

Using Data Warehouses to Power Better Decision-Making in Ecommerce

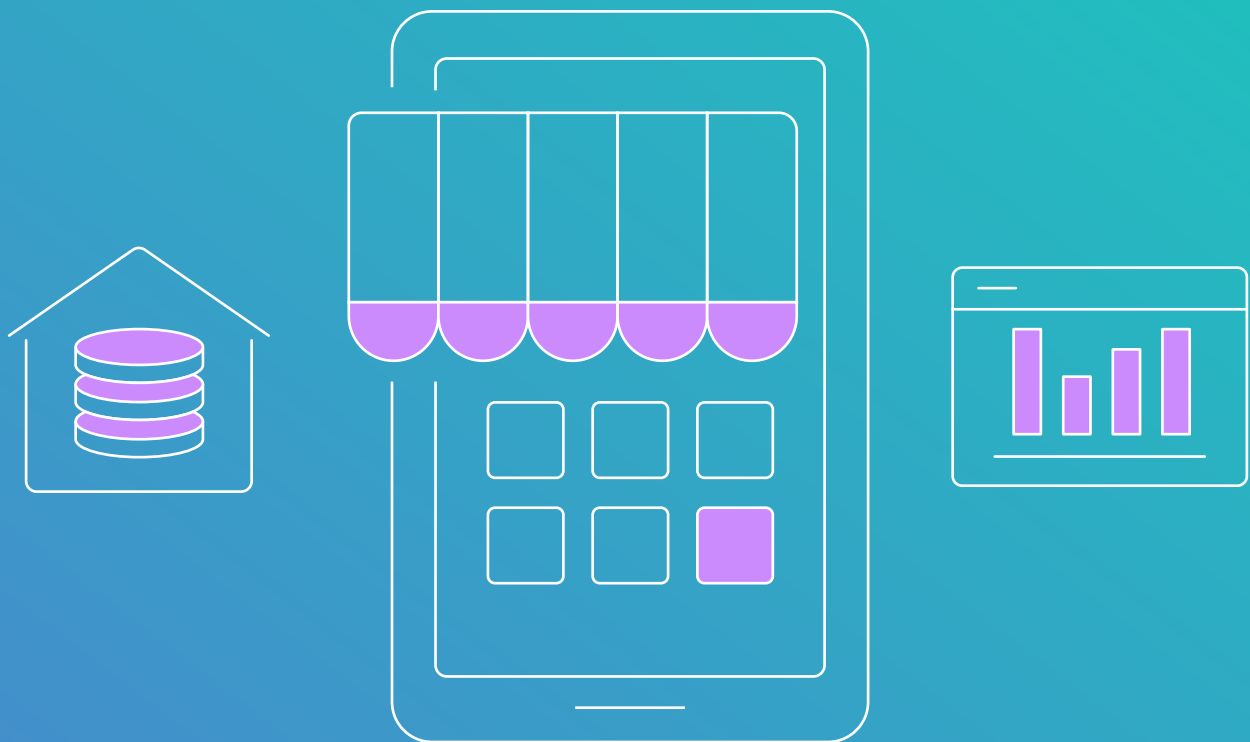


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01

INTRODUCTION

Here are five ways data warehouses can power decision-making in Ecommerce:



Moving data to a data warehouse and running it through BI tools can help you generate incredible business insights about sales, marketing, customer service, and inventory management. Use these insights to inform your decision-making process.



It can be hard to improve decision-making when data exists in separate systems that don't communicate with each other. Moving data to a warehouse can remove data silos and provide a centralized location for all the data you need for decision-making.



Data warehousing lets you access dashboards, reports, heatmaps, and data visualizations on BI tools such as Looker and Power BI. Use this information to make smarter decisions.



Data warehousing helps you make decisions that could improve revenue, cut costs, enhance inventory processes, and engage more customers.

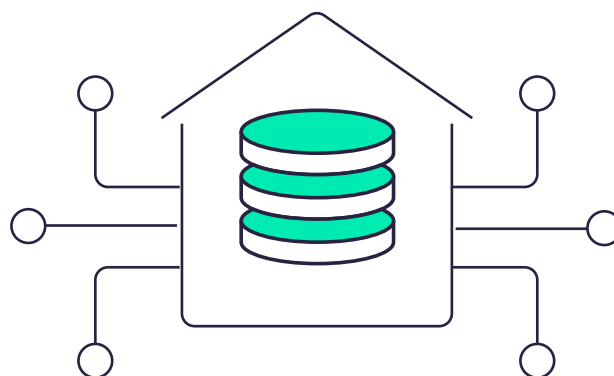




Integrate.io is a low-code/no-code data warehousing integration platform that moves data to a warehouse of your choice for improved decision-making.

Ecommerce retailers need to make critical decisions every day by determining the best course of action to meet their organizational needs. Even a seemingly simple decision can have huge ramifications in Ecommerce. Introducing a new product line, for example, could impact the company's bottom line or generate more revenue. Decision-making is all about balancing risk with opportunity at the right time.

In this whitepaper, learn how a data warehouse is fundamental for decision-making in your Ecommerce enterprise and how you can move data to a warehouse without any data engineering skills.



Integrate.io is a new data warehousing integration solution built for Ecommerce. It removes the jargon and complications commonly associated with data warehouses, helping businesses move data between locations without any code or data engineering skills. Integrate.io's drag-and-drop click-and-point interface makes it easy to transfer data to the warehouse of your choice. Now you can make better decisions without the stress. Why not email hello@integrate.io to learn more?

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WHAT IS DECISION-MAKING?

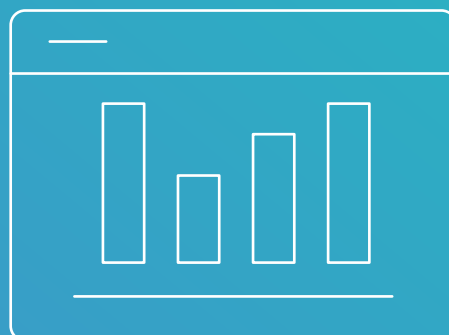
Decision-making involves steps that determine the best course of action to meet a particular objective.

Decision-makers identify a goal, gather information, and make choices that grow their business. In an Ecommerce context, decision-making might involve choosing between several marketing methods to target a specific demographic. Selecting the right marketing method could generate more sales from customers.

Most Ecommerce retailers make decisions with real-time data in today's digital world. By analyzing data sets, business owners can identify trends and patterns in data that help them make smarter decisions. Take inventory data, for example. A retailer can analyze this information and determine which products sell the most units. The

retailer might decide to order more of those products to prevent understocking and generate more revenue.

It can be difficult to make complicated business decisions without data. Even Ecommerce retailers who understand their niche and customers will use data sets to predict future outcomes, identify risks in their businesses, and discover potential revenue-generating opportunities.



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HOW CAN DATA HELP ECOMMERCE RETAILERS MAKE BETTER DECISIONS?

The average company draws from over 400 different data sources.

The average company draws from over 400 different data sources. This data might exist in the following systems:

- Transactional databases
- Relational databases
- SaaS tools
- Social media platforms
- Customer relationship management (CRM) systems
- Enterprise resource planning (ERP) systems
- Databases
- Ecommerce platforms

All that data can help Ecommerce retailers make better decisions about the following functions:

SALES

Sales data makes it easier for retailers to understand the customers who purchase their products and services. Analyzing this data uncovers insights about lead generation, upselling, cross-selling, prospecting, lead nurturing, and other sales processes. Sales data can be crucial for sales agents who engage with customers and move prospects through their funnels. You can use sales data to increase revenue from your Ecommerce business.



MARKETING

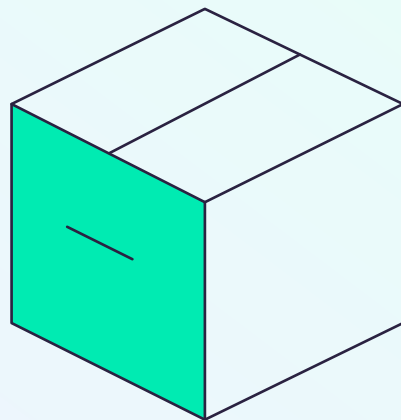
Marketing data reveals insights about marketing campaigns that target customers. You can use this data to improve engagement, create more successful campaigns, and decide which marketing methods and technologies provide the most value for money and best return on investment. You can also learn which marketing channels (email, social media, paid ads, search engines, etc.) are the most effective.

CUSTOMER SERVICE

Customer data helps you improve the customer experience. Analyzing this data tells you how customers interact and engage with your Ecommerce business and how you can improve your customer service workflows. You can also use customer data to help customer service reps be better at their jobs.

INVENTORY MANAGEMENT

Inventory data gives you insight into logistics, supply and demand, storage, and other inventory management processes. Analyzing this data helps you deliver better customer service, maximize warehouse spaces, enhance transportation workflows, and prevent overstocking and understocking issues.



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WHICH ANALYSIS TECHNIQUES IMPROVE DECISION MAKING?

There are various data analysis techniques that help Ecommerce retailers with decision-making:

PREDICTIVE ANALYSIS

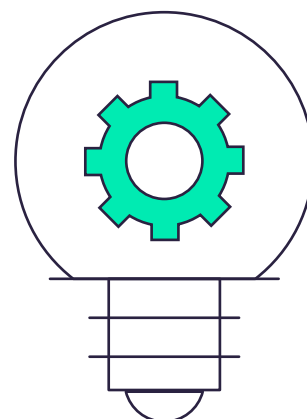
Predictive analysis analyzes historical data to predict future outcomes in a business. For example, a retailer can learn whether a specific demographic is more likely to purchase a product at a particular time of the year. The retailer might decide to create a marketing campaign that targets that demographic to improve sales.

CUSTOMER SEGMENTATION

Customer segmentation is a technique used by Ecommerce retailers to make better decisions about sales and marketing. Business owners can group or "segment" customers based on common attributes, such as age or location, and target these groups with personalized marketing that boosts engagement and brand loyalty.

MACHINE LEARNING

Machine learning (ML), a type of artificial intelligence (AI), uses predictive models to find patterns in large data sets. It can forecast future outcomes based on historical and statistical data and help Ecommerce retailers make critical decisions.



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WHAT IS A DATA WAREHOUSE?

A data warehouse is a central repository of data.

It collects data from all the systems used in your Ecommerce organization and compiles it in one centralized location for data analysis. Think of a data warehouse as a [Single Source of Truth](#) (SSOT) for all the data flowing in and out of your enterprise. By moving that data to a single location, it suddenly becomes easier to analyze marketing, customer service, and inventory management workflows and make better decisions.

When moving data to a warehouse, you can push that data through business intelligence (BI) tools and use those tools to identify trends in data sets. For example, you can run sales data through a BI tool and learn more about which demographics purchase the most products from your online store. That helps you make decisions about those products.

Some of the most popular data warehouses on the market include Snowflake, Google BigQuery, PostgreSQL, and Amazon (AWS) Redshift, and these warehouses work in a similar way. The typical warehouse will contain multiple databases that organize big data in a tabular format so data engineers can use the programming language SQL to query that data. Generally, data warehouses handle structured or semi-structured data, meaning engineers will need to use an alternative target system called a data lake to query unstructured data.

Read more: [What Is a Data Warehouse and Why Are They Important?](#)

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WHAT ARE THE CHALLENGES OF USING A DATA WAREHOUSE FOR DECISION-MAKING?

As you can see above, the main problem of using a data warehouse for decision-making is its complexity.

Data warehouses rely on SQL coding, a skill that many Ecommerce enterprises, especially smaller ones, don't have. Then there's the challenge of getting data to a warehouse in the first place—a process called data warehousing. Ecommerce business owners need to build complex data pipelines that move data from data sources such as CRM systems and transactional databases to a warehouse like Snowflake or AWS Redshift. These big data pipelines can take weeks (or even months) to build and require advanced knowledge of code and programming.

All this means that enterprises need to hire a data engineer (or data engineering team) to operationalize their warehouses before running data through BI tools and making

business decisions. However, the average data engineer costs \$115,632 a year—an expense many retailers can't afford.

Using a data warehousing integration platform like Integrate.io can solve this challenge. This platform removes the complexities of data warehousing so more Ecommerce retailers can move data to a warehouse and make smarter decisions with BI tools. Integrate.io comes with no-code/low-code out-of-the-box connectors for all the major warehouses, allowing retailers to operationalize and analyze data even when they lack engineering experience. The platform can also move unstructured data to a data lake.

Read more: [The Ultimate Guide to Data Warehouse Design](#)

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OTHER DATA WAREHOUSING PROBLEMS

There are other factors to consider before you can make more informed decisions about your Ecommerce processes:

DATA QUALITY

Data warehousing can be a complicated process if you do it yourself. Moving data between sources and a target location like a warehouse can degrade data quality and make it difficult to run data through BI tools.

DATA LOSS

Data loss is another issue when transferring data from a data source to a warehouse. It's easy to accidentally delete or corrupt data when warehousing data, rendering the decision-making process useless.

DATA GOVERNANCE

Ecommerce retailers that sell products in certain jurisdictions or niches should be aware of data governance legislation. For example, retailers that sell products to customers in the European Union, United Kingdom, and European Economic Area need to be wary of GDPR laws, which stipulate expensive penalties for incorrectly processing sensitive customer data. Other data governance legislation, such as CCPA and HIPAA, can also impact retailers when moving data to a third-party system like a warehouse.

Integrate.io can reduce the likelihood of data governance penalties and improve data loss and quality with its fully compliant and secure platform. Now you can make better decisions with BI tools without worrying about data.

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WHY DO YOU NEED A DATA WAREHOUSE FOR DECISION-MAKING?

Data in siloed systems that don't 'talk' to each other can make data analysis and decision-making a challenge.

It can be impossible to compare CRM and sales data in a transactional database, for example, without merging and centralizing those data sources. Often, systems store data in different file formats, making analysis even more complicated.

A data warehouse serves as a target system for all the data you need to make better decisions. When moving data to a warehouse, you can push data through BI

tools and extract valuable insights about almost every aspect of your Ecommerce organization. BI tools such as Looker, Tableau, and Microsoft Power BI produce dashboards, reports, heat maps, charts, and other data visualizations, helping you determine the right path for your Ecommerce business.

Integrate.io is a new data warehousing integration platform that helps you make better decisions in your enterprise. There's no jargon or lots of code, and you can move data to the warehouse of your choice without building complex data pipelines. Integrate.io's out-of-the-box connectors for major data warehouses remove the pain points of warehousing, allowing you to run data through BI tools with little or no data engineering experience. Email hello@integrate.io to learn more.

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DATA WAREHOUSING FOR DECISION-MAKING USE CASES

Here are some use cases for making better business decisions through data warehousing:

An online footwear retailer wants to learn what type of customers purchase a particular type of shoe. The retailer moves demographic data from its CRM and sales data from a transactional database to the Snowflake data warehouse before running data through the BI tool Looker. Data insights reveal that young people are most likely to purchase the type of shoe. The retailer creates a new marketing campaign that advertises the shoe to a young demographic.

An online company that sells laptop computers wants to prevent understocking its most popular models during the holiday season when sales are high. The company moves historical data from its transaction database and data from its inventory management system to Amazon Redshift and then runs that data through Microsoft Power BI. The retailer learns which laptop models sell the most during the holidays and orders more of those products from its supplier.

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HOW DO YOU MOVE DATA TO A WAREHOUSE FOR DECISION-MAKING?

You need to move data to the warehouse of your choice before you can perform business intelligence activities and improve the decision-making process.

Here are some of the most popular data integration methods:

ETL

[Extract, Transform, Load](#) (ELT) extracts data from a source, transforms the data into the appropriate format for data analysis, and then loads the data to a warehouse. At this point, you can run data through your favorite BI tool and make better decisions about your business. ELT is the most common data integration method for structured and semi-structured data.

ELT

[Extract, Load, Transform](#) reverses the 'load' and 'transform' parts of ETL. It extracts data from a source, loads the data to a warehouse or lake, and transforms the data into the appropriate format for data analysis. You can

now push data through a BI tool and make smarter decisions. ELT is the most common data integration method for unstructured data. However, you can still use this technique for structured and semi-structured data by using Hadoop or a NoSQL database management system (DBMS).

REVERSE ETL

Reverse ETL doesn't move data to a warehouse like ETL or ELT but transfers it from a warehouse to an operational system of record. That can help Ecommerce teams analyze data in the software they already use.



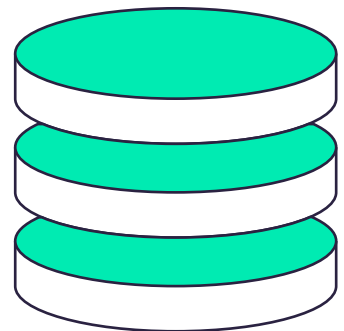
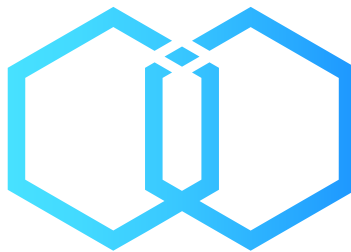
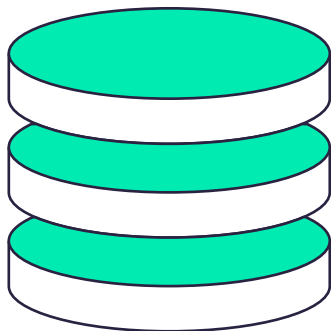
CHANGE DATA CAPTURE

Change Data Capture (CDC) monitors any changes made to two or more databases in your Ecommerce organization. If someone deletes a data set, for example, you can view these modifications and take action.

Again, all the data integration methods listed above require complex coding and data engineering, making it difficult to move data to a warehouse without the right skills and experience. Integrate.io, however, automates ETL, ELT, , and super-fast CDC, allowing

users to integrate data without complex data pipelines or programming. The platform has native connectors for warehouses such as Snowflake, Redshift, BigQuery, PostgreSQL, and Microsoft Azure, helping you make quick decisions about your business.

Read more: [How to Select a Data Warehouse for Your Business](#)



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HOW TO IMPROVE THE DECISION-MAKING PROCESS

Good decision-making is more than just moving data to a warehouse and running it through a BI tool.

Here are some ways Ecommerce retailers can improve the decision-making process.

CHOOSE THE RIGHT DATA FOR DECISION-MAKING

You don't have to move all your data to a warehouse if you don't want to. Legacy data, for example, might not provide you with any real insights into your current business and can skew decision-making. Decide which data sets offer the most value and help you uncover actionable insights about your enterprise. High-quality data will help you make useful decisions and grow your business.

CHOOSE WHICH METRICS AND KPIS YOU WANT TO TRACK

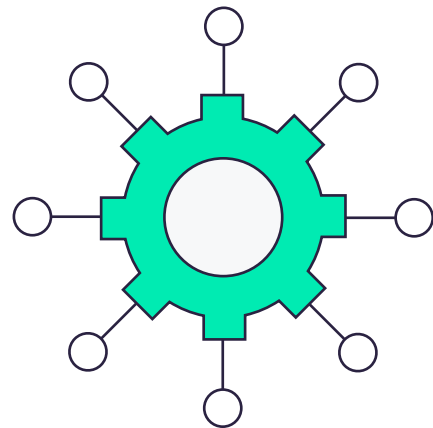
BI tools provide a wealth of analytical information that might prove overwhelming at first, especially if you are new to data analysis. Make your life easier by choosing metrics and key performance indicators (KPIs) that benefit your business and reveal insights that further decision-making. Remember, you don't have to track every metric about your enterprise.

CHOOSE A DATA WAREHOUSE

Your warehouse serves as the central repository for all the data you need for decision-making, and some products will suit your business needs more than others. Consider factors such as pricing, features, latency, uptime, customer service, and licensing when deciding between data warehouses. You should also ensure your warehouse of choice is compatible with the BI tools you want to use. Most warehouses fall into two categories: on-premises and cloud-based. The former requires physical infrastructure to move data between a source and a warehouse.

CHOOSE YOUR BI TOOL

Factors to consider when choosing a BI tool include pricing, customer service, and features. Pick one that provides powerful dashboards, reports, and charts and makes it easy to visualize all the data you need for decision-making.



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HOW INTEGRATE.IO HELPS WITH DATA WAREHOUSING FOR DECISION-MAKING

Using a data warehouse is the first step toward improving decision-making in your Ecommerce enterprise.

Once you have chosen a warehouse, you can run data through BI tools and make better decisions about sales, marketing, customer service, inventory management, and other Ecommerce processes. However, data warehousing can be challenging for most online retailers, especially when it involves a lot of coding and data engineering.

Integrate.io is a data warehousing integration solution that moves Ecommerce data to a target system of your choice for smarter decision-making. Its out-of-the-box connectors and drag-and-drop, point-and-click interface remove the need for lots of code, enabling you to concentrate on other tasks. Integrate.io's developers created the platform exclusively for Ecommerce

organizations like yours, helping you move data from one location to another without the stress.

Other Integrate.io features include:

- Exceptional customer service: you can contact a member of Integrate.io's team via phone, email, or live chat.
- Data governance: Integrate.io complies with all major data governance frameworks, helping you avoid expensive penalties for non-compliance.
- Salesforce-to-Salesforce integration: move Salesforce data to a warehouse and then back to Salesforce again. Not many data integration platforms offer this feature.
- Super-fast CDC: In addition to ETL, ELT, and Reverse ETL, Integrate.io performs CDC at fast speeds.

We hope that you have enjoyed reading this whitepaper.

If so, be sure to [check out our other Whitepapers](#) related to "[Using Data Warehouses to Power Better Decision-Making in Ecommerce](#)".

Interested in learning more about Integrate.io?

Chat with an Expert!

