

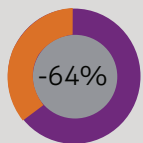
Enhance the pre-purchase online shopping experience with Artificial Intelligence & Machine Learning

While the importance of fostering a positive customer experience is often talked about, most online retailers haven't mastered the art holistically. As consumers ourselves, we can agree that convenience is the number one factor that drives us to shop online, rather than from a local store. Many retailers with outlets across the country offer the 'Pick up from store option', for consumers who do not want to deal with delivery uncertainty, the long shipping time of avg 5-7 business days or high shipping charge for low-value purchases. Amazon, with its Prime services, has found a solution to beat this pre-purchase experience issue and offers a very personalized experience to its customers, turning it into a competitive advantage.

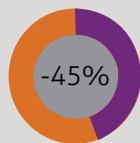
MAKING EXPERIENCE A COMPETITIVE ADVANTAGE

Customer experience can be typically broken down into three aspects, pre-purchase, purchase, and post-purchase experiences. When it comes to the pre-purchase experience, Amazon has set the bar high with online shopper expectations today. For its Prime customers, Amazon offers not just competitive pricing, but various buy options & guaranteed delivery time and shipping charges. The guaranteed delivery time and charges are displayed on product detail pages, the cart as well as checkout pages through messages such as 'Order before X hours to get this item by Y date/time'. Here the customer feels empowered knowing when exactly the order would arrive and that the shipping charges are fair because it is based on their location. This serves as a key differentiator for Amazon and proves to be a very compelling proposition to an online shopper.

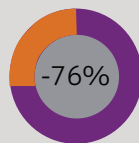
WHY IS AMAZON PRIME LIKE EXPERIENCE IMPORTANT?



...look for shipping costs on the product page before adding a product to cart¹



... have abandoned carts due to unsatisfactory delivery options²



... say having multiple fulfillment options influences their purchasing decision³

Fig 1: Study findings that suggest the need for a solution that can deliver ETA and shipping charge based on location

Product detail page

Cart

Checkout

Fulfillment

AMAZON'S PROPRIETARY ALGORITHM


But building an Amazon-like delivery Expected Time of Arrival (ETA) algorithm may prove to be an expensive affair for most retailers. The algorithm recognizes buyer's zip code through the IP address, finds the nearest delivery center with available inventory, determine the optimal carrier and shipping rates within micro-seconds and displays the message to consumers in real-time. Other than Amazon, only a couple of other retailers use such computational logic, due to the complexities involved in handling it.

The figure displays two screenshots of Amazon product pages. The top-left screenshot shows three cookware sets: Concord 3 Piece Ceramic Coated - Copper-Frying Pan Cookware Set 2017 BESTSELLER (Induction Compatible), Cuisinart 54C-11BK Advantage Ceramica XT Cookware Set, Medium, Black, and Blue Diamond CC001597-001 Toxin Free Ceramic Nonstick Safe Open Frypan, 10", Blue. The Concord set is highlighted with a red box, showing a price of \$48.99 (down from \$49.98) and a Prime delivery date of Friday, June 14. The top-right screenshot shows the Concord 3 Piece Ceramic Coated - Copper-Frying Pan Cookware Set 2017 BESTSELLER (Induction Compatible) product page. It features a price of \$48.98 (down from \$49.98) and a Prime delivery date of Friday, June 14. The bottom-left screenshot shows the delivery customization options for the Concord 3 Piece Ceramic Coated - Copper-Frying Pan Cookware Set 2017 BESTSELLER (Induction Compatible). It offers three Prime delivery options: Friday, June 14 (FREE Prime Delivery, Ship each item as soon as possible), Saturday, June 15 (FREE Delivery in fewest possible packages), and Friday, June 14 (Your Amazon Day, FREE delivery on your preferred day of the week). The Saturday, June 15 option is selected. The bottom-right screenshot shows the delivery customization options for a 12" Stone Earth Frying Pan by Ozeri, with 100% APEO & PFOA-Free Stone-Derived Non-Stick Coating from Germany. It offers two Prime delivery options: Tomorrow (FREE One-Day Delivery) and Friday, June 14 (Your Amazon Day, FREE delivery on your preferred day of the week). The Tomorrow option is selected.

Fig 2: Amazon Prime's pre purchase customization

The carrier determination piece is the most complex of all. Carriers compete for higher-value shipment options between standard shipping and expedited shipping. Optimal determination of delivery ETA and shipping charges would have to consider carrier rate agreements as well as delivery lead-times between source and destination zip codes. This determination typically happens when an order reaches the delivery center. The other pieces of the logic, such as determination of buyer zip code and fulfillment center also require specialized tools. The last piece is tying all these pieces together & determining it in real-time. Thus, a majority of retailers take the easier way and simply mention a broad range of time as ETA, such as 'Get item in '3-5 business days', 'Item ships in 2 business days' etc.

Shopping Cart



Espresso Brown Adirondack Chair
SKU# 568004


Price: ~~\$129.99~~
\$99.99

- + \$99.99
[Update](#)

[Remove](#)

Free Pick Up In Store: Today
Austin (Sunset Valley)
5601 Brodie Lane
Austin, TX 78745
(512) 899-2929
[CHANGE STORE](#)

Ship to address:
Standard Ground
Estimated Arrival : 06/16/2019 -
06/20/2019



[Show Item Details](#)

- Express**
Transit time: 1-2 business days \$32.95
- Premium**
Transit time: 2-3 business days \$22.95
- Standard**
Transit time: 3-6 business days \$10.95

Note: Some items in your order may ship separately. Transit time is the time between leaving our fulfillment center & delivery to you.

Shipping method

<input checked="" type="radio"/> Standard Shipping - USPS Priority	\$8.00
<input type="radio"/> UPS 2 Day Shipping	\$25.00
<input type="radio"/> UPS Overnight Shipping	\$45.00

[Return to customer information](#)

[Continue to payment method](#)

Fig 3: Pre-purchase experience offered by many e-commerce players

HOW DOES IT MAKE A DIFFERENCE TO THE CONSUMER?

After placing an order online, typically the customers are left to speculate on when their order would arrive, and unless their cart size is eligible for free shipping, they end up paying a big shipping charge even for low-value items. By offering a standard delivery ETA promise, most retailers create an artificial buffer in the promised delivery dates. Everyone sees a standard ETA date regardless of their location.

Ideally, if the source delivery center is in New Jersey, a buyer from there can be offered a next-day delivery date regardless of the shipping option chosen (standard or expedited). Whereas, a shopper from California, should see a five days delivery ETA. If such shoppers could be potentially charged different shipping charges based on their locations, in this case, NJ and CA, it would open immense possibilities for personalization in pre-purchase and delivery experience.

Since most last-minute shoppers are either gifting or buying for an occasion or purchasing products to manage an ad hoc incident such as spare parts or tools, with the present experience, what they get on more than 90% of the eCommerce sites is sub-optimal. Solving this part of the experience puzzle could not only lead to reduced abandoned carts, increased conversions and lower product detail page bounce rate but also provide a tool to compete with Amazon on pre-purchase delivery shopper experience.



Fig 4: Pre-purchase experience and shipping personalization based on customer location

FENIX COMMERCE & MINDTREE HAVE A SOLUTION

Leveraging our partnership with a niche player in this space (Fenix Commerce), we offer a scalable and cost-effective solution to solve this experience issue that many e-commerce players today, live with. This solution is built on an AI/ML-powered SaaS platform capable of delivering an Amazon Prime-like experience out of the box.

To mention a few features – it allows platform configuration through a powerful and intuitive business user console. It lets users set up/edit delivery centers/stores along with working hours, define additional shipment processing hours, set order cut-off times, and capture carriers used along with negotiated rates. It also lets business users choose the display of promised delivery dates/charges on product detail pages, cart and checkout pages with an option to enable/disable at category/product level. Algorithm logic with built-in AI/ML calculates the delivery ETA & shipping charges in micro-seconds and displays to shoppers basis their location, fulfillment center location, inventory & carrier.

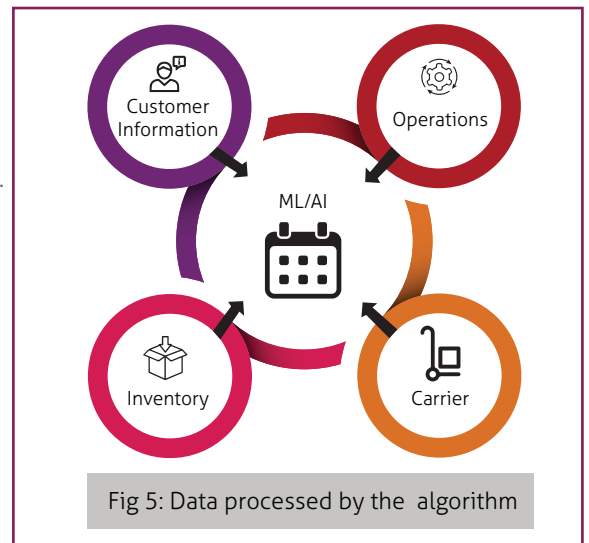


Fig 5: Data processed by the algorithm

Carrier data is refreshed every 24 hours, and built-in AI/ML determines hub chokes to enable re-routes if needed. It also has advanced capabilities to detect buyer location and offer free shipping upgrades. For instance, if a buyer lives within 50 miles of the nearest delivery center, they would get a delivery ETA for the next day, regardless of the shipping method chosen by the consumer. For such buyers, a personalized free next day shipping messaging can be enabled to boost conversion. There are advanced optional features such as display of guaranteed delivery dates for a shipping surcharge paid by shoppers and goal-based switch off on hitting conversion targets. **'Though this may come as a surprise, empirical data from our A/B testing study showed that three out of four shoppers choose to see guaranteed delivery dates for a small surcharge compared to free shipping without guaranteed delivery date. This surcharge is an additional margin for retailers'**

PLATFORM IMPLEMENTATION AND SUCCESS

This platform has been implemented for over 20 clients today, which includes two enterprise-grade customers – one being a men’s apparel company, and the other one of the largest denim apparel companies. The platform is offered as Cloud-based SaaS, is auto-scalable and very economically viable for the offered experience. The integration process involves a simple JS, CSS, and HTML DIV element inserted into the site header. The pricing model is ‘Pay as you go’, based on the page views or converted orders.

Representative Clients

MEN'S WEARHOUSE[®]

EST. 1972
CHESSHOUSE
chess in every home.

"Fenix simply has the best, most comprehensive product to enable personalized delivery estimates and shipping information. A great experience for our Customers"

Raphael Neff
ChessHouse.com

RHONE
XXX

Levi's[®]

SKAR
LABOR

JOS. A. BANK

Fig 6: Representative clients using the platform

This offering is an e-commerce platform agnostic and is designed to work with all leading digital commerce platforms. The present clients use IBM WCS, Hybris and Shopify, and there are clients on SFCC (Salesforce Commerce Cloud aka Demandware) and Big Commerce in the pipeline, to be enabled as well. For SFCC, the integration has been made easier with a Link Cartridge download and installation in the SFCC Marketplace. The standard integration, testing, and go-live turn around time for Fenix Commerce are 2-3 weeks in a sandbox environment and 4-6 weeks in a production environment. Mindtree and Fenix together assure easy assessment of RoI (Return on Investment) by capturing detailed metrics pre and post enablement.

Supported Platforms

shopify

IBM WebSphere
COMMERCE

demandware
move faster, grow faster

SAP Hybris (v)

shopify plus

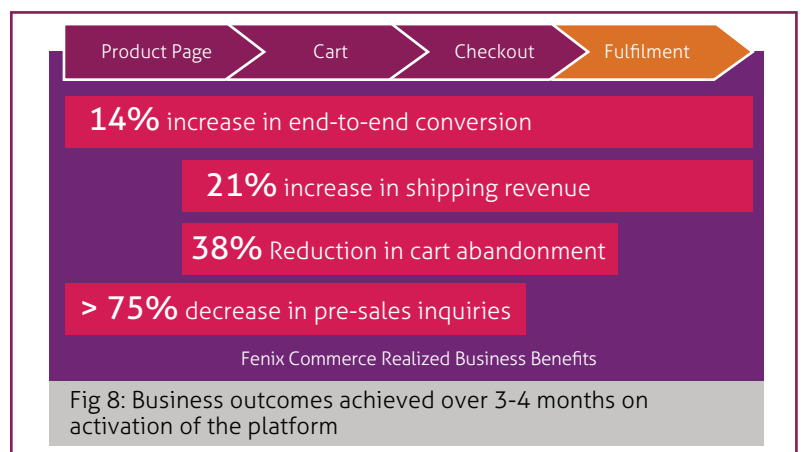
Custom Commerce Platforms

Magento

Fig 7: Digital commerce platforms compatible with the platform

SUCCESS SO FAR

Empirical data from the 20+ live clients has shown a 14% conversion improvement, 38% cart abandonment reduction and 21% shipping revenue increment within just 3-4 months of activation. Mindtree & Fenix Commerce’s consulting led approach to transformation offers clients an option to test the platform through a pilot engagement at a lower cost and then go live after measuring the impact through AB testing.



For a detailed overview, demo and concept presentation, please contact us or write to the author at Harshal.Gaikwad@mindtree.com.

ABOUT MINDTREE

Mindtree [NSE: MINDTREE] is a global technology consulting and services company, helping enterprises marry scale with agility to achieve competitive advantage. “Born digital,” in 1999 and now a Larsen & Toubro Group Company, Mindtree applies its deep domain knowledge to 350+ enterprise client engagements to break down silos, make sense of digital complexity and bring new initiatives to market faster. We enable IT to move at the speed of business, leveraging emerging technologies and the efficiencies of Continuous Delivery to spur business innovation. Operating in more than 15 countries across the world, we’re consistently regarded as one of the best places to work, embodied every day by our winning culture made up of 21,000 entrepreneurial, collaborative and dedicated “Mindtree Minds.”