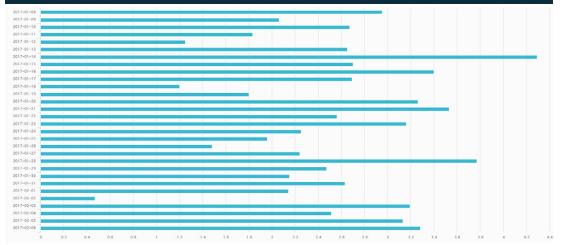


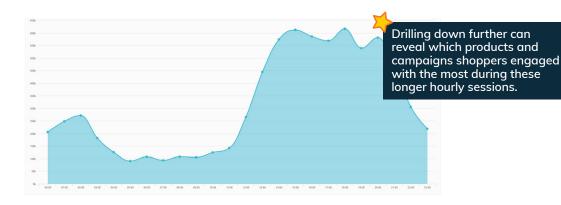


First Impressions: Shopper Engagement at a Glance

**** Average Session Duration in Minutes or Hours | also available in hours

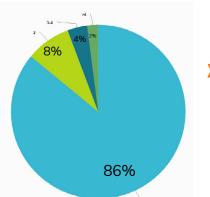
A high-level view of average session durations can ensure that businesses quickly gauge and react to any sudden changes in shopper engagement.





As we've mentioned, you'll need to collect different customer data points in order to understand the story of your customer's journey. After all, it's not really about clicks and views of your products, but about your shoppers' purchases. The more you understand shopping behavior, the more you'll understand their journey to purchasing. An analysis of shoppers who viewed items and comparison with those who actually purchased, based on a specific time frame, can help eCommerce businesses evaluate shopper interest during that time period. From there they can drill deeper for additional insights.

You will also begin to understand how engaged your shoppers are with your site by analyzing their average session duration over a period of time. What items did they view and how many times did they view them? Examine periods of increased shopping activity by session or hour to learn which campaigns or products generated the highest engagement.



★★★★Shopper Loyalty

- Number of Sessions Per Shopper

Analyzing sessions of shoppers according to different time periods can reveal different insights into shopper loyalty.

Another valuable metric to follow is the percentage of shoppers who return for multiple sessions. This can give you a high-level understanding of shopper loyalty before drilling down to learn more about product retention and cart abandonment.



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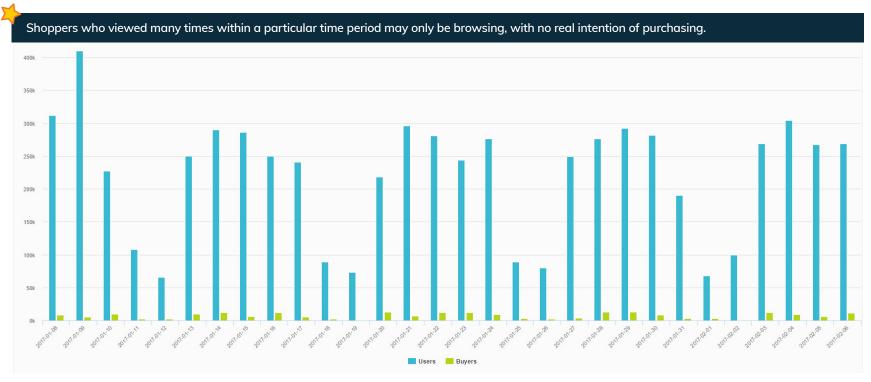
Identifying and Targeting Valuable Shoppers





Identifying and Targeting Valuable Shoppers

**** Lookers vs. Buyers - Determining the Level of Shopper Interest



In any eCommerce business, 80% of revenue typically originates from 20% of your shoppers. That means it's vital that you identify these shoppers early on and optimize their online experience. Since you don't want to miss out on those valuable shoppers, you'll need to be able to gather insights on common behaviors of these loyal shoppers for future business decisions.

You might find, for example, that shoppers were more likely to buy items over a certain amount after viewing them over a specific period. You also might decide to carefully examine the customer purchase funnel for each product to optimize it as well.

**** Players with High Shopper Lifetime Value (SLV)

In order to identify your most valuable shoppers, you'll need to be able to identify their common behaviors over a specified time period. Behavioral analysis might reveal, for example, that shoppers who spend over \$100 on their first online purchase after one week of browsing on the site are likely to have a high SLV. Also, shoppers who register within the first week of visiting the site may have an average SLV that is higher than shoppers who never register for your site.



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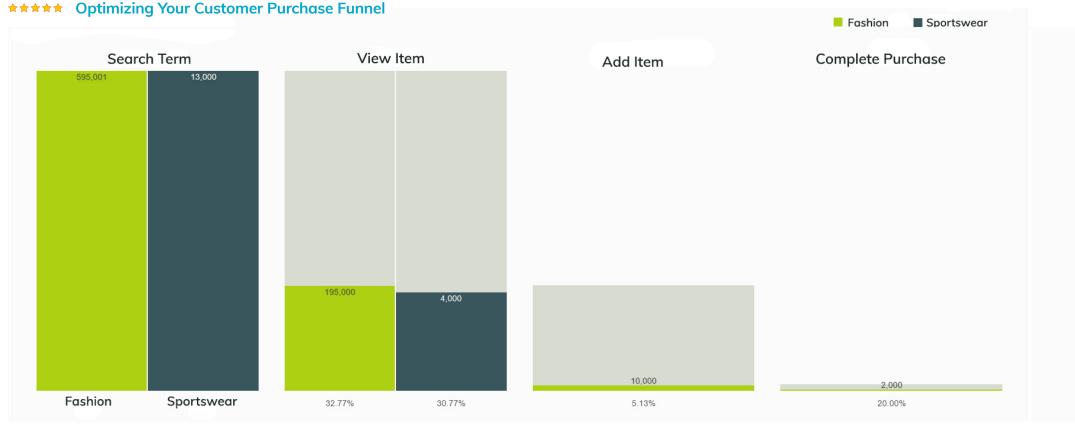
Learning What Drives Shoppers to Purchase





Learning What Drives Shoppers to Purchase





After observing first impressions of your customers and starting to identify and target specific shoppers, you'll want to deepen your understanding of shopper behavior. You can gain important insights about shoppers by examining your customer purchase funnel. For instance, customer purchase funnels can be examined according to different time periods and search terms shoppers use when first entering the funnel. These insights can be used to drive shoppers towards conversion.

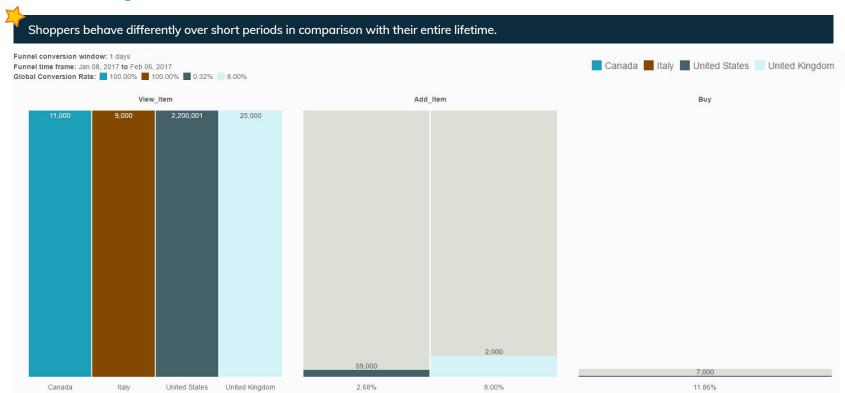
What are the steps shoppers take before purchasing an item? What are the steps a shopper takes before exiting your site completely? Your purchase funnel tells you a lot about how shoppers are behaving on a high level and can help you predict serious deviations in their behavior. After your analysis, you'll get a good indication of how many shoppers left the purchase funnel after each event.





Adding the Dimension of Time to Your Purchase Funnel

**** Adding a Search Term to Your Purchase Funnel



Sometimes getting to know your shoppers is a matter of time. When viewing customer funnels, you'll uncover different insights depending on the period of time you set to analyze for your funnel. For deeper insights, you'll need to drill down by examining shopper session durations or the number of times they viewed an item over a specific time period.

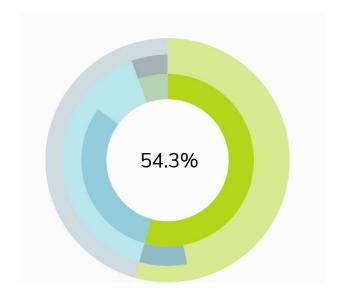
In a purchase funnel that starts with a search term, are they searching for a specific item—such as name-brand baby clothes or a broader term, such as children's shoes? The more targeted the search is to a specific item, the greater the likelihood a shopper will purchase. You'll also be able to constantly monitor shopper global conversion rates within a specific time frame to act on any sudden changes in the conversion rates. The more you understand how your shoppers behave on a high level, the better sense you'll have of when to dive deeper into shopper behavior on a more granular level.





★★★★★ Exit Events

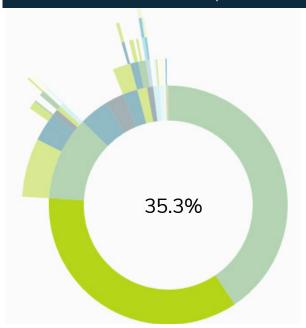
Shoppers whose last action was a purchase have a different series of events leading to that exit event than customers whose last action was using the buy wizard.



Another key to understanding shopper behavior is to examine the past three events they completed before leaving the site. For example, if shoppers exited the site before returning again to buy, it could indicate that shoppers are conducting price comparisons. In this case, what's important is that your prices remain competitive. The ability to understand the last 3 events customers take before critical actions such as cart abandonment or item purchase can shed great insight into shopper behavior.

★★★★★ Path Analysis

Learning the most popular paths of your shoppers can show you what actions are successful, and which need better optimization.



Path analysis can help you gain greater insight into customer engagement, purchasing, and retention. For instance, you might learn through path analysis that of the shoppers who registered, most bought immediately while a few still comparison shopped (bought from a competitor site).



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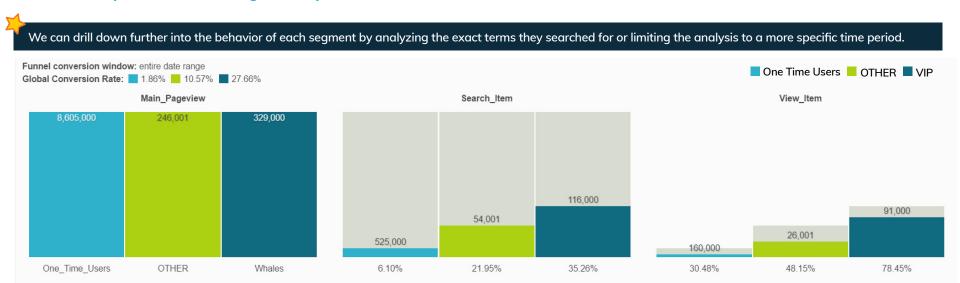
Behavioral Segments of Shoppers





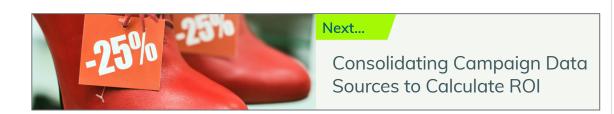
Behavioral Segments of Shoppers

★★★★★ Compare Behavioral Segments by Funnels



Sometimes you don't need to analyze the behavior of all your shoppers. You only need to learn more about a particular segment of shoppers who've behaved a certain way over a given time period. Examining these behavioral segments in greater detail can reveal deep insights. For example, let's say you compare the behavior of different behavioral segments of shoppers: one-time shoppers, other, and VIPs. We can now examine in greater detail the purchase funnel of these segments of shoppers. You would also be able to simply export these segments to a marketing automation tool such as Hubspot or Salesforce.

When comparing the action of one-time shoppers vs. VIPs and others, we discover that VIPs have a much lower drop-off rate after both searching and viewing an item, as well as a higher global conversion rate on average.







Consolidating Campaign Data Sources to Calculate ROI

★★★★★ Campaign ROI

Seamlessly joining data from different sources such as Facebook and Google Ads allow you to calculate your business revenue and marketing spend to see the ROI of different marketing campaigns at a glance.

• DAY	Spent	Amount	Profit	ROI = Revenue/ cost * 100
2017-02-06	10,101	10,548	447	4.43 %
2017-02-05	10,130	8,292	-1,838	-18.15 %
2017-02-04	10,412	6,386	-4,026	-38.67 %
2017-02-03	22,170	14,013	-8,157	-36.79 %
2017-02-01	11,904	3,143	-8,761	-73.60 %
2017-01-31	12,130	314	-11,816	-97.41 %
2017-01-30	11,904	13,727	1,823	15.31 %
2017-01-29	11,971	13,095	1,124	9.39 %
2017-01-28	12,102	11,346	-756	-6.24 %
2017-01-27	12,857	2,025	-10,832	-84.25 %
2017-01-26	13,492	433	-13,059	-96.79 %
2017-01-25	14,047	1,112	-12,935	-92.08 %
2017-01-24	14,212	19,085	4,873	34.29 %
2017-01-23	14,167	13,782	-385	-2.72 %
2017-01-22	1,453	10,488	9,035	621.85 %

Once you have a high-level picture of customer behavior as well as a clear understanding of their journey and purchase funnel activity, you'll want to focus on learning what types of shopper behavior over time (e.g. the Christmas shopping season, summer, etc) drive revenue and lead to fast growth. To gain a competitive edge in making quick business decisions, for instance, you'll want the ability to fuse data from different external data sources to gain insights into the ROI of a specific campaign. At the same time, you'll also want to be able to view at a moment's glance your business' total revenue, impressions from different mobile advertising campaigns, and click-through rate (CTR) and cost-per-point (CPP) of different marketing campaigns.

It's a fine balancing act of when to skim the highlights and when to pay special attention to the entire story your customers are telling. Fusing reports entails combining two different datasets. For example, you could fuse data from total daily revenue reports and Google Adwords or AppsFlyer reports.







Understanding Churn and Shopper Loyalty

**** Retention and Churn Analysis

By measuring users who did anything and then did anything up to a week later, we might see that shoppers who buy branded items are more loyal than those who buy discounted items.

Users who did anything and then did anything by days later, counted in each bucket										
In the day of	Users	1	2	3	4	5	6			
2017-01-08	312,000	28,000	20,000	8,000	5,000	23,000	20,000			
2017-01-09	410,000	23,000	7,000	3,000	21,000	20,000	14,000			
2017-01-10	227,000	8,000	7,000	20,000	19,000	20,000	14,000			
2017-01-11	108,000	7,000	9,000	10,000	7,000	4,000	7,000			
2017-01-12	66,000	10,000	6,000	6,000	2,000	2,000	3,000			
2017-01-13	250,000	35,000	25,000	13,000	17,000	2,000	0			
2017-01-14	290,000	34,000	17,000	17,000	2,000	0	11,000			

Successful eCommerce businesses are the ones who understand what drives customers to return to their site and purchase again and again. Were they attracted to a new luxury line of footwear, Black Friday marketing campaign, or a price that was better than the competition? Understanding customer loyalty is key to growing your customer base and revenue.

Retention analysis using behavioral cohorts can give you the insights you need to answer these critical business questions. Cohorts can be analyzed according to different customer types (e.g. VIPs, dress buyers, etc), the time period in which they became a customer (a particular week, quarter of the year or holiday), or a specific marketing campaign.

By measuring users who did anything and then did nothing up to a week later, we might see that customers who purchased during specific seasonal periods have a higher rate of churn.

In the day of	Users	1	2	3	4	5	6
2017-01-08	312,000	284,000	292,000	304,000	307,000	289,000	292,000
2017-01-09	410,000		403,000	407,000			396,000
2017-01-10	227,000	219,000	220,000	207,000	208,000	207,000	213,000
2017-01-11	108,000	101,000	99,000	98,000	101,000	104,000	101,000
2017-01-12	66,000	56,000	60,000	60,000	64,000	64,000	63,000
2017-01-13	250,000	215,000	225,000	237,000	233,000	248,000	250,000
2017-01-14	290,000	256,000	273,000	273,000	288,000	290,000	279,000

You'll also need to analyze why customers aren't returning to your site. Were they lured by the competition? Were they just browsing and not serious about buying? Were they targeted by the wrong marketing campaign? Every customer that churns is a missed opportunity for engagement, revenue and growth. Once you gain a better understanding of why your customers are churning, you'll be better equipped to transform them into engaged customers.



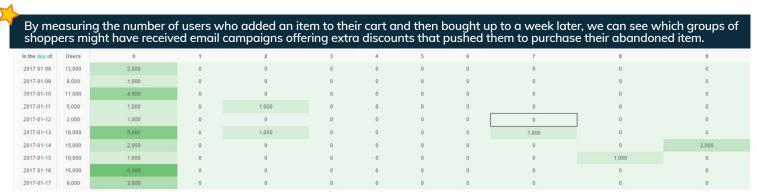


Purchase Retention and Cart Abandonment

The most critical part of the customer journey in eCommerce is the point between adding an item to a cart and purchasing. This is the crucial juncture that determines whether a customer will churn or become engaged. That's why eCommerce businesses are constantly monitoring purchase retention and cart abandonment in order to optimize and discover what might be influencing customer purchasing or churning.

Purchase retention analyzes shoppers who added an item to their cart and then purchased over the next few days. For instance, you'll find that most customers who add an item to their cart purchase immediately afterwards. Another group of shoppers purchase two days afterwards, perhaps intentionally waiting to receive a marketing campaign alerting them to their abandoned cart and offering them a discount if they purchase now. Larger purchases a number of days after cart abandonment can reveal additional insights into customer behavior and may lead you to optimize further.

★★★★ Purchase Retention



Shoppers on the path to churn will abandon their cart immediately after adding an item to their cart. Analysis of cart abandonment per groups of shoppers will reveal that there are additional points in time where large groups of customers churn. Perhaps they were reminded of their abandoned cart by an email and decided that they were no longer interested. Or perhaps it was at this point that they were lured by a better offer from your competition?

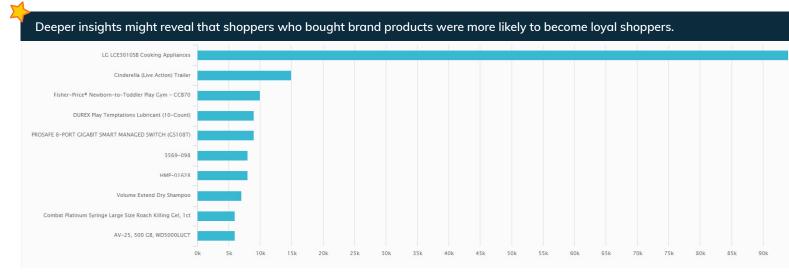
**** Cart Abandonment by Day

Shop	oers al	bandoned their	cart in large	numbers on [Day 4. By med	suring users	who added a	n item and did	dn't buy up to	a week
later,	we mi	bandoned their ght ask: What	occurred on t	he day that co	auśed large n	umbers of sho	oppers to aba	ndon their ca	rt? ´ ˈ	
n the day of	Users	0	1	2	3	4	5	6	7	8
2017-01-08	13,000	9,000	2,000	2,000	1,000	1,000	2,000	3,000	1,000	1,000
2017-01-09	8,000	8,000	1,000	1,000	1,000	2,000	1,000	1,000	1,000	1,000
2017-01-10	11,000	6,000	1,000	0	2,000	2,000	2,000	1,000	0	0
2017-01-11	5,000	4,000	1,000	1,000	1,000	0	1,000	1,000	0	0
2017-01-12	2,000	1,000	0	0	1,000	0	0	0	0	0
2017-01-13	16,000	11,000	5,000	2,000	1,000	3,000	0	0	4,000	1,000
2017-01-14	15,000	12,000	4,000	1,000	1,000	0	0	1,000	0	1,000
2017-01-15	10,000	7,000	3,000	1,000	0	0	3,000	1,000	3,000	1,000
2017-01-16	15,000	9,000	3,000	0	0	1,000	1,000	1,000	1,000	1,000









Beyond retention and churn analysis, it can be helpful to simply have a high-level report of the top 10 items shoppers added to their cart. Since we know that adding an item to a shopping cart is the point that makes or breaks a customer, this metric can give a different perspective on what items shoppers are interested in versus what types of items they actually bought.

You can also learn a lot about customer behavior by analyzing the retention rate of shoppers based on different products. Product cohorts show groups of users who added different items to their cart to buy and you'll be empowered to examine their retention over a period of days afterwards.

**** Product Retention and Item Abandonment

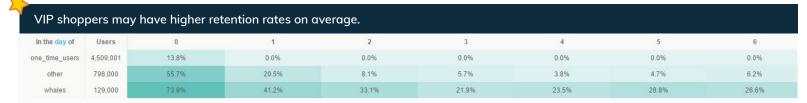
By Item Code	Users	0	1	2	3	4	5	6	7	8	9
LG LCE3010SB Cooking Appliances	57,000		0	1,000	0	1,000	0	0	2,000	0	0
Cinderella (Live Action) Trailer	12,000	1,000	0	0	0	0	1,000	0	0	0	0
Fisher-Price® Newborn-to-Toddler Play Gym - CCB70	9,000	2,000	0	0	1,000	0	0	0	0	0	0
3569-098	8,000	1,000	0	0	0	0	0	0	0	0	0
HMP-01628	7,000	2,000	0	0	0	0	0	0	0	0	0
SAFE 8-PORT GIGABIT SMART MANAGED SWITCH (GS108T)	7,000	1,000	0	0	0	0	0	0	0	0	0
Combat Platinum Syringe Large Size Roach Killing Gel, 1ct	6,000	1,000	0	0	0	0	0	0	0	0	0
Coffee Keeper Elite K-Cup® Under Cabinet Storage Rack	5.000	1,000	0	0	0	0	0	0	0	0	0
DataTraveler microDuo 3.0 64CB (DTDUO3/64CB)	5,000		0	1,000	0	0	1,000	0	1,000	0	0
	4,000										

Here we see the different days that shoppers added various products to their cart. Drilling down further to each of these specific dates reveals that these days match when customers received email campaigns reminding them about the product or group of products they added. This type of product analysis can highlight the effectiveness of specific email campaigns.



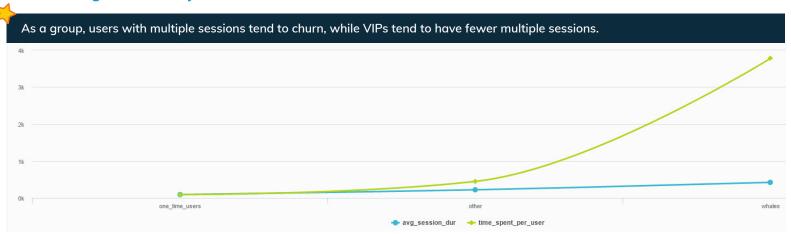


★★★★★ Retention by Segment



Another method of examining behavior is by analyzing the retention of different types of shoppers. You might discover that different segments have different average retention rates.

**** Segmentation by Number of Sessions



Drilling down further, you can segment your different types of shoppers (i.e. VIPs vs. one-time users) according to the number of sessions they have.

★★★★★ Retention by Behavioral Segment

Examining retention of frequent shoppers according to the different times they registered to the website can give you insight that helps optimize these shopper registrations in the future.

In the day of	Users	1	2	3	4
2017-01-08	35,000	51.4%	45.7%	17.1%	8.6%
2017-01-09	32,000	53.1%	18.8%	9.4%	53.1%
2017-01-10	33,000	21.2%	15.2%	54.5%	54.5%
2017-01-11	15,000	26.7%	53.3%	66.7%	46.7%
2017-01-12	9,000	77.8%	55.6%	33.3%	11.1%
2017-01-13	37,000	62.2%	54.1%	29.7%	37.8%
2017-01-14	37,000	62.2%	35.1%	32.4%	5.4%





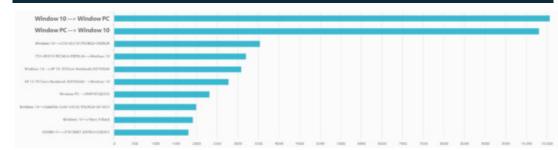


Delivering an Engaging Shopping Experience in Real-Time

In the competitive eCommerce landscape, it's only a matter of seconds before shoppers abandon their cart, logout, and start browsing a competitor's site. Although all of these discoveries are invaluable for any eCommerce business, the ability to act guickly on these insights is what will make or break your business. You need to be able to take those insights and offer an engaging, dynamic and personalized experience in real-time.

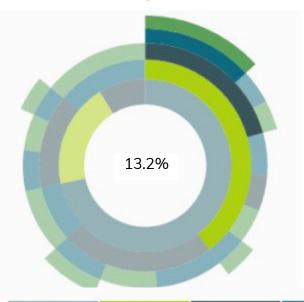
**** Next-Best Offers Personalize the Shopper Experience

Product affinity insights show that shoppers who purchase Windows PCs are more likely to purchase Windows 10 and vice versa.



Based on product affinity insights, a deep analysis of raw event data of all events across all channels gives the insight you need to predict future shopper behavior. Product affinity insights offer businesses the ability to act on the insights they receive to business questions such as: If shoppers purchased a Windows PC, what other items would they be likely to purchase? Would they be more likely to purchase these items together or one after another? What might motivate shoppers to search and purchase the same product or a similar one on a competitor's site?

★★★★★ Path Analysis Reveals Past Behavioral Patterns



For example, in this eCommerce site, we found that many of the visitors to the men's department also shopped in the sports department, added products to their cart and then continued on to the hardware department.

Behavioral path analysis gives insights into the popular paths of shoppers and the different categories of preferred content. Whether product or category, effective next-best offers delivered to shoppers at the right time increases loyalty and engagement.

Sports_category Add_cart_Sports Hardware_category Add_cart_HW Men_category

Another type of analysis that can easily be used to optimize the shopper experience is behavioral path analysis, which analyzes the different paths shoppers took to discover the most popular one that moves shoppers towards higher engagement and increased conversion.



BI and Behavioral Analytics Platform Built for Online Businesses





A BI and Behavioral Analytics Platform Built for Ecommerce Businesses

**** Embedded Reports in Partner Portal

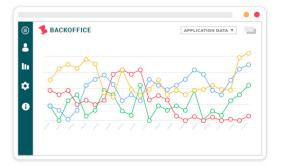


Your KPI's, product views, purchase funnel, revenue and ROI are telling you a powerful story about your customer journey. Ecommerce businesses that have the ability strive to listen to their shopper behavior at the most granular level. This empowers them to understand why shoppers behaved the way they did and succeed in building long-term engagement.

It's not only understanding shopper behavior that will keep them competitive, but being able to share these insights with their customers.

Many eCommerce businesses face the challenge of collecting data from their customers but lack a way to share it while keeping these insights private for that customer. With embedded reports, you can now share every type of insight covered in this ebook with your customers, using embedded reports that can be embedded in any website or email to deliver the insights to any customer.

For instance, eCommerce businesses can report to their partners how their products perform across different retailer sites through a partner portal. This type of powerful competitive analysis provides both actionable insights for both the eCommerce site and its retailers, seamlessly integrated into the partner's dashboard. Users of the portal can then easily apply filters to focus on specific date ranges, retailers, products and other variables. This type of white-label format ensures a positive experience for users so they can easily get answers to inform their marketing decisions.



Business who succeed both in understanding shopper behavior, sharing insights with their customers and quickly delivering an engaging shopper experience are the ones who will rise to the top in this fiercely competitive industry.

The methods we've presented here are based on the experience we've gained working with eCommerce businesses. We found that many successful eCommerce businesses suddenly find themselves at a stage of fast and unpredictable growth but are unable to scale to meet their demand. As a result, we've developed an agile and scalable BI-focused behavioral analytics solution that can be implemented for both mid-size and enterprise businesses at any stage. We deliver both the insight and engagement engines needed for the shopper experience that product marketers, analysts, and marketers can use independently, without the need to rely on an internal team of data scientists.





Cooladata. Know Your Customer. Grow Your Revenue.

Cooladata's BI and behavioral analytics platform empowers businesses to uncover every user's journey and take action, improve their product and grow their business.

A full-stack solution built for online businesses, we offer end-to-end big data behavioral analytics that covers all big data infrastructure components for data tracking, warehousing,ETL and data enrichment – all the way to the visualization layer. Our advanced tools allow businesses to analyze raw data and elevate their analytics beyond KPIs for quick answers to your most complex business questions - without the need for a data scientist.

As the most efficient path to big-data behavioral analytics, we provide the most cost-effective solution on the market. From eCommerce and gaming platforms to content analytics and IoT innovators, Cooladata's solutions with ready-to-use dashboards are essential for any online company that depends on deep understanding of user behavior for business growth.

For more information visit www.cooladata.com