



VS Electronics

Electronics Market

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E-Commerce

Overview of e-Commerce business model
Existing competitors

Database

Design of new RDBMS database
Advantages of a RDBMS database versus
Excel spreadsheet

Dashboard

Introduction to Tableau
View of Tableau dashboard



EDA

Overview of current data as supplied by VSE
Improvements to data collection

KPIs

Selection of possible KPIs and their benefits

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E-Commerce Business Model

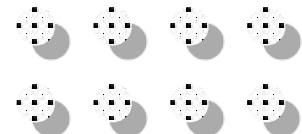
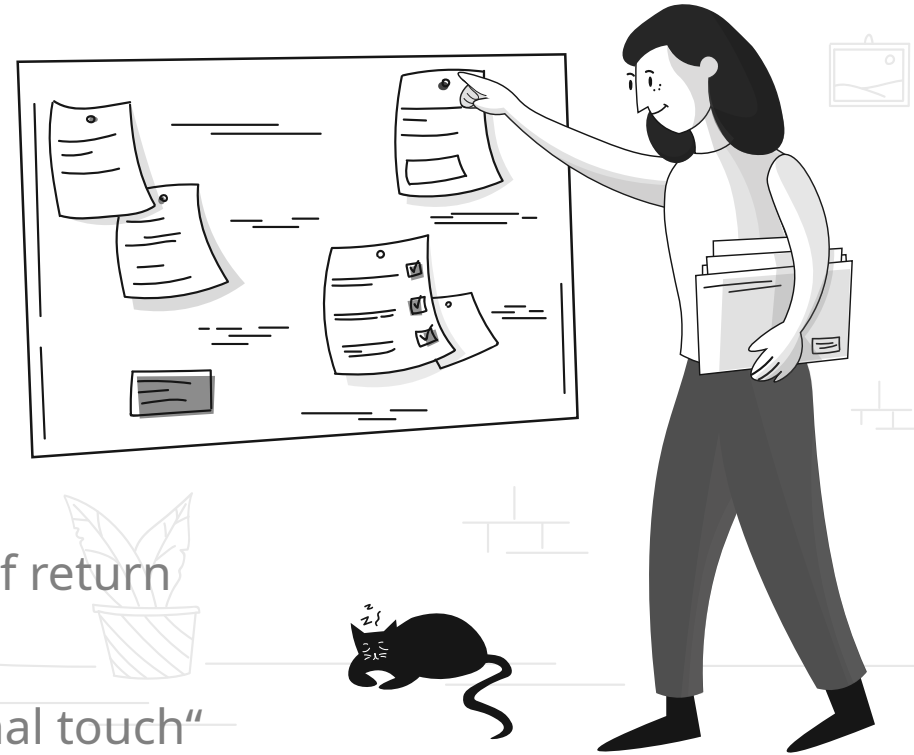
- Consumers shop and pay online
- 2 categories:
 - Based on types of goods sold
 - Based on the nature of the participants (B2B, B2C, C2B, C2C)

Benefits

- International
- Less overhead
- More consumers in less time
- Comparison shopping

Drawbacks

- High rate of return
- Security
- No „personal touch“



Top 3 Competitors in Germany overall



amazon.de

- \$20 000 million
- All revenue from e-commerce
 - Nearly everything
 - Online only



otto.de

- \$5 000 million
- 100 online shops
 - => 74% of all revenue
- Fashion, lifestyle, electronics
- Online and brick-and-mortar stores



zalando.de

- \$2 500 million
- Nearly all revenue from e-commerce
- Shoes, fashion, cosmetics
- Online and few outlet stores

Top 4 Competitors in Electronics in Germany



amazon.de

- \$5 360 million
- All revenue from e-commerce
- Nearly everything
 - Online only



apple.com

- \$945 million
- Electronics, software, online services
- Online and brick-and-mortar stores



otto.de

- \$945 million
- 100 online shops => 74% of all revenue
- Fashion, lifestyle, electronics
- Online and brick-and-mortar stores



mediamarkt.de

- \$779 million
- Same holding as Saturn
 - Electronics
- Online and brick-and-mortar stores





EDA



- December 2018 (first 3 weeks) – December 2019 (first week)
 - 554 417 records
 - 5 work sheets
 - 4188 distinct products
 - 6 product categories
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EDA





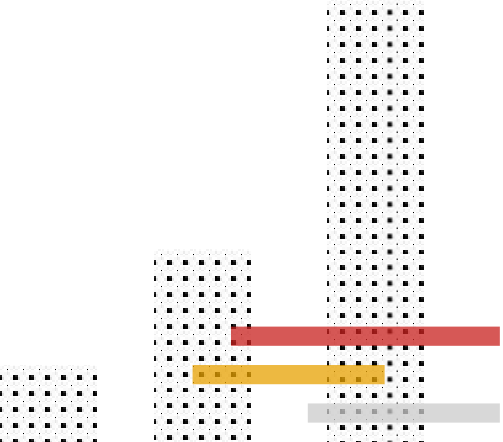
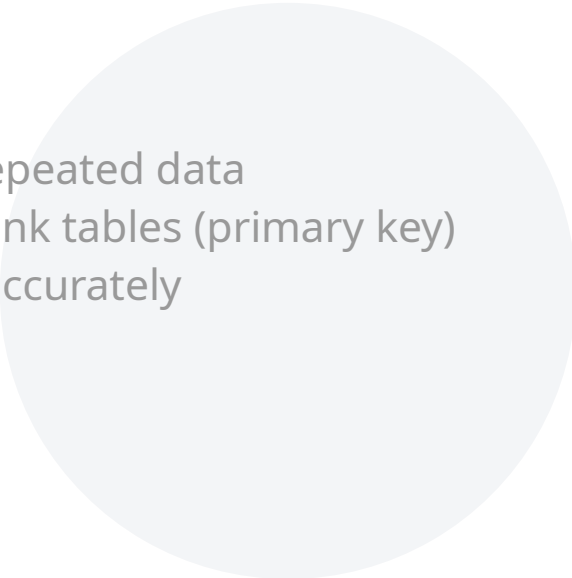
EDA



- December 2018 (first 3 weeks) – December 2019 (first week)
- 554 417 records
- 5 work sheets
- 4188 distinct products
- 6 product categories
- 1 stock code + 2 ASINs
- Unrecorded customer IDs
- Invoice not-timestamp
- Organisation of products



Database Design



Subject-based tables
Eliminate redundant / repeated data
Provide information to link tables (primary key)
Ensure data is entered accurately

products	
ASIN	varchar
StockCode	varchar
title	varchar
product_type	varchar
price	float
rating	float
review_count	int
ASIN, StockCode, product_type	

stock	
StockCode	varchar

invoice_product	
InvoiceNo	varchar
ASIN	varchar
StockCode	varchar
product_type	varchar
Quantity	int
total_sale	float
ASIN, StockCode, product_type	

invoices	
InvoiceNo	varchar
CustomerID	int
invoice_date	date
invoice_time	int

customers	
CustomerID	int
Country	varchar

Component of primary key

Field name

Data type

KPIs

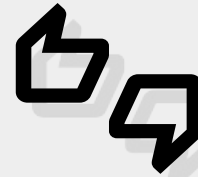
Product Type

Need for greater differentiation of product types in order to see what is being bought

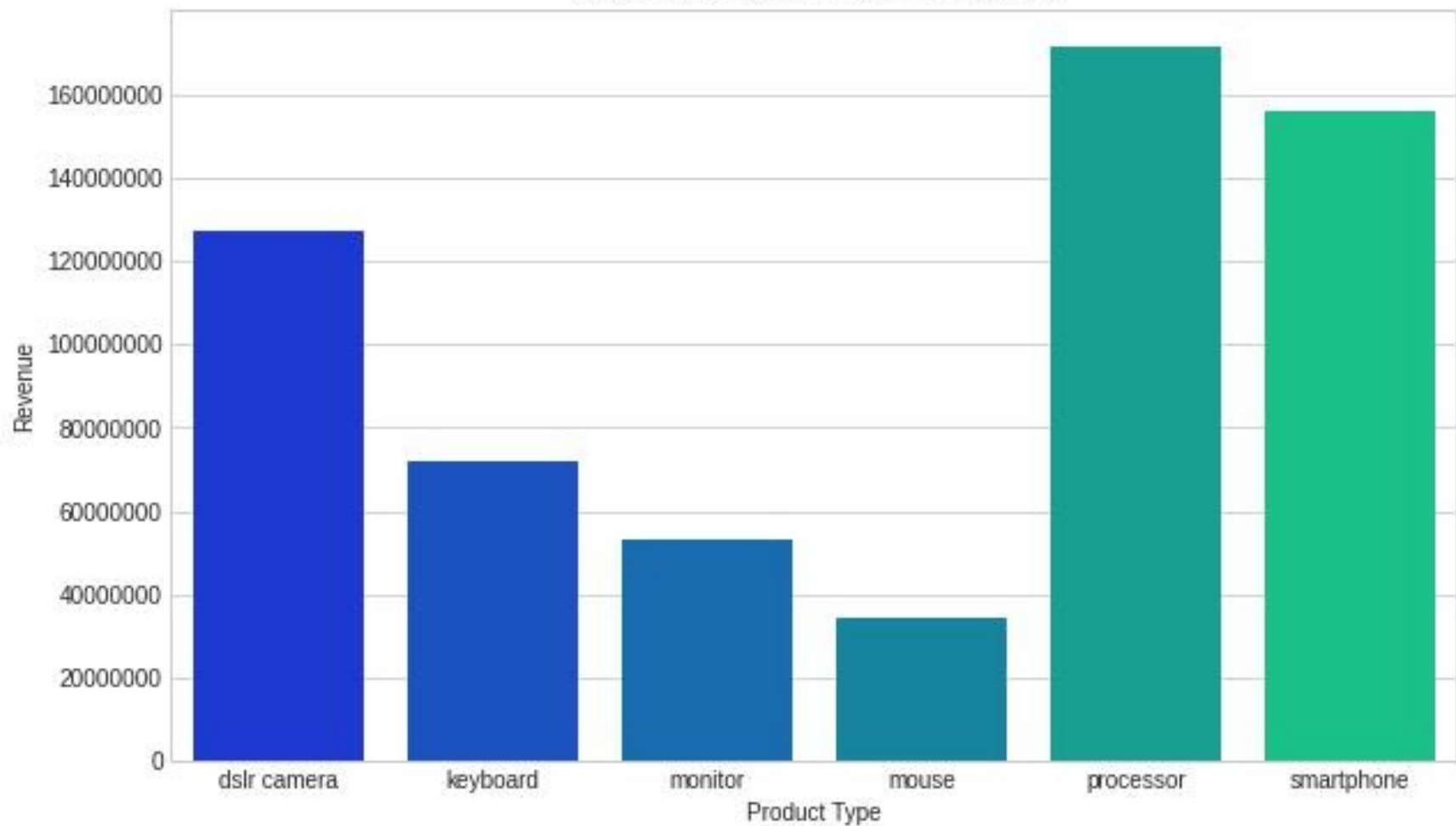


Monthly Buying Pattern

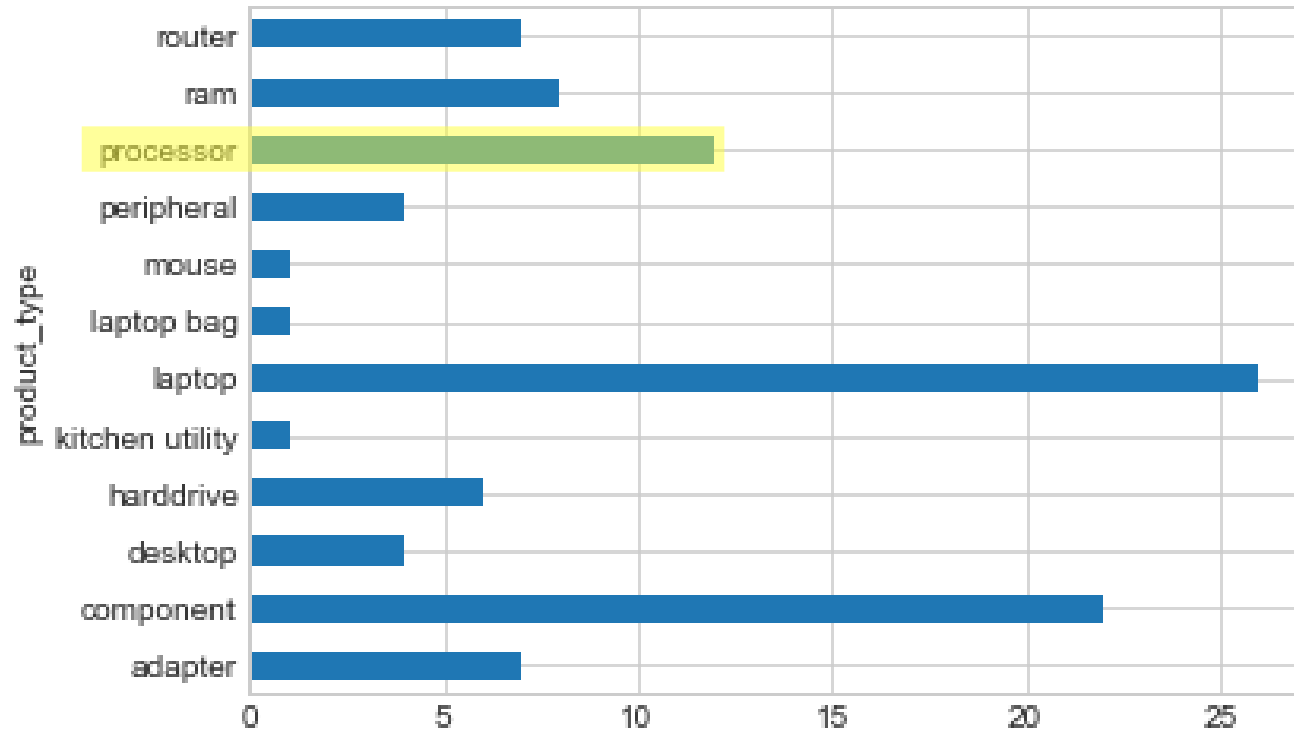
Identify and utilise peaks and slumps in yearly sales volume



Total Revenue of Products



Differentiation of Product Type



Monthly Buying Pattern

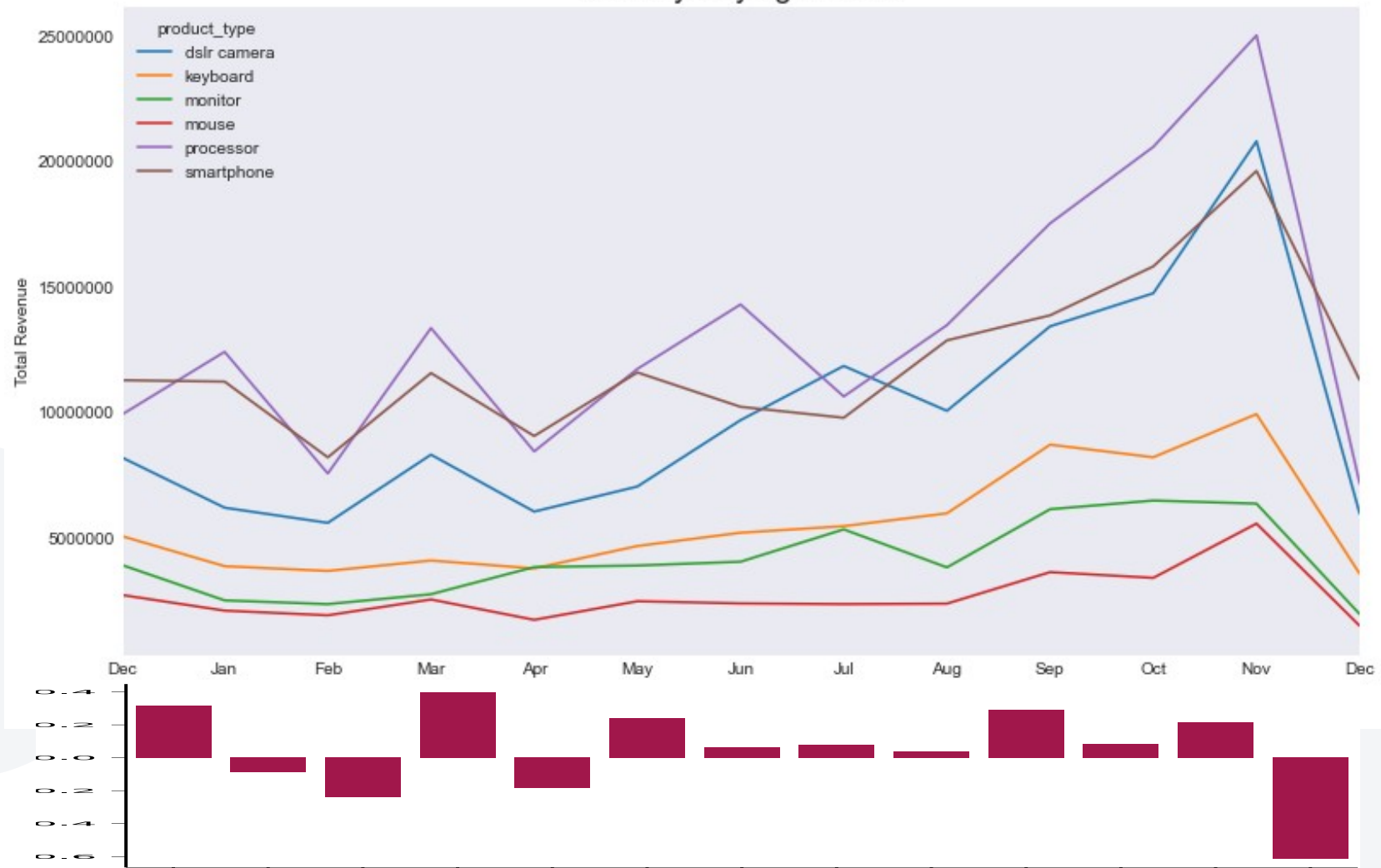


Tableau Dashboard

