



2025 | RIZKY HABIBIE

# E-commerce Customer Behaviour Data Analysis



I N T R O

# E-Commerce Customer Behaviour

A Dataset from Kaggle. This dataset contains detailed information about customer interactions on an e-commerce platform, making it ideal for building propensity models, session-based analytics, and consumer behavior analysis.



## M E T H O D O L O G Y

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### Kaggle

E-Commerce Customer Behaviour  
data downloaded from Kaggle

2

### Data Understanding

Understanding the current data

3

### Data Cleaning

Cleaning the data by separating the  
data from missing value

4

### Data Transformation

Transforming the data to provide a  
easy access for PBI

5

### EDA

Investigate more the pattern of the  
data

6

### Visualization by Power BI

Visualize the data, reporting and  
recommending the business



## Understand the Data

- 05 Founding story
- 06 Mission
- 07 Values

## Getting started

- 09 How we work together
- 10 The Splum® methodology
- 11 How we executed our roadmap
- 12 How we keep each other informed

## Benefits

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- 17 How we handle sick days

## Around the office

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- 20 Coffee machine usage

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- 23 Climate
- 24 Points of interest

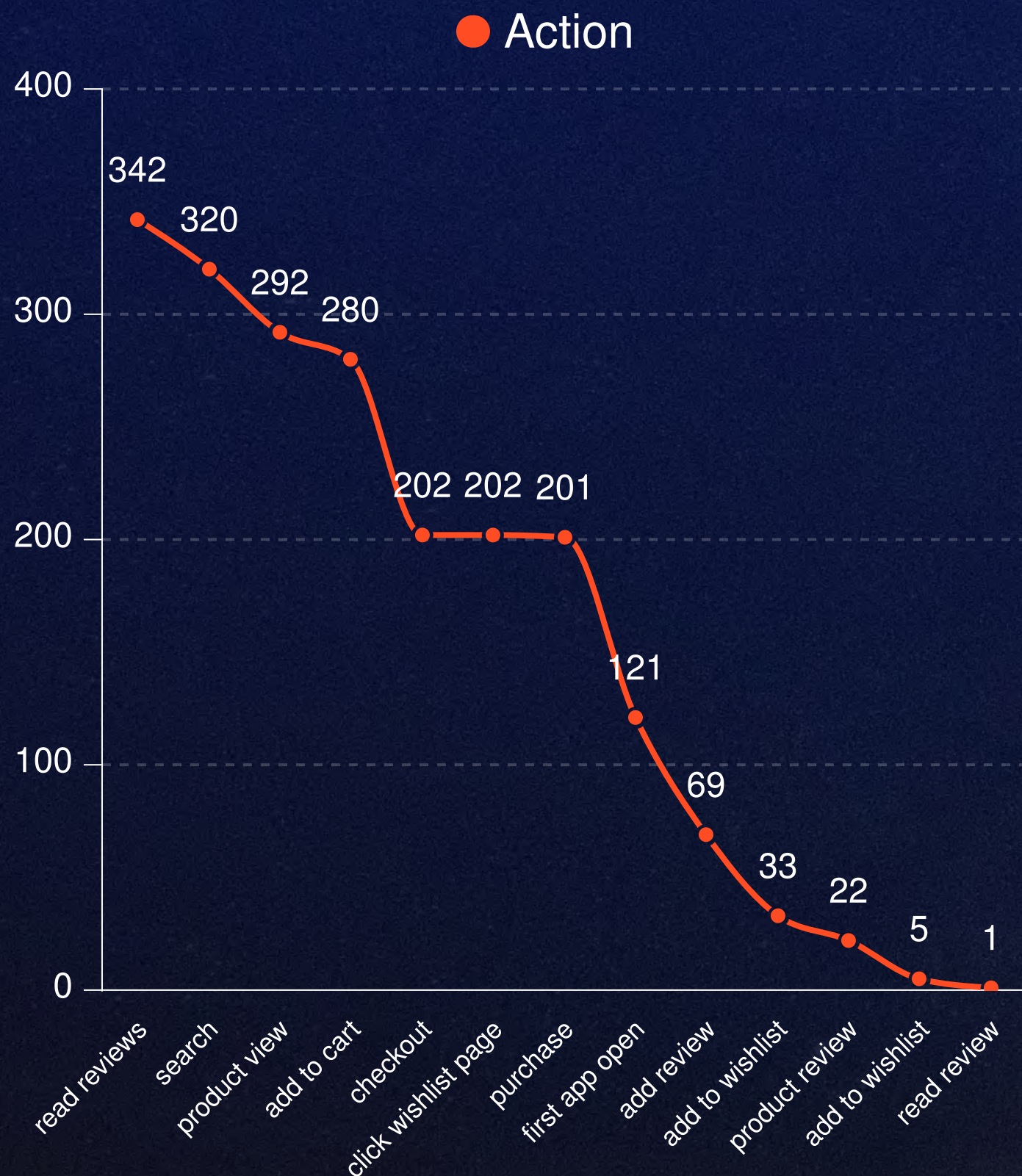


SECTION 01

# Understand the data a bit further...

Because it's a bit unique, I swear...





## The Data

Consist with 9 columns :

User\_id, Session\_id, DateTime, Category, SubCategory, Action, Quantity, Rate, and Total Price.

- Rows: **2,090** • Columns: **9** • Unique users: **401**
- Time ends on: **2019-12-22**
- Missing cells: ~**90%**
- Three value columns are often missing: **Quantity, Rate, Total Price**

So, yes. The missing value is so big. >90%

## What will u see next

- **Event:** one activity row (timestamped). Might be a visit/view/click/etc.
- **Purchase row:** an event with Quantity + Rate + Total Price present
- **Converter (user-level):** a user with  $\geq 1$  purchase row
- **Non-converter (user-level):** a user with **0** purchase rows



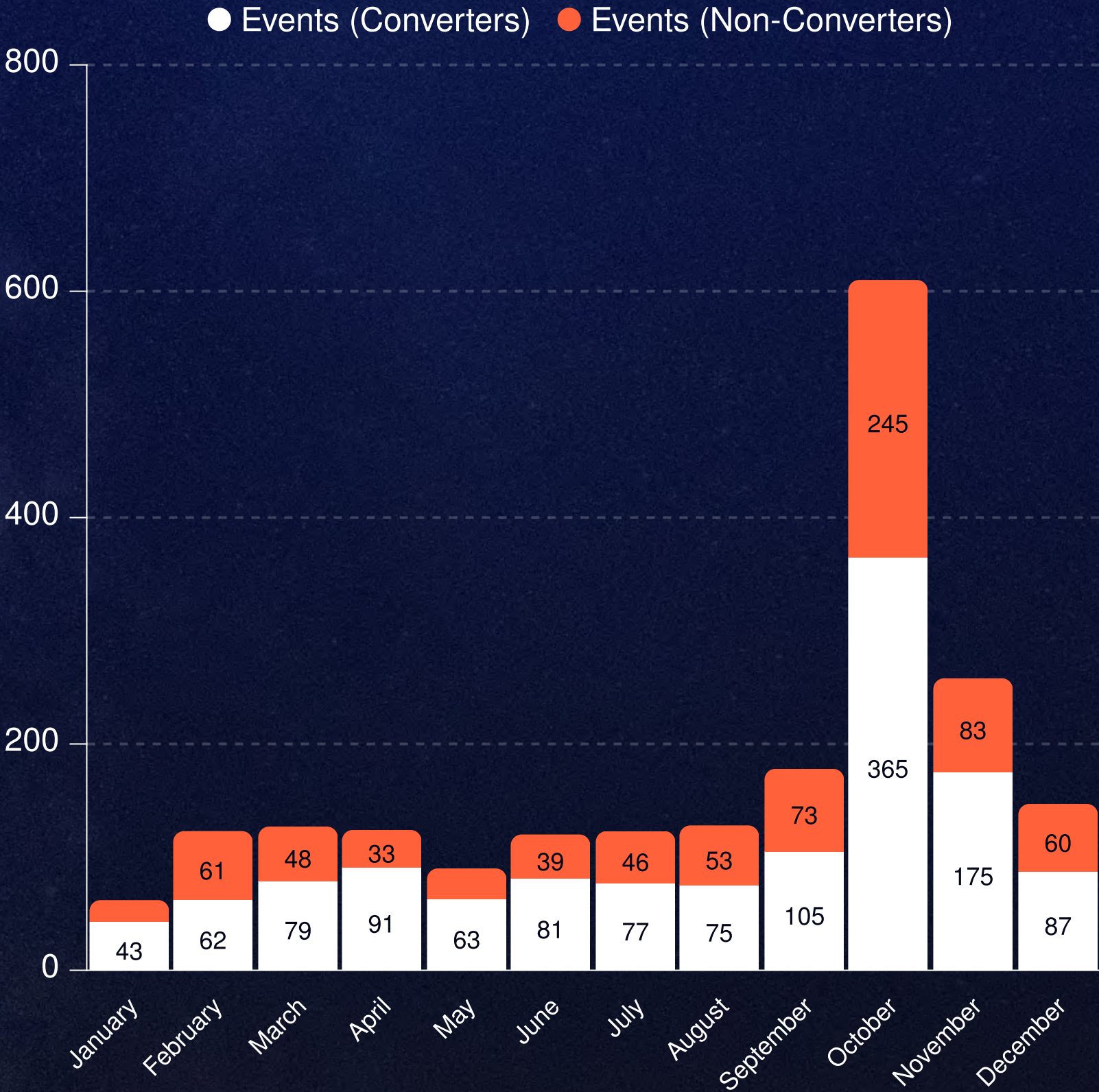
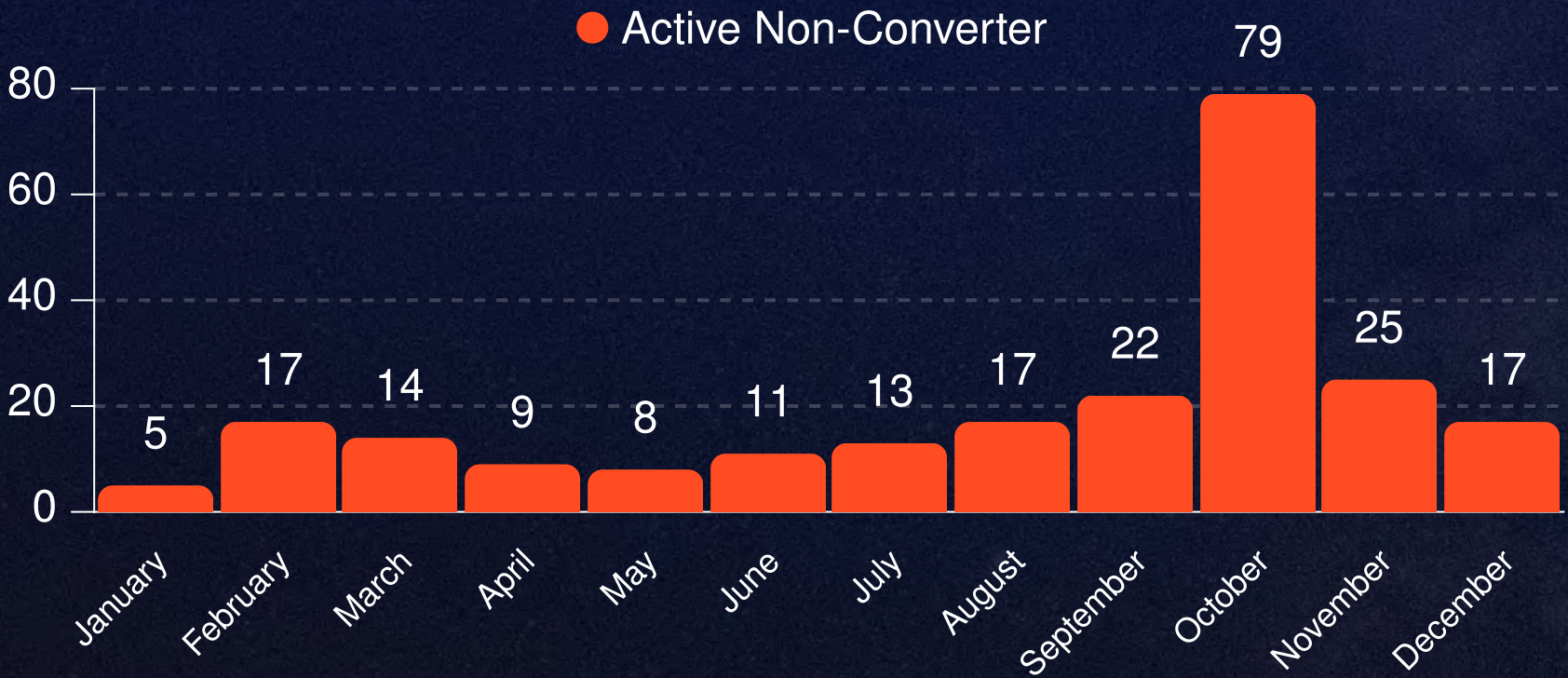
SECTION 02

# Customer Behaviour & Engagement



# When do we peak—and who's not converting?

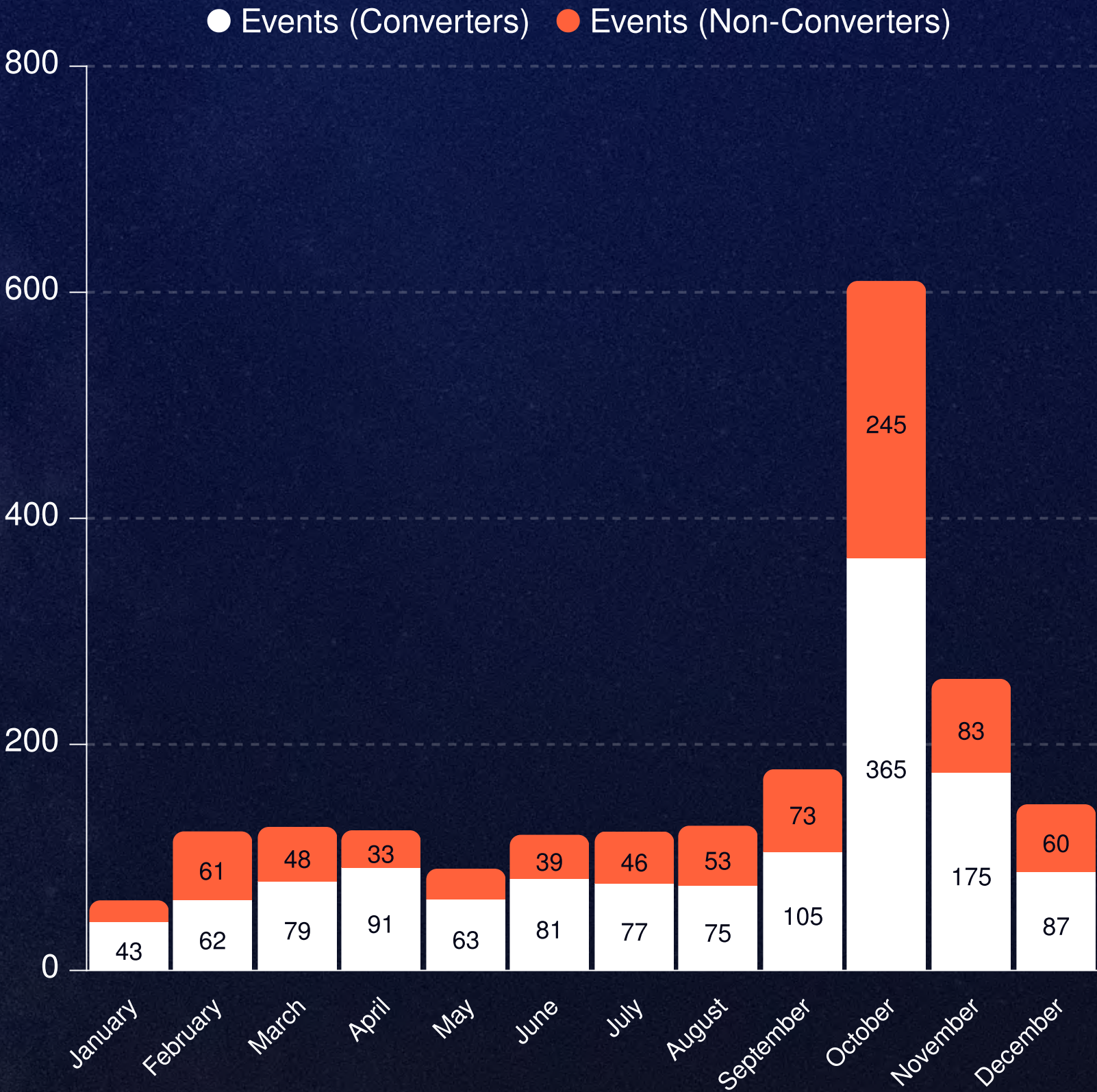
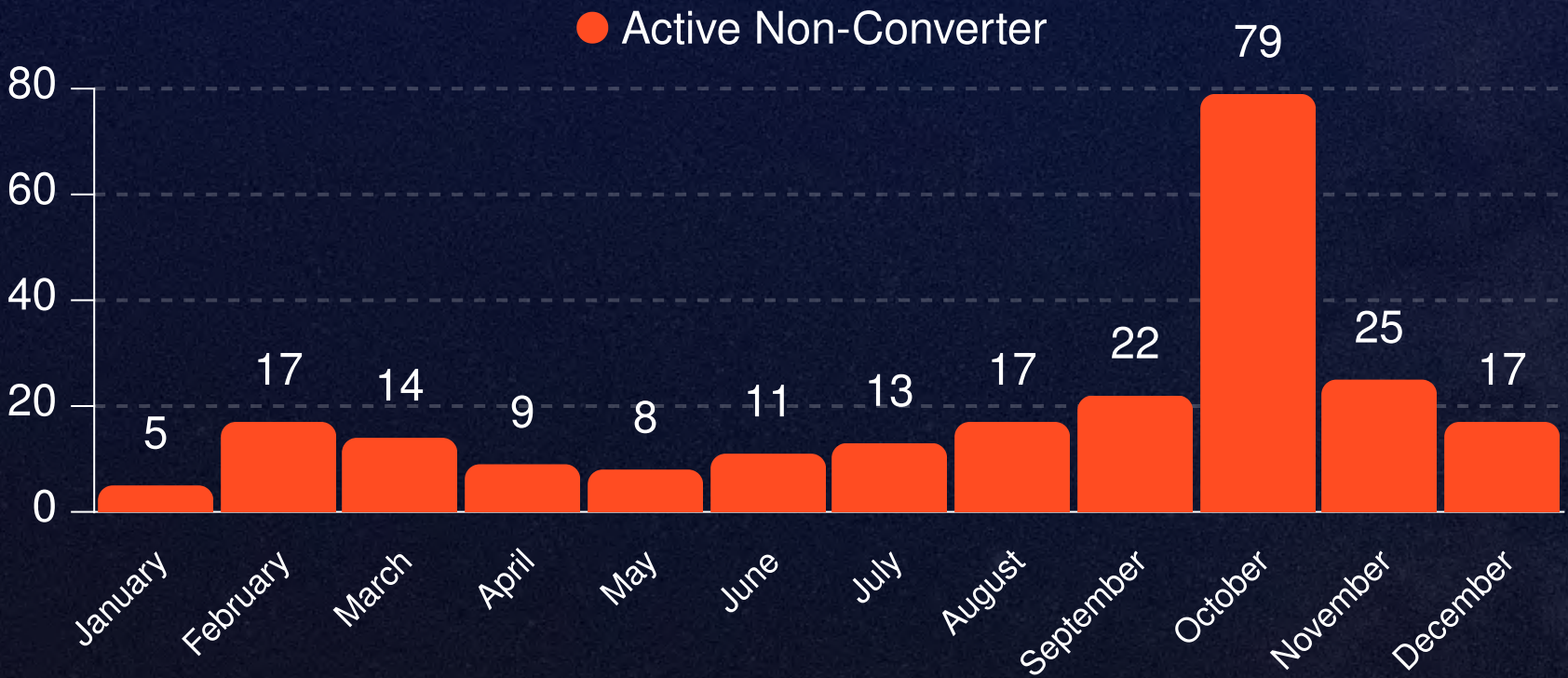
- Count of **distinct never-purchased users** who showed up.
- **October spike** = many new/non-buyer visitors—big conversion opportunity.
- **Total actions** each month, split by buyer type.
- Non-converters (orange) contribute a large share of **Q4 traffic**, especially **Oct.**





# Recommendations

- **Pre-peak (Sep–Oct):** first-purchase offers and guided flows for new visitors.
- **Peak hours/days:** schedule nudges at known windows (Mon, 13–15 & 19–21).
- **Friction check:** simplify checkout / guest purchase to capture Oct surge.
- **Remarket non-converters:** follow up within 7–14 days after their visit.





SECTION 03

# Purchase Dynamics & Demand

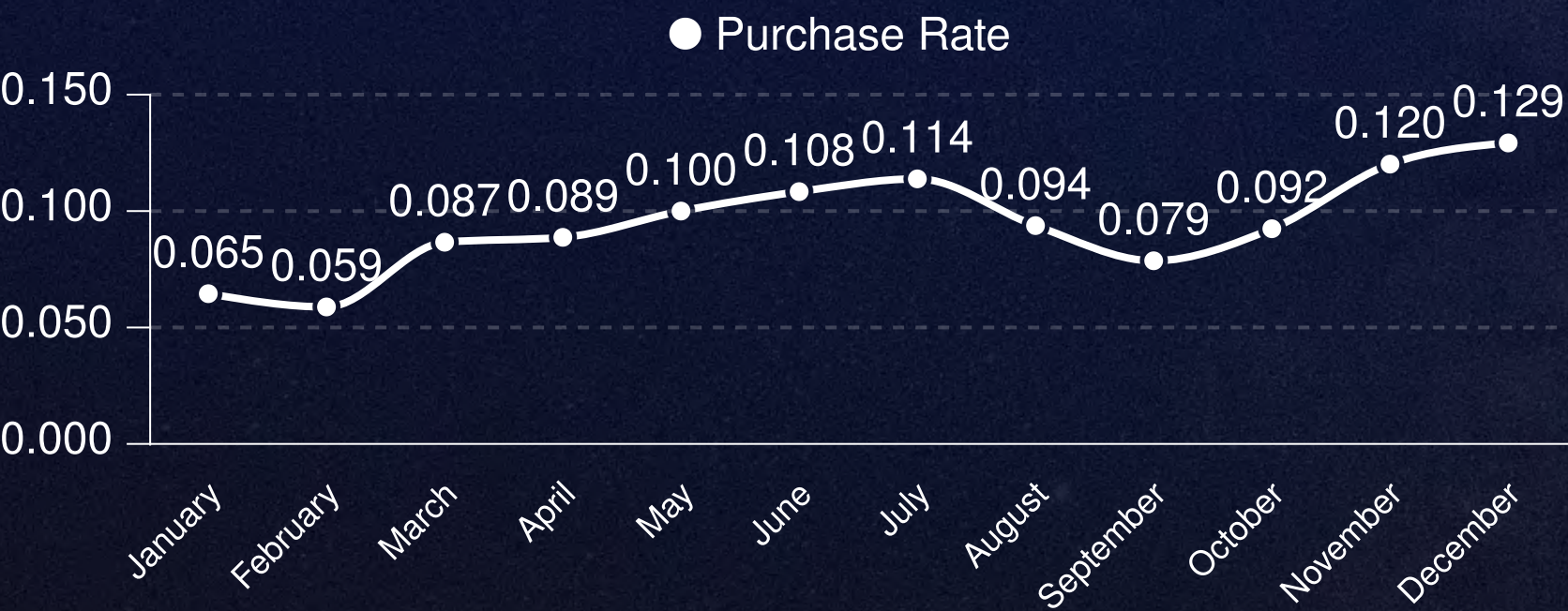
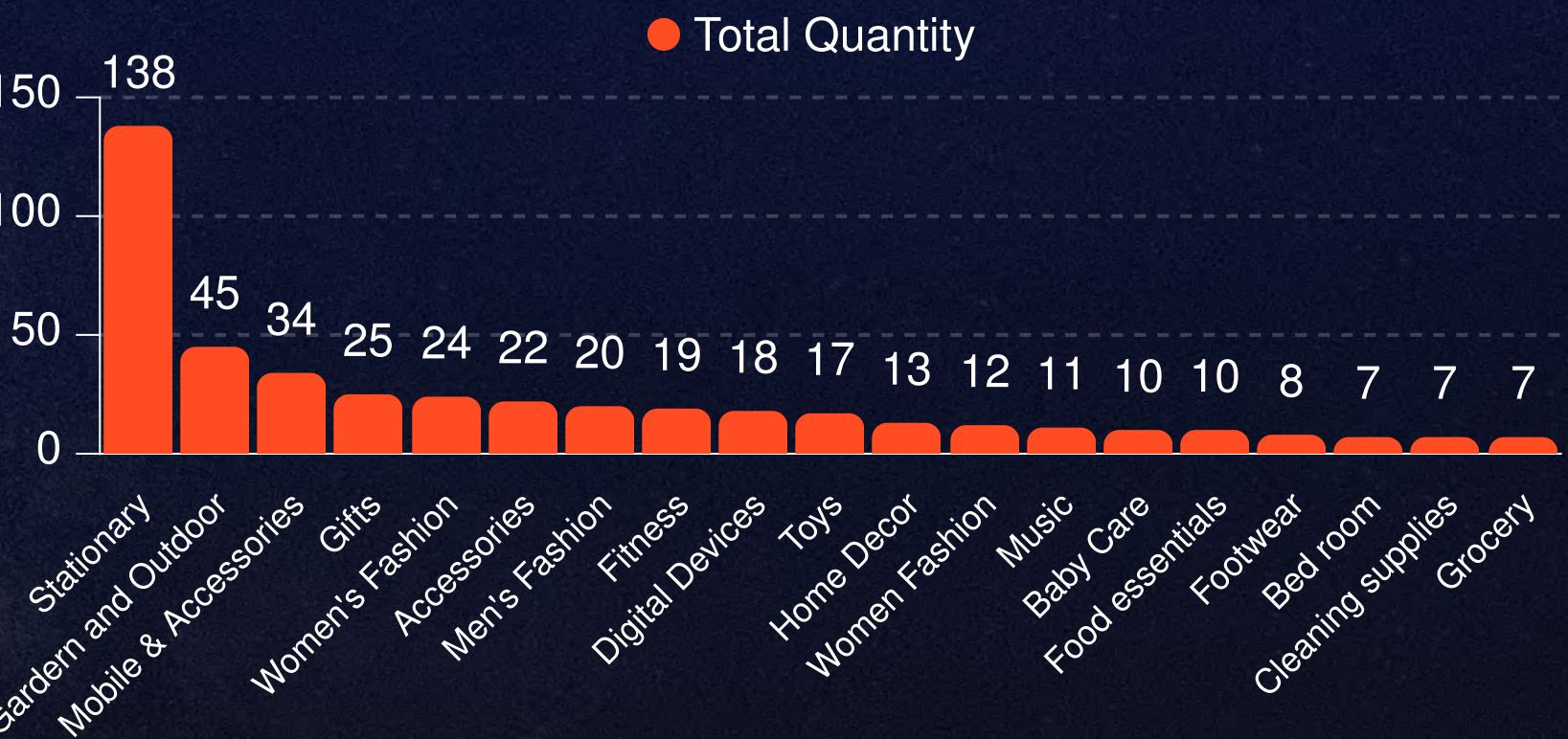
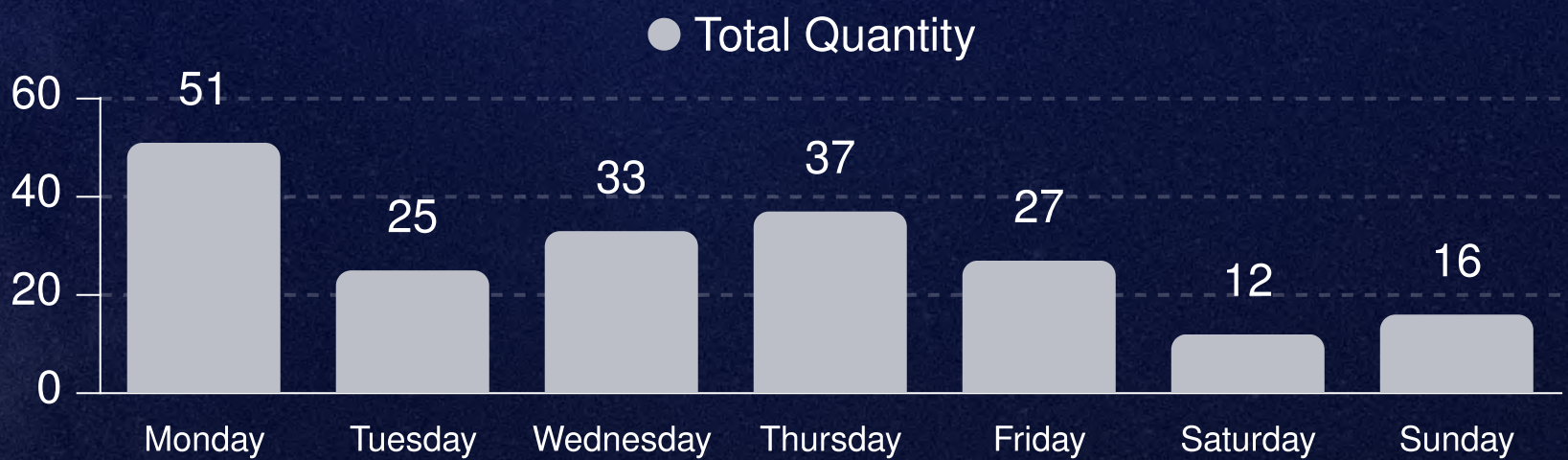
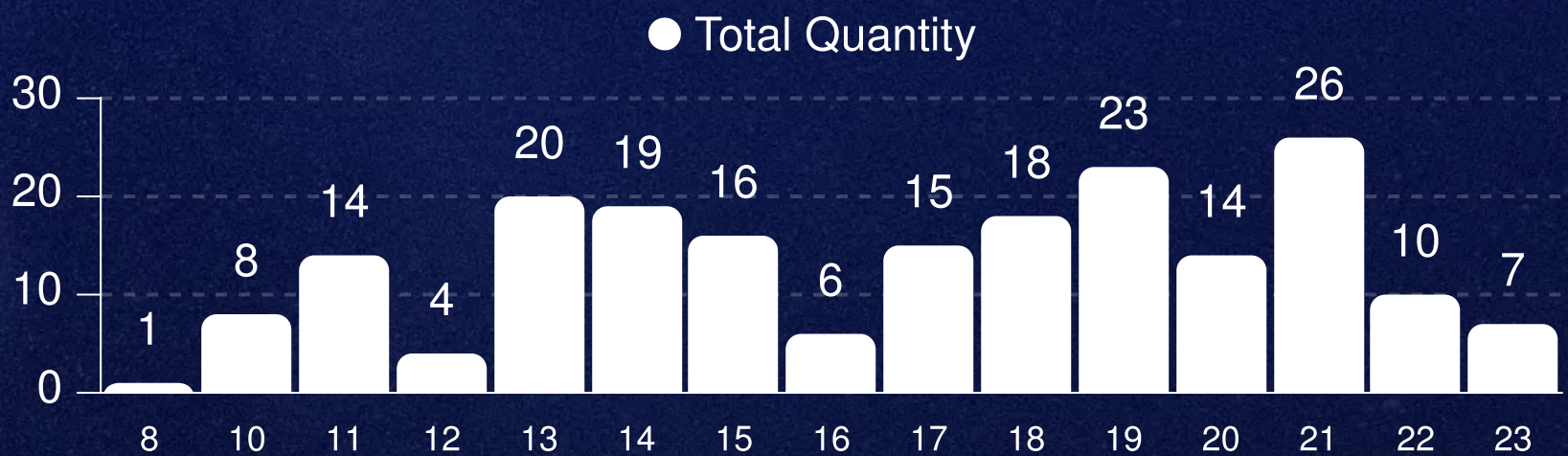


# What sells—and when do people actually buy?

- **Purchase probability** climbs into **Q4**, peaking **Nov–Dec**.
- Purchases concentrate on **Mondays** and **evenings (19–21h)**.
- **Demand mix**: a handful of subcategories drive most quantity.

## Recommendations

- Schedule promos in **peak months & hours**; align ads/push to Mon/evenings.
- **Feature top sellers** on the homepage; guard against stock-outs.
- Run **first-purchase offers in Oct** to convert the traffic surge into buyers.





# The end

For further questions:

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