

Exploring How Brick & Mortar Uplift Empowers Ecommerce Through AI

Executive Summary

AI, as a powerful tool for analyzing vast amounts of data, emerges as a beacon of knowledge. By meticulously studying data encompassing foot traffic, sales figures, online engagement, and more, this whitepaper explores how AI-driven insights can help improve the relationship between brick-and-mortar establishments and their virtual counterparts.



Data from recent research conducted by the [Census Bureau](#) showed that consumers are finding a new balance between shopping online and in-person. During the second quarter of 2020, when many people were staying at home, online shopping in the U.S. increased a lot, making up 15.7% of retail sales. But by the fourth quarter of 2021, it dropped back to 12.9%, which is similar to how things were before the pandemic.

This changing behavior has made businesses curious about how physical stores and online shops work together. As consumer behaviors evolve and shopping patterns undergo a transformation, businesses are on the lookout for comprehensive strategies that blend the strengths of physical and online retail.

It explores the challenges of measuring their reciprocal impact and the potential of AI in deciphering correlations. Additionally, it examines the tools necessary for initiating correlation analysis and navigates the convergence of data analytics, AI integration, and collaborative engagement.

Introduction

The essence of business operations lies in the intricate web of the supply chain, which bridges the gap between the inception of goods and their ultimate consumption. It orchestrates the sequential stages that transform raw materials into products and deliver them into the hands of consumers. Whether it's a local enterprise or a global giant, all entities are integral components of this dynamic supply chain ecosystem.

In the present interconnected landscape, where rapid changes are the norm, the significance of a robust supply chain has escalated. Recent events, such as labor strikes and logistical upheavals, have underscored the vulnerability of supply chains to unforeseen disruptions. This realization has elevated the purpose of a well-functioning supply chain beyond mere task completion to a strategic imperative.

For instance, we can look at past crises like the Deepwater Horizon oil spill in 2010, the Savar building collapse in 2013, and Samsung's Galaxy Note 7 recall in 2016. These incidents led to an estimated cost of [\\$5.3 billion in losses](#), emphasizing how a disrupted supply chain can hurt businesses.

A reliable supply chain offers more than just timeliness – it's also about being prepared for unexpected challenges. When tough situations arise, a well-optimized supply chain helps businesses adjust swiftly. It acts like a safety net during disruptions like worker strikes or transportation problems. This adaptability empowers companies to continue serving customers, even during difficult times.

Furthermore, the equilibrium between e-commerce and brick-and-mortar establishments gains prominence within the context of a dependable supply chain. The symbiotic relationship between these shopping modes provides an additional layer of flexibility. The fusion of online accessibility and physical shopping grants businesses the ability to respond to shifting consumer preferences, ensuring unwavering customer satisfaction.

The Shift in Supply Chains for Online and In-Store Sales

When you sell products both online and in physical stores, your supply chain setup undergoes some notable adjustments. The key distinctions arise due to the diverse nature of these two selling channels.

ONLINE SALES SUPPLY CHAIN

For online sales, the supply chain often kicks off with the efficient management of virtual storefronts, ensuring that websites are user-friendly and capable of handling online orders. The focus shifts to successful order processing, packaging, and timely delivery. Online inventory management becomes crucial to ensure that products are available and accurately depicted on the website. This form of supply chain necessitates effective coordination with shipping partners and reliable order tracking systems to keep customers informed and satisfied.

IN-STORE SALES SUPPLY CHAIN

In-store sales involve a supply chain that focuses on stocking physical shelves. This includes managing physical inventory levels, forecasting demand, and ensuring a smooth replenishment process. Retail supply chains emphasize efficient distribution to various store locations, along with optimizing in-store displays for enhanced customer experiences. This mode of operation requires close collaboration with suppliers and proficient management of warehouse operations to ensure shelves are consistently stocked.

INTEGRATION OF BOTH CHANNELS

When these two sales channels coexist, an integrated supply chain approach is of absolute importance. Balancing inventory for both online and in-store demands is a challenging task. Ensuring that the right products are available in the right quantities at both virtual and physical points of sale requires streamlined communication and a unified view of inventory. A synchronized approach helps avoid overstocking or stockouts and enhances customer satisfaction across all touchpoints.

Understanding the Journey along the Supply Chain

The journey of a product through the supply chain is a challenging process that involves a sequence of interdependent steps, each playing a crucial role in ensuring the product's successful delivery to its intended destination. This chain of events includes different stages, explained below:

SOURCING AND PROCUREMENT

Here, raw materials or finished goods are acquired from suppliers through negotiations, order placements, and the establishment of solid supplier relationships. This step ensures a steady supply of materials for the subsequent stages.

PRODUCTION OR ASSEMBLY

If the product requires assembly or manufacturing, this phase involves converting raw materials into the final product. This could occur in-house or through collaborations with external manufacturers, ultimately culminating in the creation of the end product. The finished product is then moved from the production facility to distribution centers or warehouses through a suitable transportation method.

INVENTORY MANAGEMENT

In distribution centers, precise inventory management ensures that stock levels are optimal. This balancing act minimizes unnecessary costs tied to excess inventory while preventing the occurrence of stockouts.

ORDER PROCESSING

This phase comes into play when customer orders are received. It involves meticulous order verification, checking inventory availability, and the careful preparation of orders for fulfillment. The orders are then picked from shelves or storage bins and packaged carefully, ensuring that the correct products are included in each order.

LAST-MILE DELIVERY

Once orders are carefully packed, the crucial step of dispatching them for delivery begins. This involves selecting transportation methods based on factors like distance, cost, and speed. Shorter distances might favor road transportation, while air transportation suits urgent, long-distance deliveries. Sea transportation is economical for larger shipments and rail transportation offers reliability and eco-friendliness in certain regions.

Behind every product you purchase lies a fascinating journey through the supply chain. This journey involves several important factors working together to ensure that the right item reaches you in a timely and efficient manner.

Here we will explore the fundamental components that contribute to the success of this complex process:

CUSTOMER SERVICE AND SUPPORT

When you make a purchase, a dedicated team of customer service and support professionals stand ready to assist you. They handle your inquiries, provide updates on where your order is, address any concerns you might have, and ensure that returns or exchanges are handled smoothly.

RETURNS AND REVERSE LOGISTICS

This process involves carefully evaluating returned items, and deciding what to do with them—like putting them back in stock, repairing them if needed, or recycling them responsibly. This approach reduces waste and ensures resources are used wisely.

DATA AND ANALYTICS

Data and analytics form the backbone of a well-functioning supply chain. By studying information about how products move through the chain, businesses can make smarter decisions. This includes knowing when products are likely to arrive, how often items are sold, and how much transportation costs. These clarities help businesses work more efficiently and make sure products get to you on time.

COLLABORATION AND COMMUNICATION

Imagine a network where suppliers, manufacturers, distributors, retailers, and even you, the customer, are connected. Collaboration and communication make this network work smoothly. When everyone works together, misunderstandings are reduced, and delays are minimized. This coordination ensures that the supply chain functions like a well-tuned machine.

QUALITY ASSURANCE

Throughout production, assembly, and packaging, checks are conducted to make sure every product meets certain standards. These checks guarantee that what you receive is in top condition, providing you with products you can trust.

ACCURATE FORECASTING AND DEMAND PLANNING

Businesses don't just guess what products to make. They use accurate forecasting and demand planning to predict what customers will want. This practice empowers businesses to optimize their resource allocation, preventing situations of excess stock or stockouts.

RISK MANAGEMENT

In the world of supply chains, things don't always go as planned. That's where risk management comes in. This helps businesses identify potential problems, like not having enough supplies or unexpected events, and make strategies to deal with them. Through proactive measures, businesses minimize the impact of these interruptions, ensuring a continuous and reliable supply chain flow.

ENVIRONMENTAL SUSTAINABILITY

Taking care of the environment is important in today's world. Environmental sustainability efforts in supply chains focus on reducing waste, using eco-friendly materials, and finding efficient ways to transport products that have a lower impact on the environment. This not only helps the planet but also ensures that the supply chain is more responsible and forward-thinking.

From the initial acquisition of materials to the last mile of delivery, every stage plays an indispensable role in maintaining the delicate balance between operational efficiency and customer satisfaction. As market dynamics evolve, and customer demands continue to shift, the ability to optimize and fine-tune these interconnected processes becomes a strategic advantage for businesses aiming to remain competitive and resilient in an ever-changing landscape.

Correlation between Ecomm & Brick and Mortar

The correlation between e-commerce and brick-and-mortar retail is a dynamic interplay that underscores the evolving nature of consumer shopping preferences. Rather than operating in isolation, these two approaches to commerce often work together, creating a comprehensive retail strategy that caters to diverse customer needs.

This connection is seen in something called [omnichannel shopping](#), where people seamlessly switch between shopping online and visiting a physical store. This flexible approach benefits both customers and businesses. For example, customers might look at a specific product online and then go to a store to buy it, or vice versa. This blend of online and in-person shopping helps customers find what they want, and businesses manage their products better.



Source: Sharon Woods, September 30, 2019. How brick-and-mortar stores can benefit from e-commerce, Public Square A CNU Journal. <https://www.cnu.org/publicsquare/2019/09/30/how-brick-and-mortar-stores-can-benefit-e-commerce>.

Navigating the Complexities of Measuring This Mutual Impact

Measuring how e-commerce and brick-and-mortar mutually affect each other is a challenging task due to the elaborate network of interdependencies that connect these two retail strategies. Customer behaviors, preferences, and purchasing patterns are influenced by a blend of factors originating from both online and in-person shopping experiences. The difficulty arises when we try to figure out which results come from each channel. This is because different factors mix together, making the situation complex and hard to untangle.

DIVERSE CONSUMER JOURNEYS

In the modern retail landscape, consumer journeys are seldom linear. Shoppers frequently engage with both online and physical platforms throughout their buying process. They might conduct product research online and then finalize their purchase at a brick-and-mortar store, or vice versa. This fluidity blurs the boundaries between the channels, making it difficult to assign precise effects solely to e-commerce or brick-and-mortar.

EXTERNAL FACTORS AND MULTIVARIATE ANALYSIS

The reciprocal influence of e-commerce and brick-and-mortar is also shaped by external elements like marketing campaigns, product launches, and economic conditions. These external factors interact with both channels in multiple ways, further muddling the measurement process. To really understand their impact, we need to use a type of analysis that looks at all these factors together, not just the channels on their own.

DIVERSE CONSUMER PREFERENCES

Consumer preferences and behaviors exhibit considerable diversity, leading to distinct interaction patterns with e-commerce and brick-and-mortar. Some individuals may favor the tactile engagement of physical stores, while others lean toward the convenience of online shopping. This diversity results in a wide spectrum of interaction dynamics that cannot be generalized into neat categories.

The Role of AI in Drawing this Correlation

Understanding the exact impact that e-commerce and brick-and-mortar have on each other can be tough due to their intricate connections. However, there's a potential solution: AI, or artificial intelligence. AI can help draw this correlation by analyzing customer behavior, purchase patterns, and engagement across both platforms. With the right tools and resources, businesses can start determining whether this comprehensive approach aligns with their strategies, allowing them to adapt and succeed in an ever-changing retail landscape.

Key Resources for Commencing Correlation Analysis

The dynamic interaction between e-commerce and brick-and-mortar strategies holds valuable perceptions for organizations. To unravel this relationship, certain key resources come into play. These vital assets, each bearing its own distinct significance, lay the groundwork for an exhaustive analysis of the correlations between these two retail avenues.

Let's take a closer look at these resources and how they work together to shed light on this correlation:

DATA ANALYTICS PLATFORMS

Data analytics platforms stand as foundational tools, empowering businesses to collect, process, and discover the complexities of data stemming from both online and in-person interactions. By employing advanced analytics tools, organizations can expose emerging trends, detect underlying patterns, and potentially unveil correlations that can aid strategic decision-making.

INCORPORATING AI INSIGHTS

AI algorithms hold the capacity to scrutinize multifarious datasets, extract insights, and construct predictive models. These models can illuminate the reciprocal repercussions of e-commerce and brick-and-mortar strategies. The integration of AI tools opens doors to deeper exploration into the web of consumer behaviors and interactions.

SEAMLESS SYNTHESIS OF CROSS-CHANNEL DATA

When data from both e-commerce and brick-and-mortar platforms come together, a clearer picture emerges. This blend of data captures interactions across different channels, offering a holistic view of how customers engage. It helps identify key moments where these channels impact each other. This unified data approach allows businesses to better grasp the interplay between e-commerce and brick-and-mortar, aiding in making smarter decisions.

ILLUMINATING THROUGH CUSTOMER JOURNEY MAPPING

By mapping out how customers interact with a brand, from start to finish, including all the touchpoints and their sequence, a clearer understanding of how different channels are connected emerges. This visualization becomes like a roadmap, helping us identify where the impacts of both e-commerce and brick-and-mortar come together.

ADVANCED ANALYTICAL ACUMEN

Having a skilled team with advanced analytics and data science expertise is crucial. Professionals adept at navigating challenging datasets, executing AI algorithms, and deciphering resultant findings are key players who help untangle the link correlation between e-commerce and brick-and-mortar.

RESPONSIVE REAL-TIME DATA MONITORING

Establishing mechanisms to monitor data in real time enhances the flexibility of the analysis process for businesses. Such dynamic monitoring empowers businesses to track evolving trends and interactions as they happen. This real-time approach guarantees that correlations are observed promptly, enabling quick adjustments to strategies based on emerging insights.

FOSTERING COLLABORATIVE STAKEHOLDER ENGAGEMENT

In the journey of understanding the correlation between e-commerce and brick-and-mortar, a cohesive collaboration among stakeholders acts as a pivotal force. Collaboration across marketing teams, data analysts, AI experts, and retail strategists amplifies the collective wisdom needed to assess their mutual influence on each other. Effective communication and cross-functional partnership are the cornerstones upon which this collaborative effort rests.

Conclusion

In an era where consumer behaviors are rapidly shifting and retail strategies are undergoing transformation, the intricate correlation between e-commerce and brick-and-mortar has become a critical focus for businesses. This whitepaper was set to dissect this correlation, exploring the tools, findings, and collaborative efforts that unveil its complexities.

We scrutinized the challenges entailed in quantifying their reciprocal impact and introduced the potential of AI in correlational analysis. By delving into the tools essential for commencing this exploration, we navigated the convergence of data analytics, AI integration, and collaborative engagement.

As the retail landscape continues to evolve, armed with the insights gained from this exploration, businesses are better poised to adapt, optimize, and thrive in a world where e-commerce and brick-and-mortar synergize to create a seamless, customer-centric shopping journey.

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