

How Automated Data Management Can Support E-Commerce Growth

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As a result of several lockdowns and stay-at-home orders, consumer needs evolved and buying moved largely to online purchasing models. This led to a surge in e-commerce, a trend that is expected to continue in the foreseeable future. The question is how e-commerce retailers can ensure growth and scale their businesses in light of this increased demand. The simple answer lies in data.

It's no secret that businesses and e-commerce retailers have been using data for some time to improve their business processes and increase their revenue, but growing demands lead to more data being generated and an ever-increasing need to have the proper data infrastructure. As such, e-commerce retailers need to see data as a corporate asset.

Here, we'll look at the role of data in e-commerce and solutions retailers can implement to ensure continued growth.

The Importance of Data in E-Commerce

With the recent surge in e-commerce sales, it's expected that e-commerce will continue to grow globally at a massive scale. This is in part due to changing consumer demands and needs, but is also a result of technological innovation in the industry.

Retailers are constantly getting new tools, platforms, and services to improve their offerings, which in turn drives customer demand. As customers are continually wanting more and are able to access the products and services they are seeking online, the combination of this demand and need leads to industry growth.

This is also evident in e-commerce statistics. For example, it's estimated that the number of people shopping for goods and services online globally will grow to 2.14 billion in 2021, up from 1.66 billion in 2016. The e-commerce industry is also forecasted to double in size from 2020 to 2022. It's expected that the industry will grow from 3.53 trillion U.S. dollars in 2019 to 6.54 trillion U.S. dollars in 2022.

The key driver to success over the next decade will be building a more profound understanding of, and connection to, the customer. When e-commerce retailers are better able to



understand their customers and build connections with those individuals, they'll be able to make more sales and increase revenue. The key to unlocking this ability to personalize these connections lies in data.

In fact, statistics show that data is already playing a massive role in general business processes. For example:

- 49% of businesses can improve their decision-making processes based on data.
- 16% of businesses use data to enable key strategic initiatives.

49% of businesses can improve their decision-making processes based on data.

- 10% of businesses are able to build better relationships with their customers and business partners by using their data.
- 9% of businesses can better react to changes in the economic environment by using data.
- 9% of businesses use data to improve the financial performance of their organization.
- 5% of businesses have a better capability to respond to buying trends in the marketplace.
- 1% of businesses use data to identify and create new product and service revenue streams.

This shows that data undoubtedly plays a vital role in the success of an organization, and will continue to be a vital asset pertinent for years to come.

How Has Data Impacted E-Commerce

Although the statistics described above relate to businesses in general, they apply to e-commerce retailers too. There are, however, some pertinent ways that data has impacted e-commerce and will continue to do so.

Better Shopping Experience

When e-commerce retailers understand their customers better, they're able to tailor their offering to their customers' needs, requirements, and expectations. With data, retailers are able to optimize their logistics and deliver products faster, allowing algorithms to determine the best delivery method for ordered items.

Retailers can also use data to analyze surveys and customer reviews, which in turn, gives them valuable feedback they can use to improve their shopping experiences. As a result, customers are more satisfied with their shopping experience, driving more sales.

Better Personalization

Personalization is probably one of the biggest trends in digital marketing. In fact, it's perhaps one of the pillars of any effective digital marketing strategy nowadays.

To achieve better personalization, e-commerce retailers use data to determine when relevant content should be delivered to a specific customer. This data includes anything from browsing history to past interactions with the retailer's online store.





Using this data, retailers shape their marketing campaigns around the needs of their customers, improving their conversion rate and, by implication, their revenue.

Predictive Analytics

Using data, coupled with artificial intelligence algorithms and machine learning, e-commerce retailers can predict what their customers will buy and when they will buy it.

These algorithms track everything from customer needs, their browsing history, and personal information such as contact details or even income levels to form a complete view of the customer. This gives retailers a better understanding of which products will resonate the best with each specific customer.

An example of this is Amazon's product recommendation engine which uses data to predict what products customers are most likely to buy. As a result, this engine drives 35% of Amazon's cumulative company revenue.

Retailers also use the ability to enable predictive lead scoring. This process includes analyzing the behavior of prospective customers to determine whether a lead on their website is valid. If it is, they are also ranked based on their assigned value. Based on these scores, e-commerce retailers can cater to high-scoring leads, increase their customer conversion rates, and ultimately see the results in their revenue.

Improved Customer Service

However, e-commerce success is based on far more than just sales. To increase the lifetime value of a customer, retailers must also have efficient and streamlined customer service processes.

Data helps retailers in this focus area, too. Throughout the customer service process, retailers gather data through emails, social media campaigns, and online self-service tools. The data can then be analyzed with the results showing retailers where they can improve their customer service.



More Secure Payment Processes

Data allows e-commerce retailers to improve the security of online payment processes. As such, retailers use data to analyze massive payment datasets and detect banking frauds to ensure safer payment options on their website for customers.

Price Optimization

Data-backed price management is exceptionally effective in e-commerce. In fact, research shows that data-backed price management leads to a 2% to 7% growth in business margins

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and a 200% to 350% average growth in return on investment over a one-year period.

Retailers use price optimization by analyzing significant amounts of data which includes previous purchases, cookies, and other data. They're then able to set prices dynamically according to this real-time data. Price optimization ensures that e-commerce retailers' products are set at the price customers are willing to pay which, in turn, increases sales margins.

Data Challenges

Despite the importance of data for e-commerce, several challenges stand in the way of widespread adoption of these data-driven practices. According to a survey by Deloitte, one of the biggest hurdles that businesses face is how to cope with the amount of data at their disposal. They face severe challenges in categorizing, synthesizing, accessing, and analyzing their data. This struggle makes it difficult for them to make fully-informed decisions based on the insights they could get from their data.

In fact, only 34% of the respondents in Deloitte's survey categorized the quality of data in their organization as "good" or "excellent". To classify the data as such means that their data is integrated, accurate, and maintained in a central warehouse. In contrast, 31% categorized their data quality as adequate, while 4% considered their data to be of poor quality.

The cause for this seems to be that businesses are struggling with disparate processes and systems, data silos, and the lack of internal and/or external resources to effectively make sense of the data they're collecting. Essentially, it boils down to data management.

Data Management

So how can e-commerce retailers overcome these challenges to gain all the benefits their data offers them?

Retailers generate a lot of data because they can record almost every aspect of their customer interactions, but without implementing proper data management solutions, they won't have the advantage of making sense of that data.

At its core, effective data management requires that all data be in one place. Many retailers today have their data in silos, which prevents them from getting the insights they need to improve their business processes. For example, a retailer might have shopping data in Shopify and marketing data in Google Analytics. Although this

data is valuable, it doesn't tell much of a story on its own. These differing data points would need to be combined into one source of truth for retailers to analyze and gain insights from their data.

The foundation of proper data management is a storage solution that extracts data from all of a retailer's data sources and gives them valuable insights in one single dashboard.

The Data Warehouse

A data warehouse is a cloud-based solution for gathering, organizing, and storing data. It gives retailers one place where they can review their data and run analytics, generate reports, and measure what is happening in their business.

This gives e-commerce retailers several key benefits:

Faster insights. Before retailers can analyze their data, they must gather it first. With a data warehouse, they have a system in place to collect and store all their relevant data, and they can run analyses whenever they like.

Full ownership of their data. Apart from creating data silos, e-commerce retailers also struggle with owning their data because it is locked into every platform they use. Should one of these platforms change its data retention policy, retailers risk losing the data they've collected. By using a data warehouse, no data is lost, and the data is always available to provide valuable insights.

No data silos. With the multitude of platforms and services that retailers use, their data is spread out over various sources. As a result, they are unable to get a complete picture and insights from the data. Using a data warehouse, e-commerce retailers combine all their data into one place where they can analyze it and gain insights from it. This reduces siloed data across several systems.

Flexible and affordable data storage. While there are upfront costs associated with data warehousing, it is possible to reduce these costs. Retailers will typically only pay for what they use on a cloud-based storage solution. Compare this to having the on-site infrastructure that retailers pay for no matter how much capacity they actually use, and it is easy to see that a cloud data warehouse provides retailers with a flexible and affordable data storage solution.



By implementing a data warehouse for e-commerce, retailers will be able to enjoy all the benefits mentioned above, such as: personalization, predictive analytics, and a better shopping experience for their customers.

The Data Lake

Data warehouses aren't the only solution to e-commerce retailers' data management challenges. E-commerce retailers also have the option of using a data lake.

So what exactly is the difference? For one, unlike a data warehouse, a data lake stores unstructured data until it's needed for analysis. This offers retailers several benefits. In the first place, a data lake isn't as rigid as a data warehouse. As a result, it doesn't require dedicated administration or substantial coding to make changes.

Another benefit is that data lakes, because of their unstructured nature, collect data without any restrictions, as is often the case with data warehouses. This is simply because the data in a data warehouse must fit the analytics models that the retailer wants to use on it. In simple terms, they are able to collect more data overall.

For analysis, this brings two benefits. The first is that retailers can decide which data is required and valuable and extract that from the data lake. This results in the ability to perform a wider

variety of data analyses based on the specific needs and requirements of the retailer at the time. Because of this, data lakes offer retailers greater flexibility because they can create new analysis models quickly and constantly change the marketing campaigns according to evolving customer needs.

Another Challenge

Regardless of whether e-commerce retailers choose to implement a data warehouse or a data lake, they face other challenges, too.

To implement these two solutions, e-commerce retailers should build their infrastructure in the cloud. Once it is built, retailers should then migrate their data to this infrastructure. And once it is populated with their data, the data infrastructure needs to be managed and maintained. This is a complex process and is time-consuming to accomplish.

There must be an easier way to accomplish this objective, and there is. A data automation platform removes much of the complexity of the process. It automates, accelerates, and simplifies the process of building, managing, and migrating data warehouses, data lakes, and data marts. As such, it enables an agile data warehouse design process without the complexity and challenges of doing it manually.



TimeXtender offers the data automation tools necessary for an e-commerce retailer to build a modern data estate for analytics in the shortest possible timeframe. It's specifically designed for Microsoft data platforms, and it automates getting data from source systems into Microsoft data platforms like SQL Server, Azure SQL Database, Azure Data Lake, and Azure Synapse Analytics.

E-commerce retailers can also enjoy the added benefit of having a no-code method of building their data infrastructure. It accelerates, simplifies, and automates data modeling, integration,

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extraction, cleansing, loading, and documentation using low-code development patterns and functionality.

This means it is a lot easier and much more cost-effective than manually building data warehouses that require large, highly skilled teams, and months of development. It's an undemanding way for e-commerce retailers to gain valuable insights from their data and ensure profit and growth.

The Bottom Line

E-commerce is only expected to grow in the future. As it grows, the industry will become increasingly competitive. But e-commerce retailers have one significant advantage over their brick-and-mortar counterparts: data.

They're able to record, track, and analyze every interaction they have with customers, both current and prospective, to make their processes more efficient and generate more revenue. As a result, the data they've collected is the key to unlocking future growth and success.

But for that to come true, retailers need the right tools, meaning they need the right data infrastructure that enables them to gather their data, analyze it, and make decisions based on the insights that the data provides. For more information on how to implement the right data infrastructure, or to learn how TimeXtender can help retailers with this process, visit our website.

Through its automated data management platform, TimeXtender empowers customers with instant access to data that is ready for analysis, enabling retailers to make quality business decisions with data, mind, and heart. We do this for one simple reason: because time matters.

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