

*A Project report*  
*on*

# **Unlocking Insights from E-commerce Data: A Case Study of NewChic.com**

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# 1 Introduction

In the fast-paced digital world of today, e-commerce has emerged as a dominant force, revolutionizing the way consumers shop and businesses operate. This project focuses on harnessing the immense potential of data from NewChic.com (<https://data.world/jfreex/products-catalog-from-newchiccom>), an e-commerce platform specializing in fashion and lifestyle products. NewChic.com represents a prime example of online retail, catering to fashion-forward and style-conscious consumers. As we embark on this data-driven journey, it's imperative to acknowledge the pivotal role that e-commerce platforms play in today's consumer-driven economy. These platforms offer unparalleled convenience, a vast array of products, and personalized shopping experiences. The relevance of this project cannot be overstated. E-commerce platforms generate an abundance of data, encompassing user behavior, preferences, and product performance. Analyzing this data provides actionable insights to guide businesses in making informed decisions. These insights range from understanding consumer tastes and trends to optimizing inventory and marketing strategies. The primary objective of this project is to unlock the power of data for a comprehensive understanding of NewChic.com's user base and product offerings. By analyzing the dataset, we aim to unveil patterns, trends, and relationships that shed light on essential questions. Are certain product categories consistently popular? What factors influence user engagement and conversion rates? How do seasonal variations impact product popularity? It's important to note that the dataset utilized in this project represents a snapshot from August 2020. This snapshot serves as a window into a specific moment in time, providing valuable historical insights. However, it's crucial to recognize that consumer preferences and market dynamics may have evolved since then. Nonetheless, this snapshot serves as a valuable starting point for our analysis.

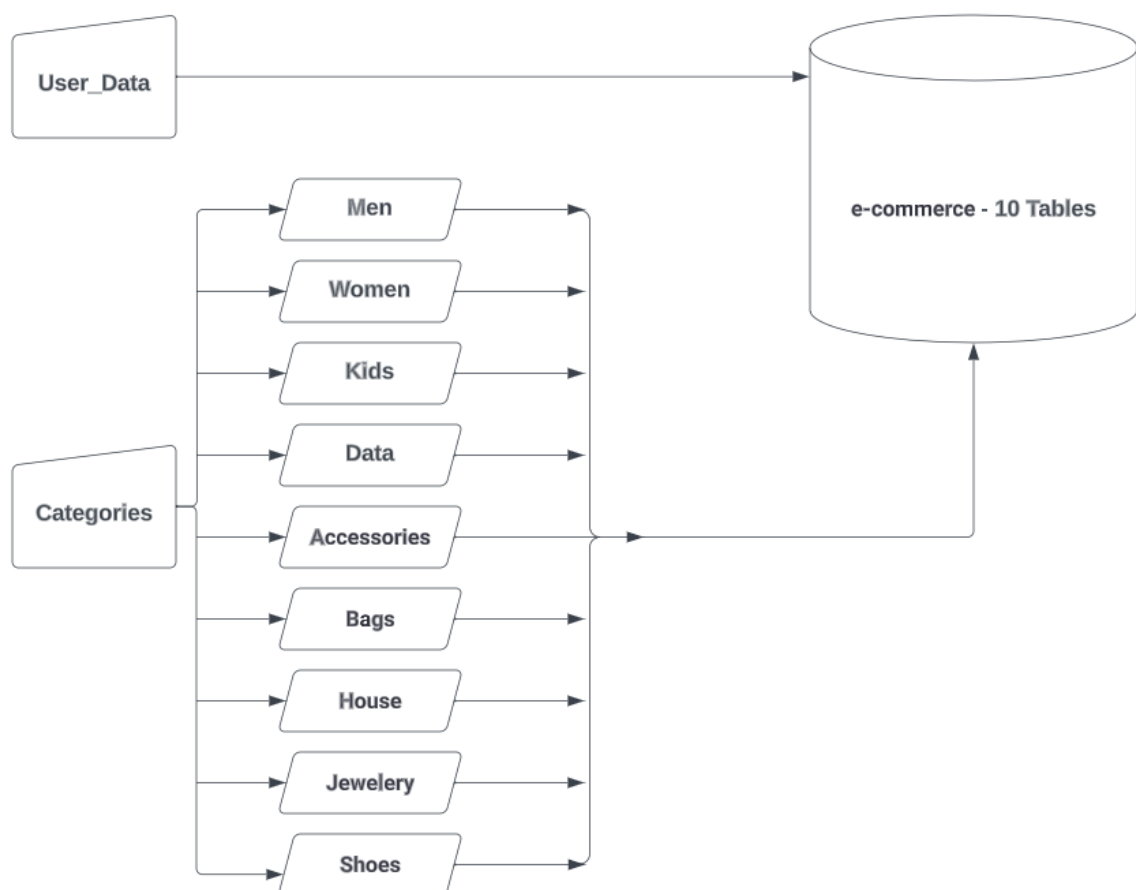
## 2 Article Review

Prior to delving into our analysis of the NewChic.com dataset, it is essential to review the existing body of knowledge and research within the realm of e-commerce. This literature search encompassed a thorough exploration of academic papers, industry reports, and articles related to e-commerce, user behavior, and product popularity. A recurring theme in the existing literature underscores the pivotal role of data in driving e-commerce success. Several studies underscore the significance of comprehending consumer behavior and preferences. For example, research has highlighted that personalized recommendations based on user browsing and purchase history can significantly enhance conversion rates and customer satisfaction. The findings gleaned from these articles are highly pertinent to our project. They emphasize the critical importance of harnessing data to elevate user experiences and drive business growth. Furthermore, these studies offer valuable insights into methodologies and strategies that have thrived within the e-commerce sphere. These insights will inform our analysis and recommendations. While the existing literature forms a

robust foundation, it's crucial to acknowledge that the e-commerce landscape is continually evolving. Consequently, gaps exist in our understanding of emerging trends, particularly within the specific context of NewChic.com. Our project aims to bridge these gaps by analyzing real-world data from the platform, unearthing insights that may not have been previously explored.

### 3 Project Description

This dataset contains a curated collection of records of popular products from the e-commerce website NewChic.com. It includes essential categories such as product category, name, price, discount percentage, number of likes and brands that provide a unique insight into customer tastes and preferences. As well as images to represent the different variations of each product such as color or design that allows users to gain a better understanding when purchasing online. Below is the flow diagram which gives more information about dataset.



Our project's objectives encompass a multifaceted approach. First and foremost, we aspire to pinpoint and dissect the performance of various product categories on NewChic.com. This entails discerning which products consistently capture user attention and foster engagement. Secondly, we seek to delve into user behavior, unraveling the factors that influence conversion rates and user satisfaction. Lastly, we intend to investigate how seasonal fluctuations impact product popularity, enabling us to devise effective marketing and inventory strategies. In defining the scope of our research, we acknowledge the vastness of the e-commerce terrain. To render our analysis manageable and actionable, we will focus on a specific timeframe, namely August 2020. This window enables us to capture a snapshot of user behavior and product popularity while recognizing the potential evolution of these dynamics over time. Furthermore, we will explore a representative sample of product categories to attain a holistic view of NewChic.com's offerings. Our research questions serve as the compass guiding our analysis.

These questions encompass:

Identification of the top-performing product categories on NewChic.com in August 2020.

Exploration of the correlations between user behaviors, such as clicks and time spent on product pages, and conversion rates.

Examination of discernible seasonal patterns in product popularity on the platform, and the formulation of strategies to leverage this information.

To answer these questions, we will employ a fusion of data analysis techniques. This includes meticulous data preprocessing to ensure data quality and consistency. Statistical analysis will be deployed to unveil trends and correlations within the dataset. Additionally, data visualization techniques will be harnessed to effectively present our findings.

## 4 Implementation Details:

**Data Acquisition:** Elaborating on the data acquisition process, we will elucidate how we sourced the dataset. This entails explanations regarding whether we scraped the data from the website, accessed it via an API, or received it directly from a provider.

**Tools and Software:** A comprehensive insight into the tools and software employed for data analysis will be provided. This entails listing the specific tools, such as Python, R, Excel, or specialized data analysis libraries, which facilitated our analysis.

**Data Preprocessing:** A detailed account of data preprocessing steps will be offered. This may encompass data cleaning procedures, strategies to handle missing values, and techniques deployed to standardize data for uniformity.

**Custom Code/Algorithms:** If custom code or algorithms were developed, we will provide an overview of their functionalities and elucidate how they seamlessly integrate into our analysis pipeline.

Below is the flow diagram which gives the steps to follow



## 5 Expected Outcome:

**Anticipated Results:** Within this section, we will engage in an in-depth discussion of the anticipated results and insights stemming from our analysis. These may encompass the identification of popular product categories, the delineation of seasonal trends, and the unveiling of correlations between user behaviors and conversion rates.

**Metrics/KPIs:** Specific metrics and key performance indicators (KPIs) utilized to gauge the success of our analysis will be duly specified. These metrics serve as barometers to measure the extent to which our project's objectives have been met.

**Implications:** Finally, we will explore the broader implications of our findings. This entails a comprehensive examination of how our research stands to benefit businesses and researchers operating within the e-commerce domain. Potential impacts on user experiences, marketing strategies, and overall business strategies will be elucidated.

In conclusion, this project embarks on an exciting journey into the intricate world of e-commerce data analysis. By harnessing the NewChic.com dataset and drawing inspiration from insights gleaned from existing literature, our aim is to cast light on user behavior and product popularity within the platform. Our findings possess the potential not only to enrich NewChic.com's operations but also to contribute to a deeper understanding of e-commerce dynamics within an ever-evolving digital landscape.

