French bakery sales (2021-2022)

Personal data analysis project

MySQL + Tableau + Python

1. **Description**

The dataset contains major information regarding sales of various types of pastry of one French bakery shop, including date, time, product name, quantity, price per unit;
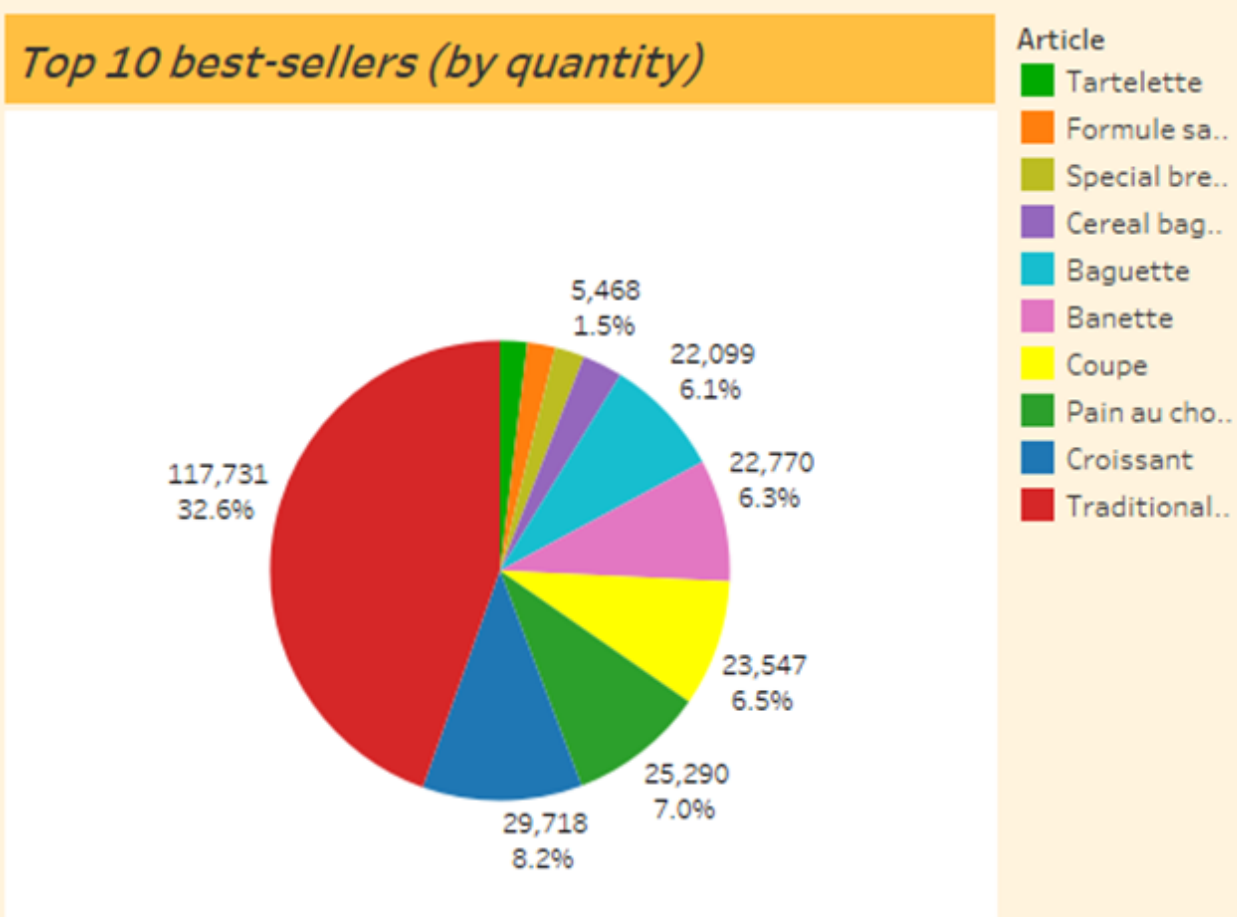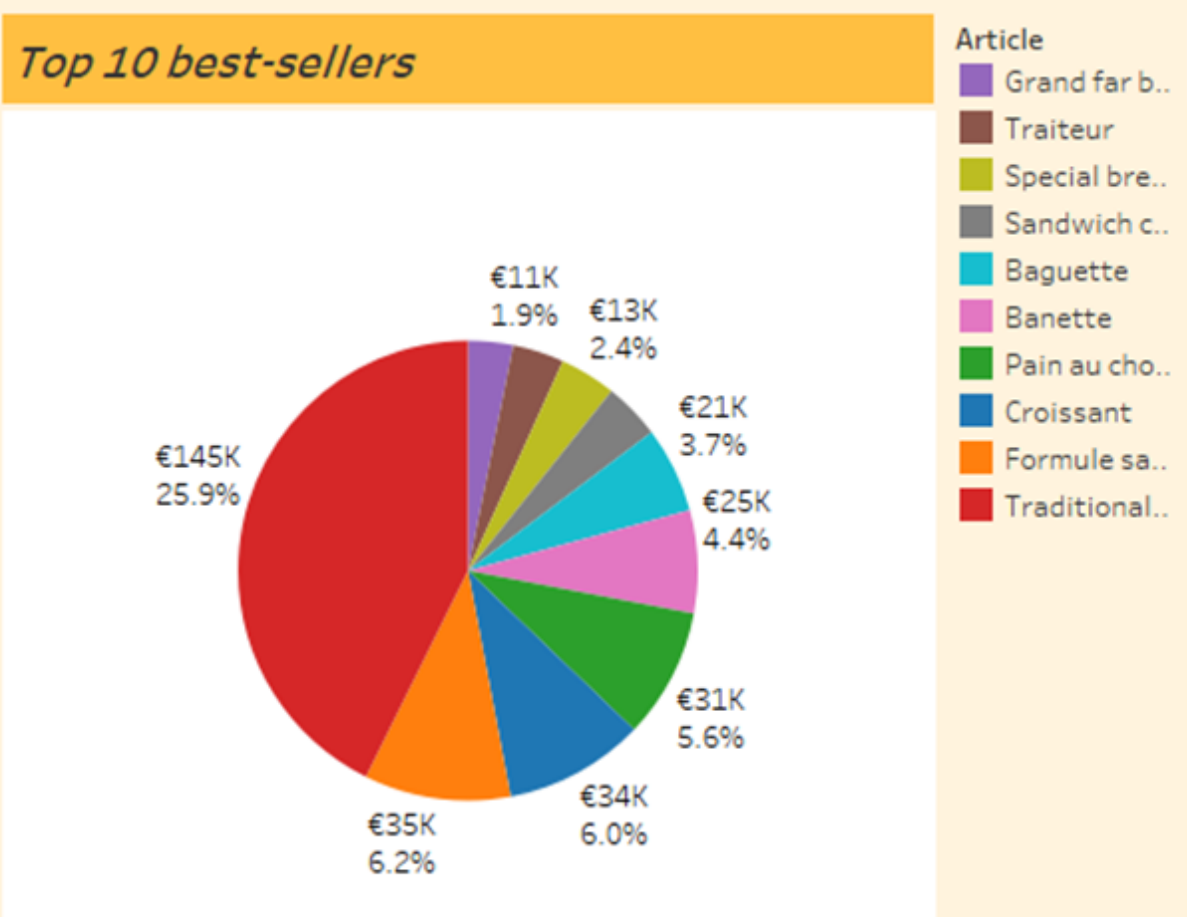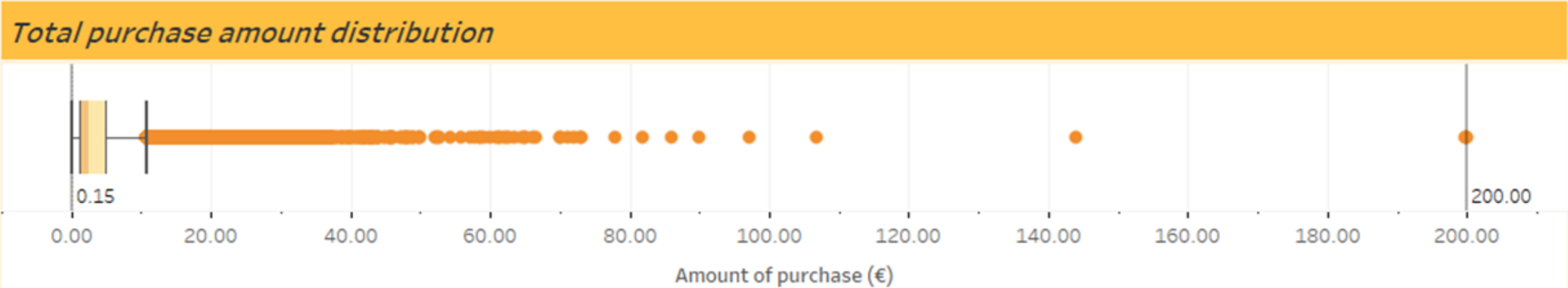
2. **Objectives**

1. **Upload** the raw data on **MySQL** server using **Python**;*
2. Perform data **normalisation**, quantify **additional information**, if necessary;**
3. **Visualise** the data using **Tableau**.

*Python script for uploading raw data on MySQL server;
**MySQL data processing script

General information

Clear income		Total income		Total refund		Total customers		Total refunds
€560,432.95	=	€563,612.75	+	-€3,179.80	|	135,841 people	|	622 people

Total purchase amount distribution

Total purchase amount distribution (without outliers)

Top 10 best-sellers

Article
- Grand far b..
- Traiteur
- Special bre..
- Sandwich c..
- Baguette
- Banette
- Pain au cho..
- Croissant
- Formule sa..
- Traditional..

Top 10 best-sellers (by quantity)

Article
- Tartelette
- Formule sa..
- Special bre..
- Cereal bag..
- Baguette
- Banette
- Coupe
- Pain au cho..
- Croissant
- Traditional..

- **Total income** : €560.5k
  Total refunds: €3k
- Purchase **range**:
  €0.15 - €200
  IQR: €1.3 - €5.1
  Median: €2.55
  Mean: €4.15
- **Top sold** products:
  1. Traditional Baguette: 25%
  2. Formule sandwich: 6.2%
  3. Croissant: 6.0%

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- **Top sold** products (**by quantity**):
  1. Traditional Baguette: 32.6%
  2. Croissant: 8.2%
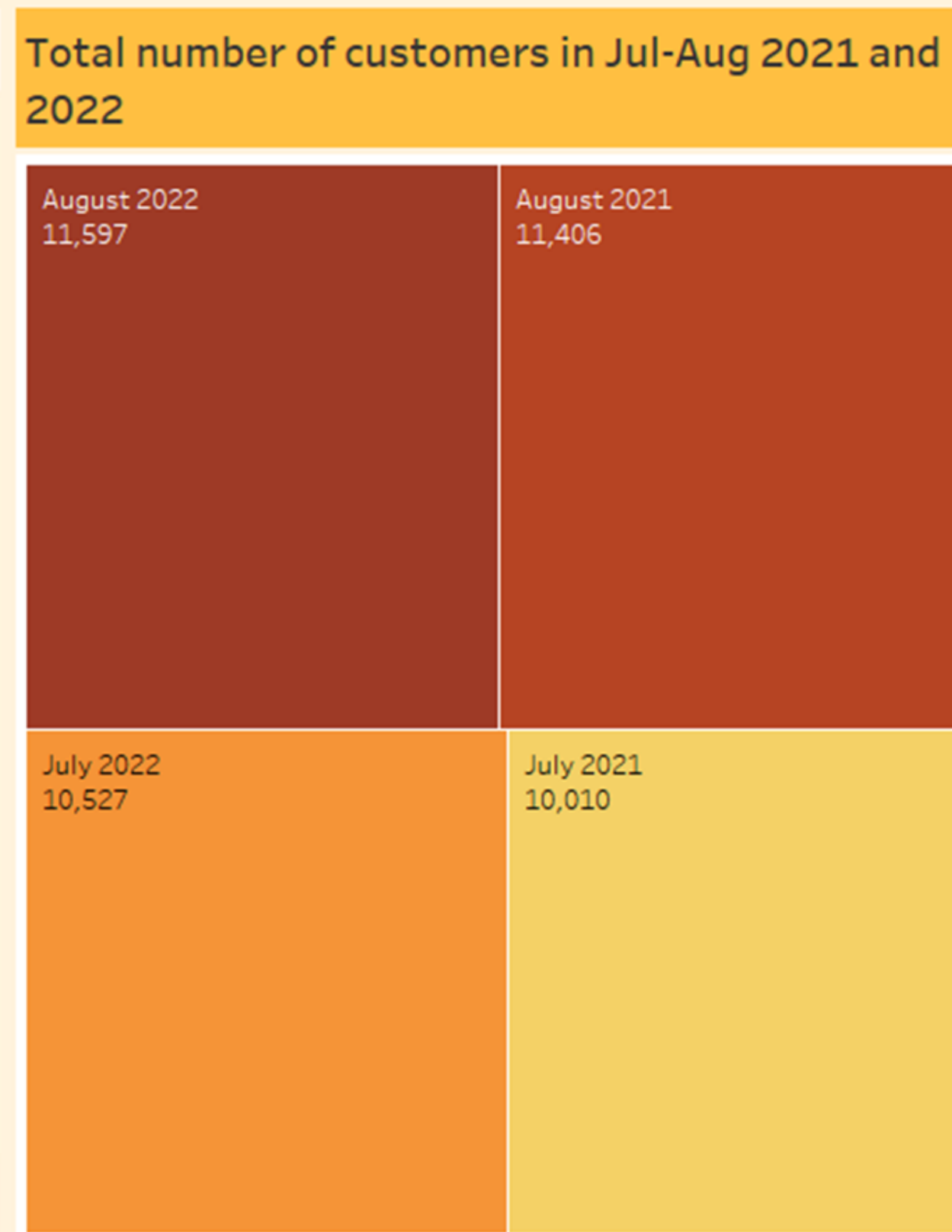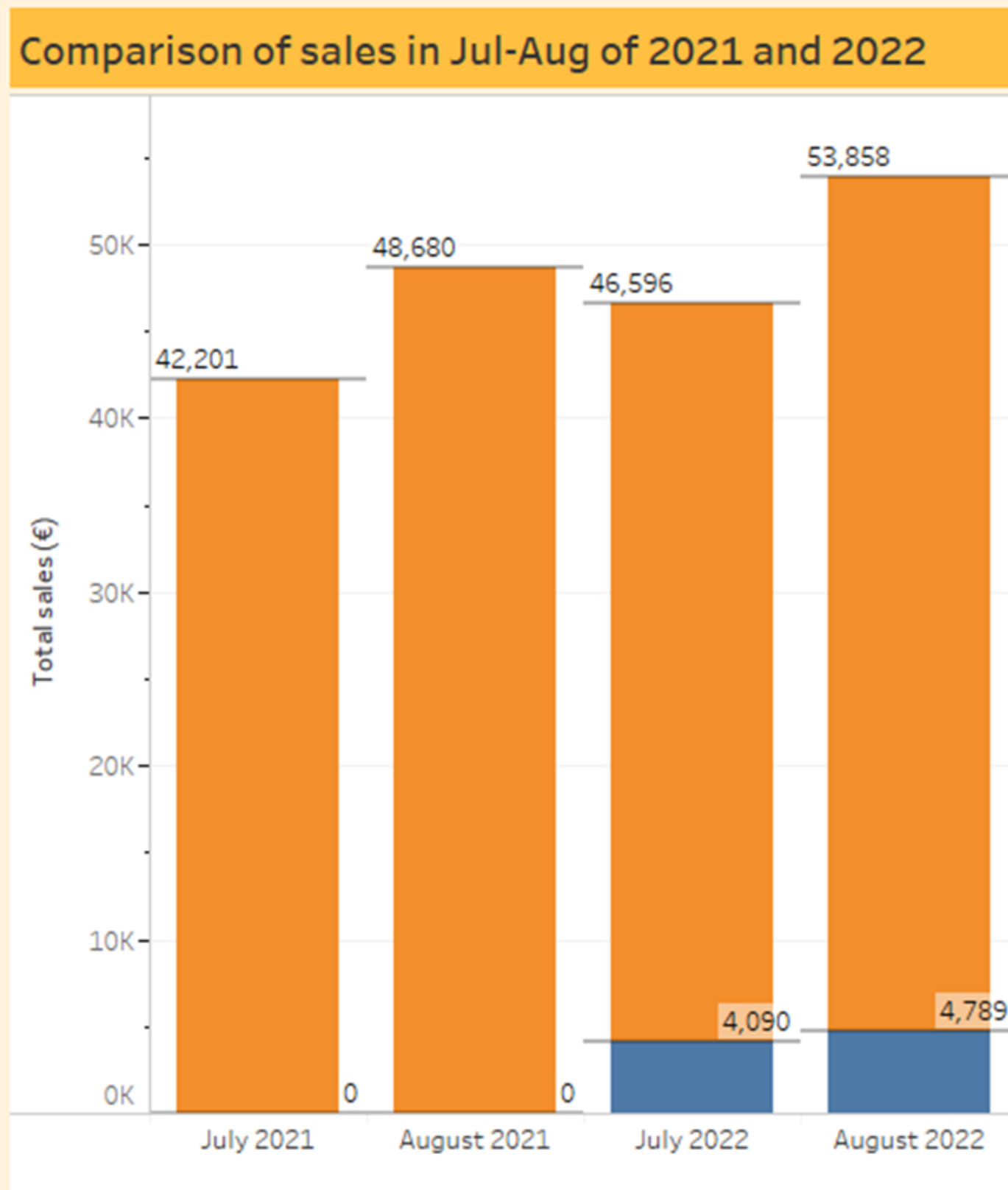 3. Pain au chocolat: 7.0%

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Observations on different time scales
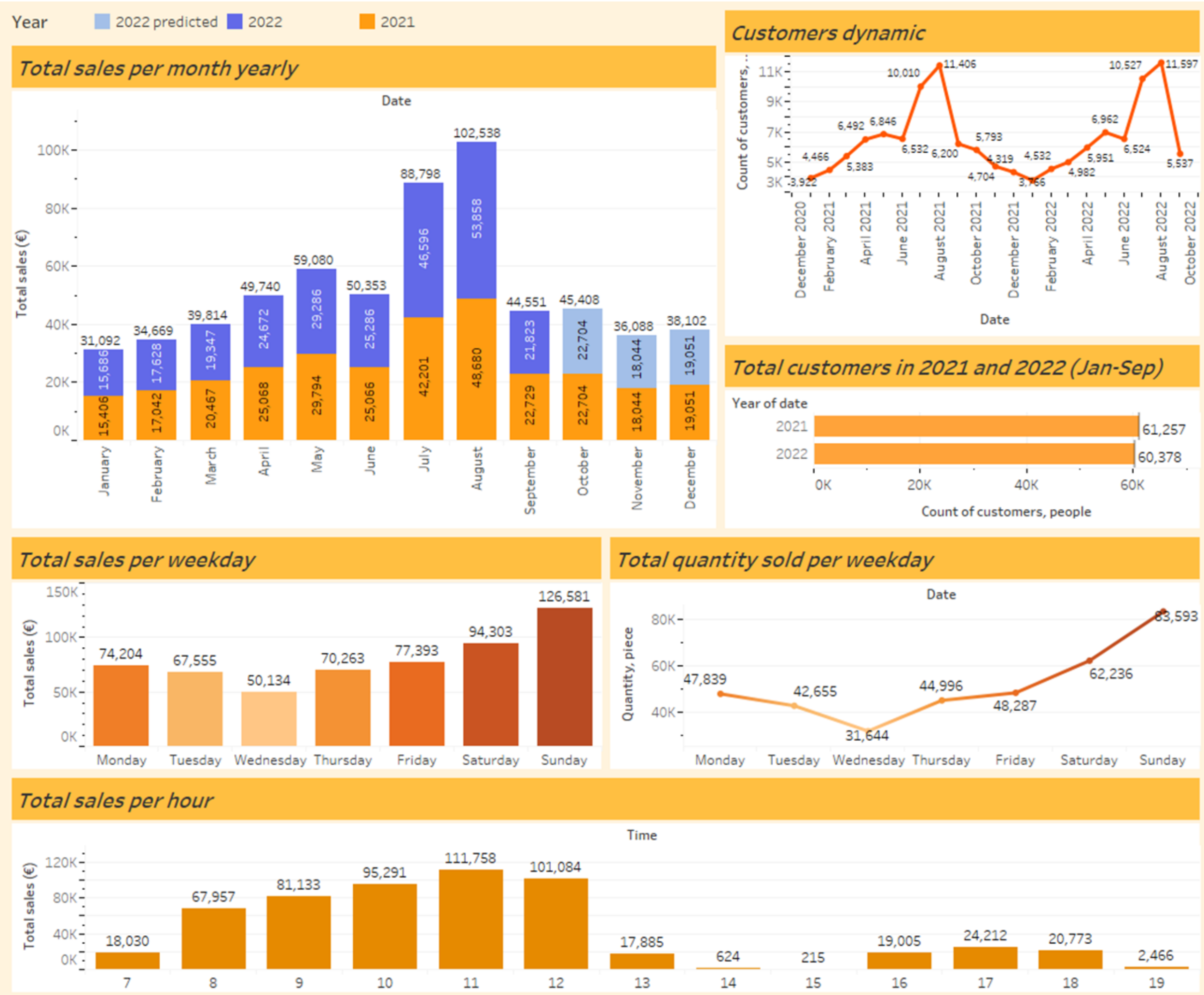
- **Monthly** trend of both **sales** and **customers number**:
  - *Jan-Jun*: gradual growth
  - *Jul-Aug*: drastic spike
  - *Sep-Dec*: decline, stagnation
- **Weekday** trend of sales - parabolic :
  - *Mon-Wed*: gradual decline
  - *Thu-Sat*: continuous rise
  - *Sun&Sat*: highest sales
- **Hourly** trend:
  - *7-11*: continuous growth
  - *10-12*: hot hours
  - *13-19*: drastic drop (>3 times)

Sales composition comparison

Comparison of sales in Jul-Aug of 2021 and 2022

- Total sales (€)
  - 42,201 — July 2021
  - 48,680 — August 2021
  - 46,596 — July 2022
  - 53,858 — August 2022
  - 0 — July 2021
  - 0 — August 2021
  - 4,090 — July 2022
  - 4,789 — August 2022

Earning type
- Difference between 2022 and 2021 prices
- Total sales with default prices

Total number of customers in Jul-Aug 2021 and 2022

- August 2022: 11,597
- August 2021: 11,406
- July 2022: 10,527
- July 2021: 10,010

Count of customers
10,010 — 11,597

- **July** and **August** account for the **largest amount of total sales**;

- Total sales **increased** in **2022**, but the **number of customers did not change** significantly

- There had been a prise rise in 2022

- Due to the **price rise** the shop **increased** total sales by about **€9k** in **July** and **August**