



# PRODUCT DESCRIPTION & METHODOLOGY

# ECDB PROVIDES INFORMATION ON STORES, MARKETPLACES, COMPANIES, AND MARKETS

About ECDB (1/2)

## What is ECDB?

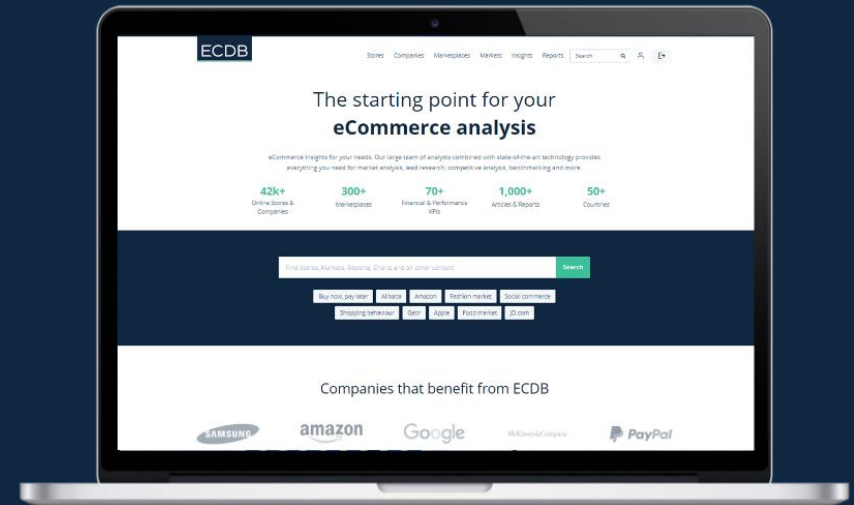
ECDB provides rankings of online stores, companies and marketplaces in over 50 countries. These rankings cover **42k+ online stores, 350 companies and 300+ online marketplaces**. Detailed profiles are available for each player, providing information on **70+ financial and performance KPIs**.

Additionally, ECDB provides detailed data on the eCommerce development in **150 national markets**. Within each national market, there is a further breakdown of around **250 product markets**. The data includes information on market size, growth rates, and analysis of the top players in each market.

In addition to the database, ECDB publishes a **wide range of in-depth reports and insights** covering analysis of eCommerce markets, customer behavior and market trends.

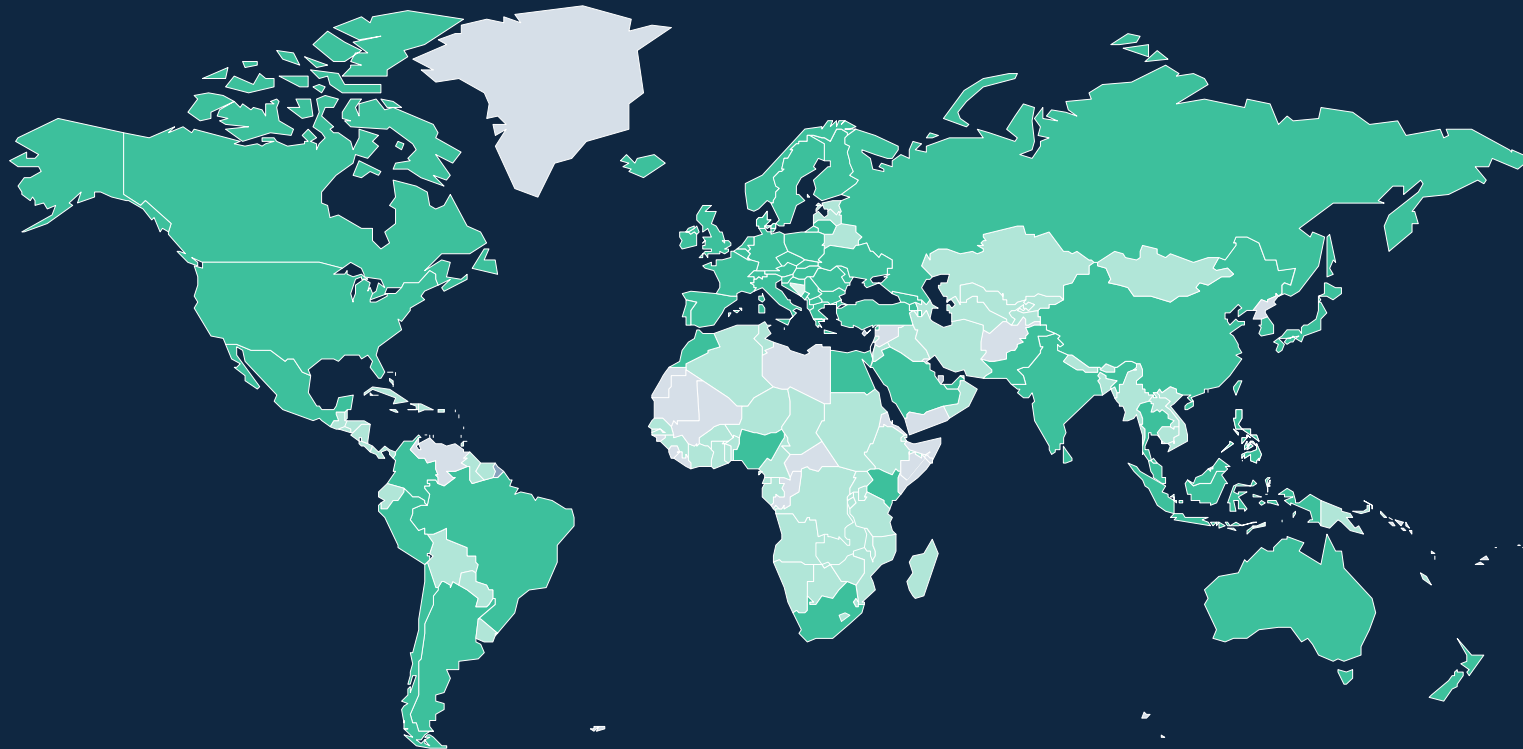
## Key figures

- Store, Company, and Marketplace rankings in **50+ countries**
- Detailed profiles of **42k+ stores, 350 companies and 300+ marketplaces**
- **70+ financial and performance KPIs**
- eCommerce development in **150 national markets**
- Market development for **~250 product categories**
- **1,000+ articles, deep dives, and reports**

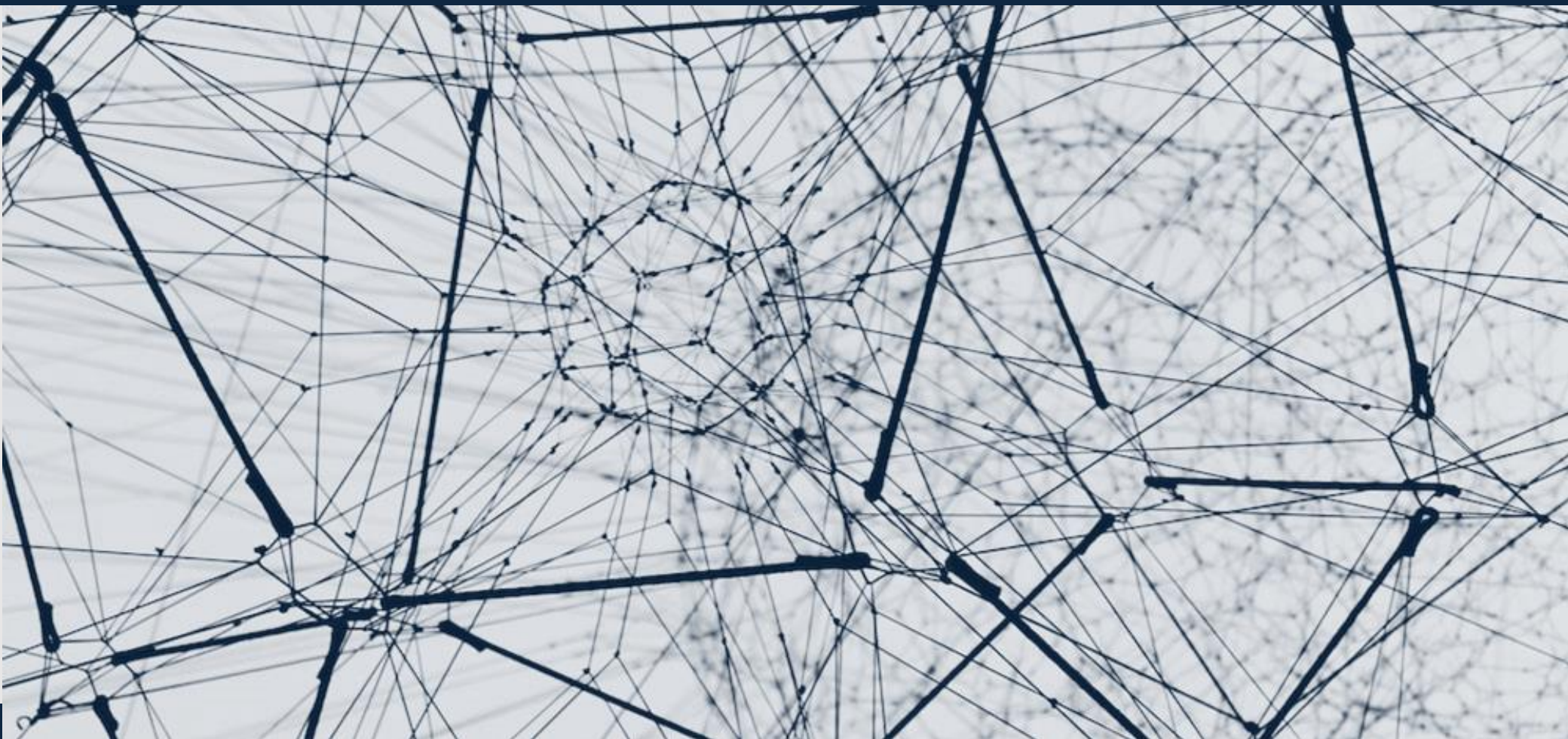


# ECDB HAS GLOBAL COVERAGE, OFFERING A COMPREHENSIVE VIEW OF ECOMMERCE WORLDWIDE

About ECDB (2/2)



■ Covered: with ranking and market data   ■ Covered: with market data   ■ Not covered



# MODELING APPROACH: ECOMMERCE NET SALES


# ONLINE STORE REVENUE MODELING IS BASED ON DIVERSE DATA TYPES AND EXPERT ANALYSIS


## Modeling approach overview

### Different approaches depending on data availability


#### 1) Historical ecommerce net sales development

When approximating past revenue trends, the modeling approach depends on which types of data are available. Our ECDB experts conduct research about companies based on existing information, i.e., data research on thousands of online stores, annual reports, and secondary sources. This information is supplemented by other store-specific drivers, such as traffic information, offered product range, price level, and shipping information. Depending on data availability, we use two different approaches:

 Top-down: Finding information about the eCommerce turnover of a company or business unit and enhancing it with further store-specific data enables our analysts to determine the revenue for the company's online store.

 Bottom-up: If there is no information on the company's (eCommerce) revenue, we use an algorithm-based approach using store-specific KPIs such as traffic, product range, price level, and average conversion rates to approximate the online store's revenue. The algorithm is based on the correlations between success factors and revenue derived from the top-down approach acquisition of primary data.

#### 2) Forecast

 Forecasting the online store's revenue for the running calendar year and the following years takes multiple information factors into account. Our experts evaluate the store's historical revenue development, traffic trends, general market forecasts, and individual store information.

### Underlying data sources

<p>Research on online stores</p> <ul style="list-style-type: none"><li>eCommerce net sales</li><li>Company information</li><li>Product range and shipping information</li><li>Contact information</li></ul>	<p>Quantitative and financial data from public sources:</p> <ul style="list-style-type: none"><li>Annual reports and financial statements</li><li>Press releases</li><li>Secondary sources</li></ul>
<p>Store-specific data</p> <ul style="list-style-type: none"><li>Traffic information, visits in total and by region</li><li>Offered product range</li><li>Price level information</li><li>Shipping information</li></ul>	<p>Studies &amp; third-party data</p> <ul style="list-style-type: none"><li>International organizations, e.g., IMF, the World Bank, and OECD</li></ul>

# TJX.COM NET SALES APPROXIMATION BASED ON TOP-DOWN APPROACH



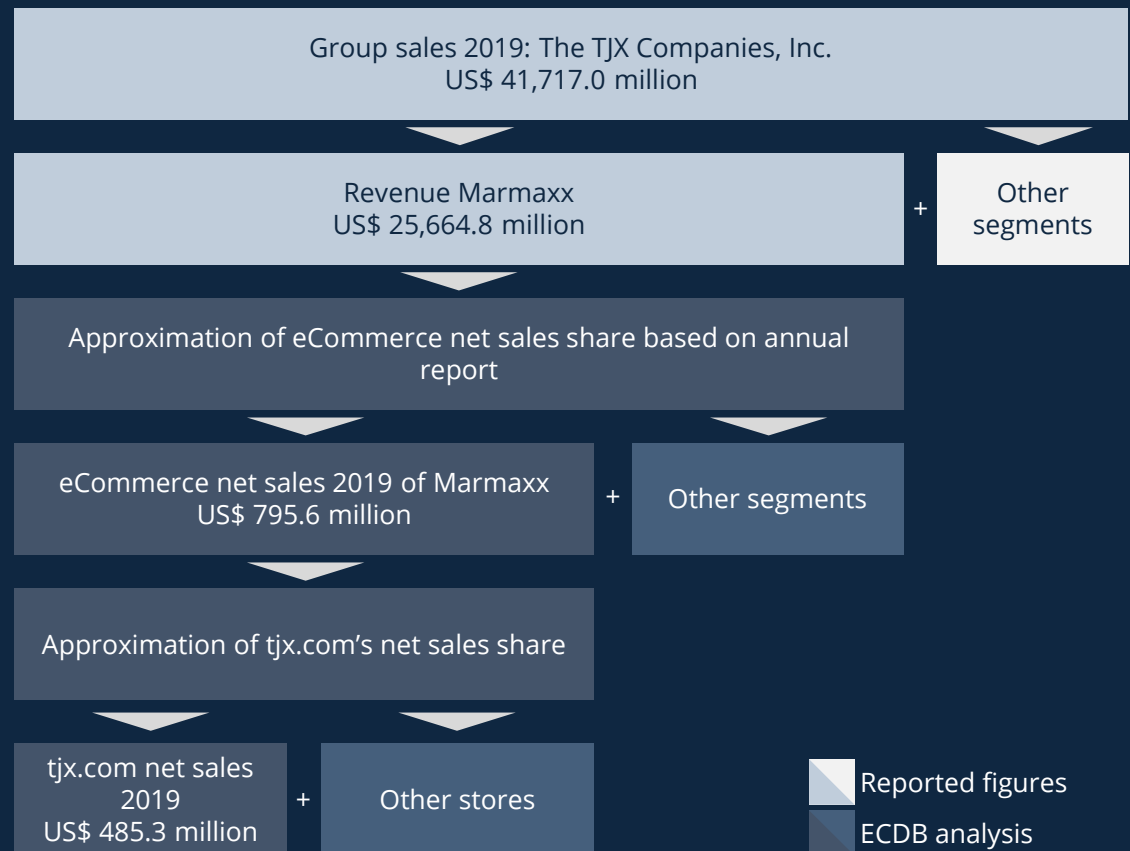
Historical ecommerce net sales development (1/3)

## Top-down net sales approximation

Referring to the annual report of The TJX Companies, Inc., group sales in 2019 amount to US\$ 41,717.0 million<sup>1</sup>. Total group sales include revenue through online and offline retail in various segments. About 61.5% of the Group's revenue is generated by the Marmaxx segment, comprising online and offline retail revenues<sup>1</sup>.

The reported share of online net sales in Marmaxx revenue increased from 2% to 3% between 2015 and 2019<sup>2</sup>. Based on this steady increase and with reference to the positive development of revenue in the eCommerce fashion market and the positively formulated prospects of the management in connection with further investments in the eCommerce segment<sup>1</sup>, we calculate an average eCommerce net sales share of 3% in 2019 to approximate the eCommerce net sales of Marmaxx. As a result, US\$ 795.6 million are generated by Marmaxx's three online stores (tjx.com, sierra.com, and marshall.com).

Considering individual website performance indicators and additional success factors, tjx.com accounts for approximately 61% of Marmaxx eCommerce net sales or US\$ 485.3 million.



1: The TJX Companies, Inc. annual report 2019. 2: The TJX Companies, Inc. annual reports 2015 to 2019.

# WAYFAIR.COM NET SALES APPROXIMATION BASED ON TOP-DOWN APPROACH



Historical ecommerce net sales development (2/3)

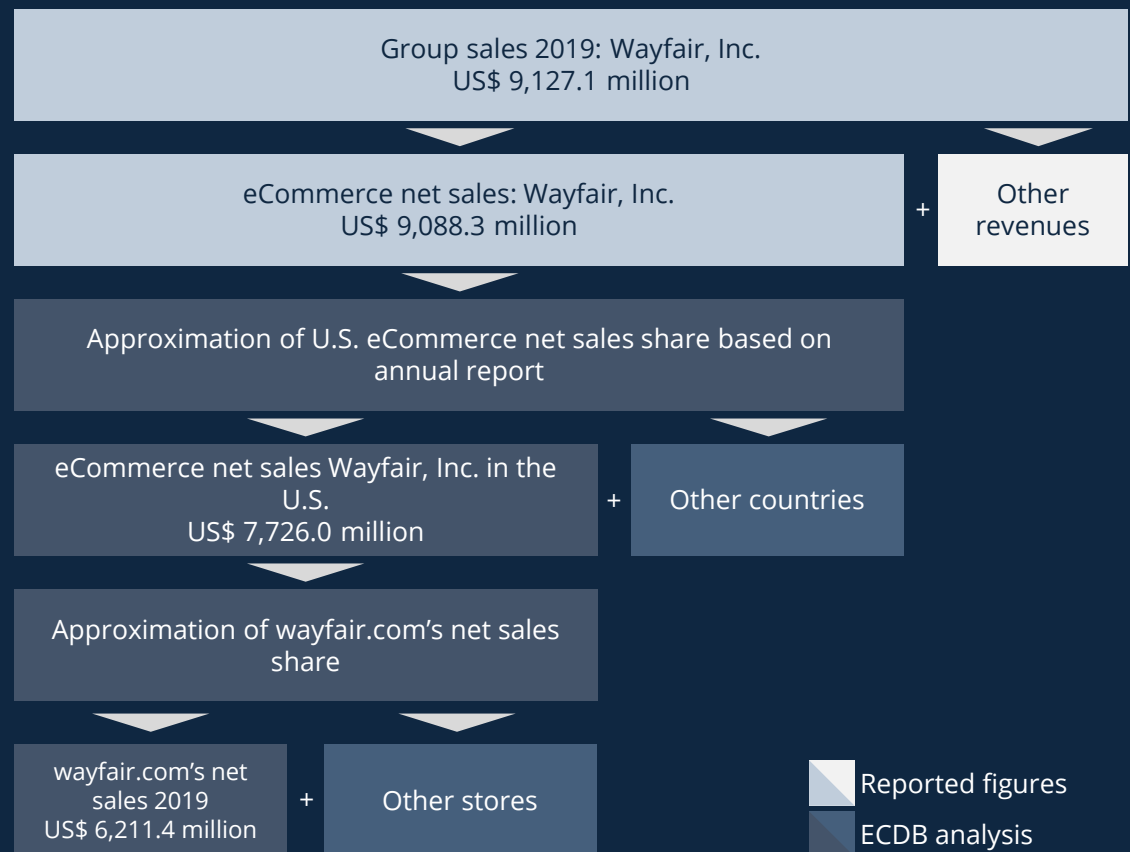
## Top-down net sales approximation

The total group sales of Wayfair, Inc. in 2019 amount to US\$ 9,127.1 million<sup>1</sup>. They include revenue through different international online stores, retail partner websites, and media solutions.

The direct retail net revenue is also reported in the annual report, but there is no further information on the revenue distribution by country. But based on last year's annual report, we assume that non-commerce revenue is subsumed under "U.S. revenue" and that "International" revenue is eCommerce only. By subtracting that from the total direct retail net revenue, the U.S. eCommerce revenue amounts to US\$ 7,726 million.

eCommerce net sales in the U.S. are generated mainly via wayfair.com but also via jossandmain.com, allmodern.com, birchland.com, and perigold.com.

Considering individual website performance indicators and additional success factors, wayfair.com accounts for approximately 61% of the U.S. eCommerce net sales or US\$ 6,211.4 million.



1: Wayfair, Inc. annual report 2019.  
7 | Source: [ecommercedb.com](https://ecommercedb.com) 2021

# ALGORITHM-BASED BOTTOM-UP REVENUE MODELING IS DRIVEN BY A BROAD RANGE OF FACTORS

Historical ecommerce net sales development (3/3)

## Bottom-up net sales approximation

If there is no information about the company's (eCommerce) revenue, we apply our algorithm-based approach using a broad range of KPIs to approximate the online store's eCommerce net sales.

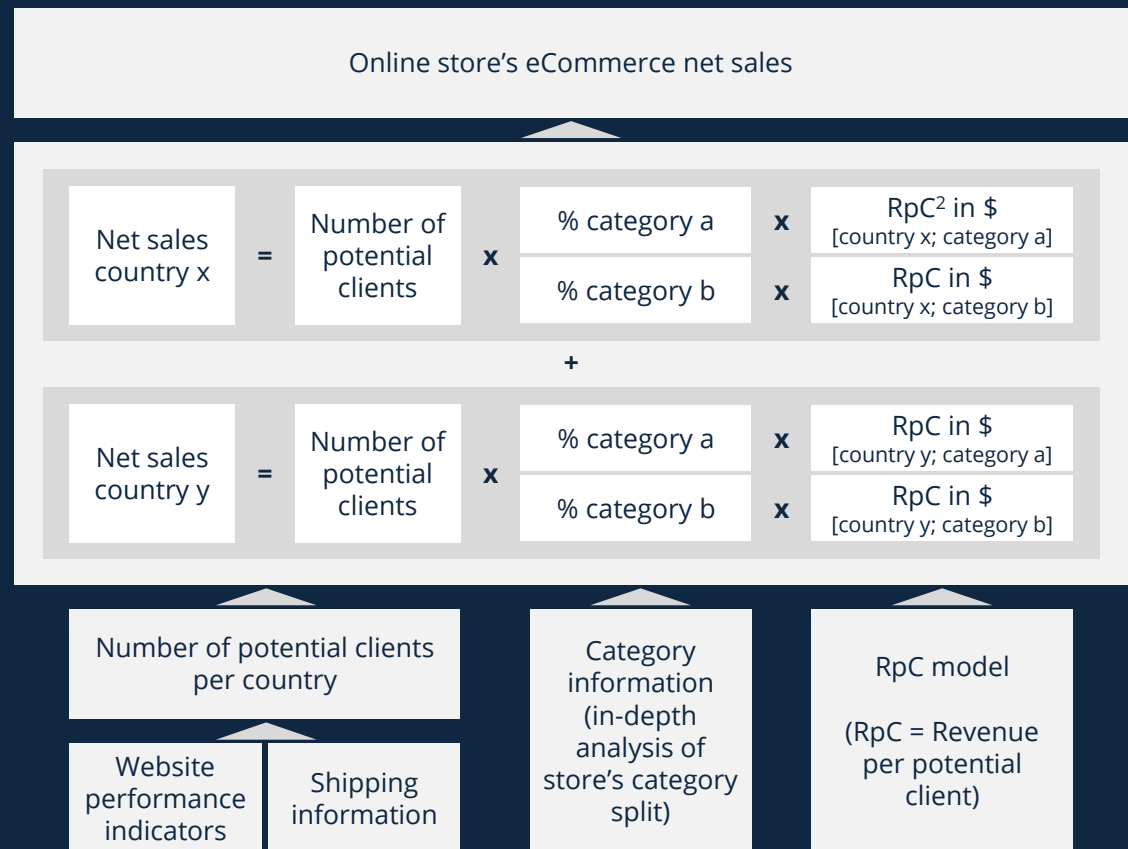
The algorithm is based on the correlations between success factors and revenue, which are derived using primary data from the top-down approach.

The main success factors are:

- the number of potential clients per country, derived from general website performance indicators (visits, time on site, etc.<sup>1</sup>) in combination with information on conversion rates by category and research on the store's shipping destinations

- the online store's offered product range and the average price level

- the information on average revenue per potential client for each country and category, which has been determined by a regression analysis, based on the primary data from the top-down approach





# THE REVENUE FORECAST OF AN ONLINE STORE IS DRIVEN BY FOUR INDICATORS

Future ecommerce net sales development (1/2)

## Forecast approach

Our forecast approach to anticipate future eCommerce net sales development of an online store considers a variety of underlying data.

On the one hand, we examine historical information, e.g., previous net sales and traffic development of the online store<sup>1</sup>.

On the other hand, we also take indications of future developments into account. Here, we consider information such as statements by the company on its assessment of future developments and market forecasts conducted by ECDB market experts.

These four indicators are individually weighed by our analysts to assure the best possible forecast based on the available information.

	Direct Information		Indirect Information	
Historical information	1	Store's net sales development	2	Traffic & conversion development
Future development indicators	3	Store's individual statements regarding its continued net sales development	4	ECDB market forecasts

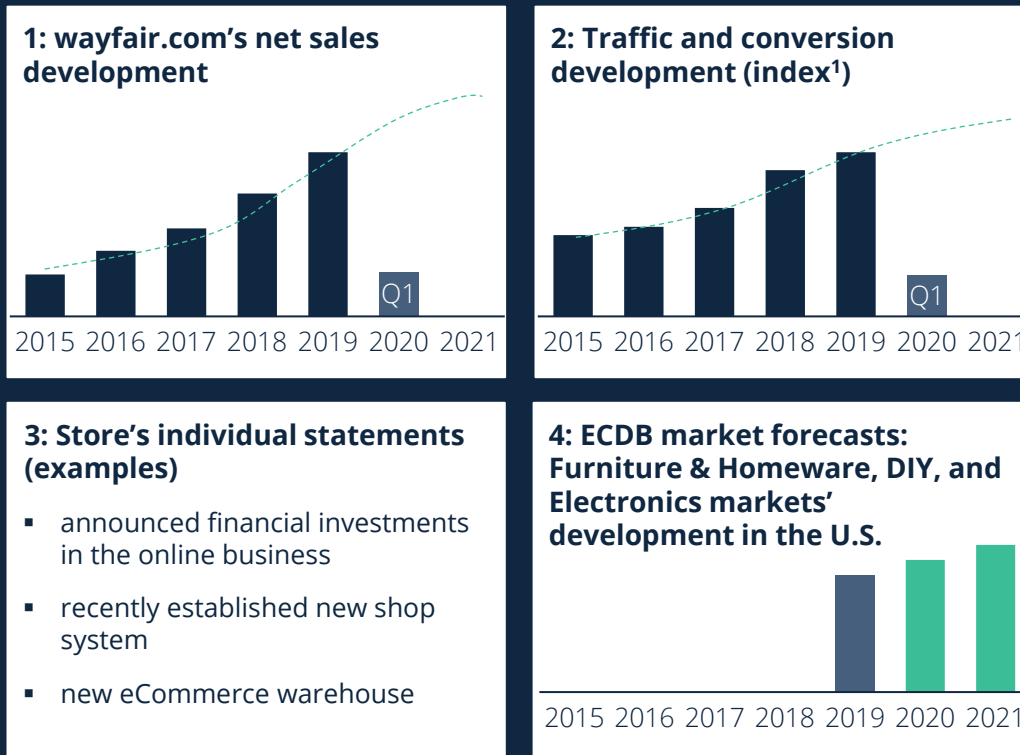
These four indicators are weighed by our analysts



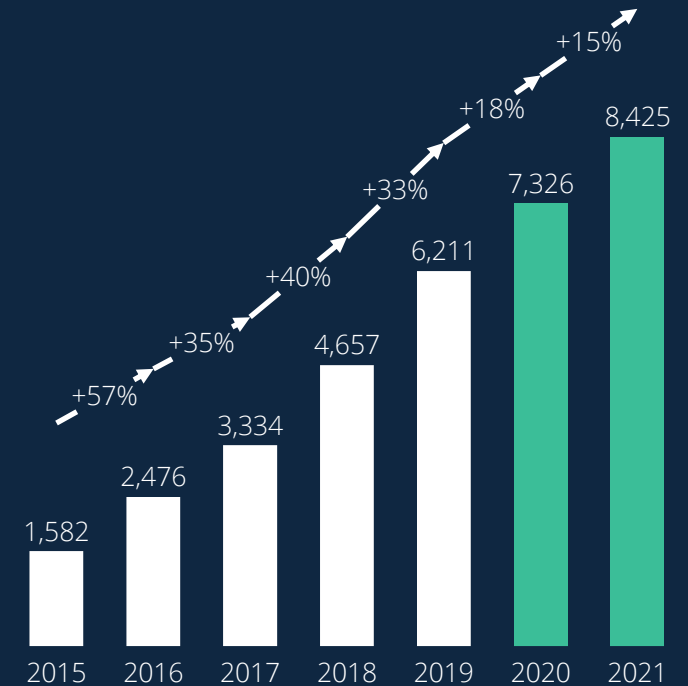
# FORECASTING WAYFAIR.COM'S ECOMMERCE SALES BY CONSIDERING HISTORICAL & FUTURE INDICATORS

Future ecommerce net sales development (2/2)

## Input data



## wayfair.com net sales development in mUS\$





# MODELING APPROACH: ECOMMERCE GMV

# GMV MODELING USES A SIMILAR APPROACH TO STORE MODELING, BUT WITH BRAND-LEVEL DATA POINTS

## Modeling approach overview

### A similar approach to store net sales modeling

To model the GMV data for online marketplaces, we follow an approach similar to that described in the previous chapter (see “[Modeling approach: eCommerce net sales](#)”). The top-down approach is used to approximate a marketplace’s historical GMV trend when the marketplace operator publishes marketplace-related data. The bottom-up approach is used when a marketplace operator does not provide information about its marketplace business or success factors. The GMV forecast follows the same approach as the net sales forecast.

### Differences compared with store net sales modeling

One difference between marketplace GMV modeling and store net sale modeling is the underlying data sources: GMV modeling uses marketplace-specific data as input (see list on right).

In addition, we always provide the brand-level data for a marketplace (e.g., total GMV of Walmart), along with the key marketplace URLs (e.g., GMVs for walmart.com, walmart.ca, and walmart.com.mx, respectively). In the top-down approach, we break down the published brand-level data to individual URLs. In the bottom-up approach, we first estimate GMV for individual URLs and then aggregate them to obtain brand-level data.

### Underlying data sources

#### Marketplace-specific data:

- Traffic information
- Product range and main product category
- Price level information
- Number of third-party vendors
- Type of commission
- Commission rates
- Geographical operating area
- Scope of the marketplace
- Type of marketplace

#### Quantitative and financial data from public sources:

- Annual reports and financial statements
- Press releases
- Secondary sources

#### Studies & third-party data

- International organizations, e.g., IMF, the World Bank, and OECD



# MODELING APPROACH: ECOMMERCE MARKETS

# TOP-DOWN & BOTTOM-UP APPROACHES ARE USED TO MODEL MARKETS WITH GOOD DATA AVAILABILITY

Market modelling with good data availability

## Bottom-up approach: Analysis of key players in different markets

The bottom-up approach is driven by our analysis of key players and platforms in different markets and countries. We analyze companies in respect to their eCommerce retail activities and how the revenues generated are diversified into different categories and countries. By our calculation, we cover more than 90% of the global eCommerce volume with our analyses.

Taking the B2C relevant revenues of the eCommerce players and platforms as a market sample, we can statistically estimate the market volume of a given country. Since the goodness of an estimation depends of the size of the sample in terms of revenue amount and number of entities, we have a narrow distribution for most of the countries for which we have a ranking in our database available.

## Top-down approach: Using external sources to validate data

To validate this data, we use top-down data from publicly available source with a high reputation to validate our results. Among these are sources such as

- national statistics bureaus (e.g. the U.S. Census Bureau, or the National Bureau of Statistics China),
- official figures published by governmental institutions (e.g. the Ministry of Commerce of Saudi Arabia),
- national eCommerce associations (e.g. the Bundesverband E-Commerce und Versandhandel (bevh), or the Associao Brasileira de Comercio Electronico (ABComm))
- Studies and analyses from industry experts or institutions

These data sources were analyzed and adjusted in respect to our definition of B2C eCommerce, rated in respect to its methodology and reliability and therefore, have a different impact on our final figures.

# DRIVER MODEL & BENCHMARKING APPROACH ARE USED TO MODEL MARKETS WITH LIMITED DATA

Market modelling with limited data availability

## Data driven model for countries with limited data availability

Countries, for which we don't have data for the top-down or bottom-up approach, are modelled using a regression model which is trained to reproduce the above-mentioned data using different key market indicators (KMIs).

The set of KMIs includes general economic indicators such as the gross domestic product, or the population of a country as well as more eCommerce specific indicators such as internet penetration, traffic development, consumer spendings, or parcels send in a country. The set of KMIs explaining the given historical data the best is used to model revenues for countries and markets for which no data exist.

The KMI data originates from various sources matching a high industry standard. Among these are sources such as

- Industry associations or agencies such as the International Telecommunication Union (ITU) or the Universal Postal Union (UPU)
- International organizations such as the World Bank, the IMF, or the Organization for Economic Co-operation and Development (OECD)

# MARKET FORECASTING BY CONSIDERING HISTORICAL & FUTURE INDICATORS

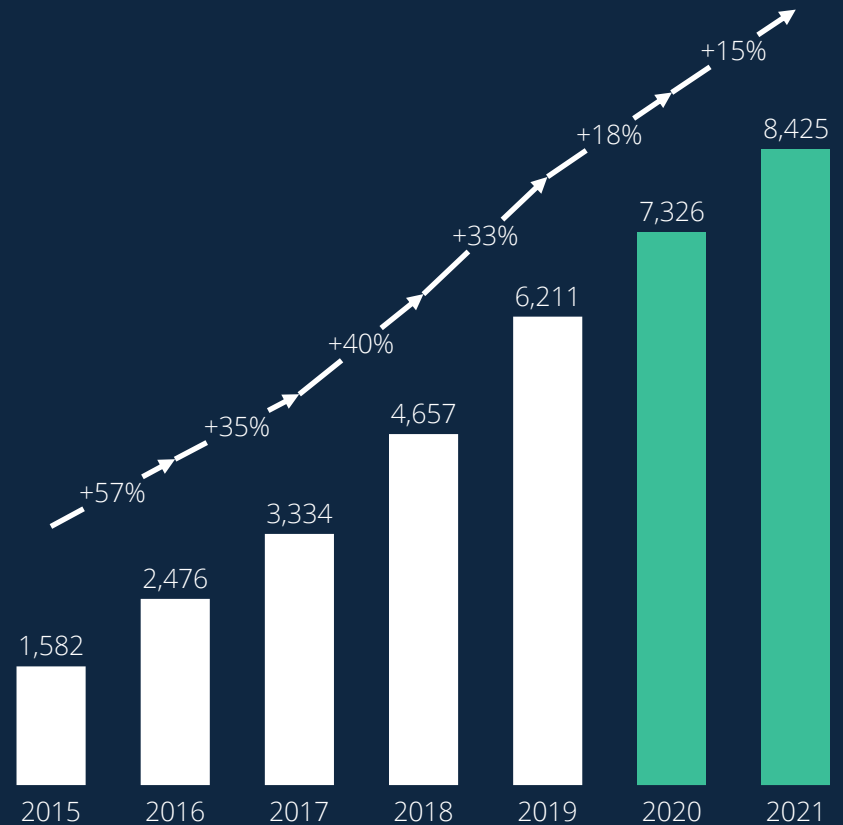
Market forecasting

## Forecast of the total market development.

When it comes to forecasting the development of a country's eCommerce market, we consider a variety of data.

On the one hand, we take the historical development of a market to determine its maturity on an S-curve based lifecycle.

On the other hand, we use a KMI driven regression model to anticipate the future revenue development of a given market in a similar way as described for the data driven model to estimate historical revenue development for countries with limited data availability described above..







# MODELING APPROACH: BENCHMARKS

# ECOMMERCE BENCHMARKS ON MARKET LEVEL


## COMPILE MULTIPLE DATA SOURCES


Modeling approach overview

### Different approaches depending on data availability

Our methodology for deriving eCommerce benchmarks for markets relies on a comprehensive analysis of available data sources and employs different approaches based on the type and availability of data. We begin by gathering data from various reliable sources, including official data from national eCommerce or industry associations, third-party studies, financial statements of individual companies, as well as key market indicators from international organizations.

Once we have collected the necessary data, we employ different methodologies to derive the benchmarks for key eCommerce metrics:

 High data-availability: If data on eCommerce metrics is available for specific countries or product categories, we do plausibility checks and carry out processes to make the data comparable with data from other sources. After this extensive expert evaluation and potential adjustments were made, the data will be used.

 Low data-availability: In cases where data is limited or unavailable, we utilize algorithm-based approaches to estimate eCommerce metrics. By leveraging the eCommerce metrics from comparable countries or product categories as well as key market indicators from international organizations and company-specific data from annual reports or press releases of individual companies, we calculate the eCommerce benchmarks where necessary.

### Underlying data sources

#### Official data

National eCommerce associations/statistical offices

Industry associations

#### Company data

Annual reports and financial statements

Press releases

Secondary sources

#### Studies & third-party data

Compilation of Benchmark data from other sources

#### Key market indicators

E.g., Population, GDP per capita, Price level index, Postal development, Online penetration

From International organizations, e.g., IMF, the World Bank, and OECD

# CONVERSION INSIGHTS: ANALYZING ECOMMERCE FUNNEL KPIS

## Conversion funnel KPIS

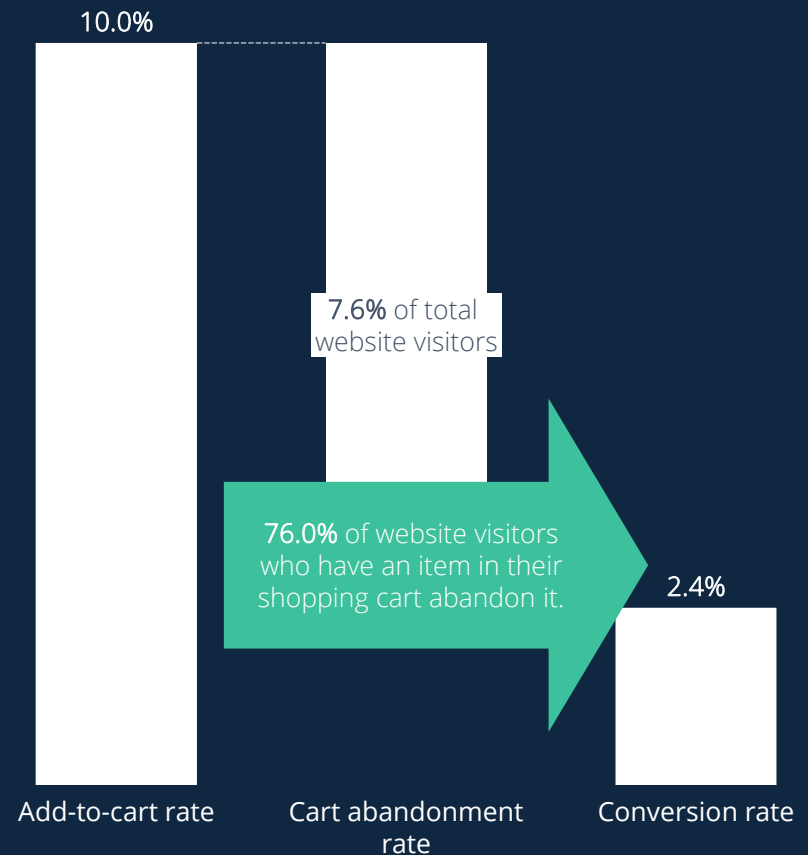
### Overview conversion funnel KPIS

Key performance indicators (KPIs) for the conversion funnel in the global eCommerce market include the add-to-cart rate, the cart abandonment rate, and the conversion rate.

These metrics highlight the path taken by users, beginning with their initial engagement (add-to-cart rate), potential points of improvement in the user experience (cart abandonment rate), and the successful conversion of interest into finalized sales (conversion rate).

#### Definitions:

- Add-to-cart rate: Indicates the proportion of all website visitors adding items to their shopping carts
- Cart abandonment rate: Is calculated by dividing the users who place at least one item in their shopping carts but ultimately do not finalize the purchase by the entirety of all website users.
- Conversion rate: Signifies the proportion of all website visitors who complete a purchase



# TRANSACTIONAL INSIGHTS: UNVEILING ECOMMERCE DYNAMICS THROUGH KPIS

## Transactional KPIS

### Overview Transactional KPIS

The transactional KPIS in the global eCommerce market consist of the average order value (AOV), the discount rate, and the return rate.

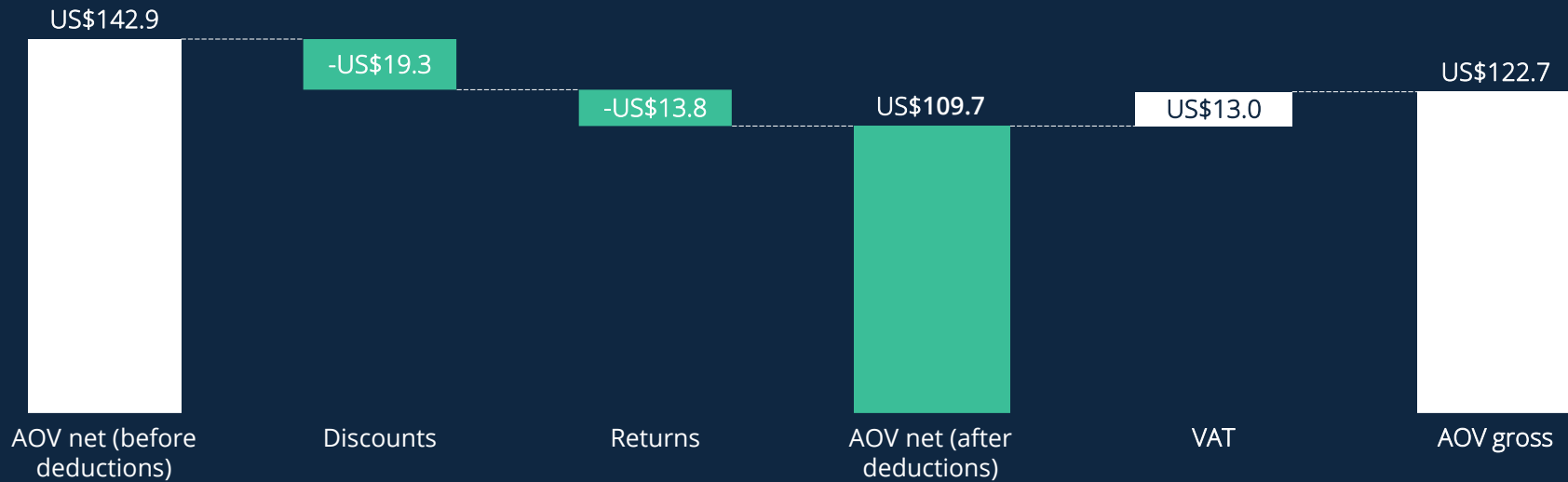
These metrics provide insights into the financial dynamics of the market, revealing typical spending habits (AOV), the influence of strategic pricing through discounts (discount rate), and the market's responsiveness to post-purchase experiences (return rate).

### Definitions:

Average order value (AOV): Measures the average amount of money spent by customers on each order placed. Net after the deduction of Discount and Returns

Discount rate: Shows the percentage by which product prices are reduced

Return rate: Indicates the percentage of revenue returned after purchase



# AOV AND CONVERSION RATE ON STORE LEVEL COMBINE BOTH ACTUAL AND ESTIMATED DATA

Average order value (AOV) & Conversion rate (CVR)

## Actual data as a benchmark

In the first step, we research actual CVR and AOV data from companies' published documents, such as annual reports and financial statements. If a company has reported a CVR or AOV, we assign that value to all of its online stores. For example, the CVR reported by the company Zalando SE is assigned to zalando.de, zalando.pl, zalando.ch, etc.

In addition to the store-specific CVR & AOV, we also use the market averages for countries & categories to build an estimation model for stores where CVR & AOV data is not directly available.

## Estimation based on influencing factors

Using the actual data collected in the first step, we develop an estimation model that considers several potential influencing factors that can affect a store's CVR or AOV. These factors include:

- country and category shares (e.g., conversion rates for food and beverage are higher than those for furniture or homeware);
- shopping method, i.e., via mobile device or desktop computer;
- channels through which shoppers access the online stores: direct access, search, email, referrals, display ads, or social media channels.

The factors are weighted based on their correlations with CVR/AOV. A store's unknown CVR/AOV is then approximated based on the estimation model, using the store's actual data on these influencing factors as input.