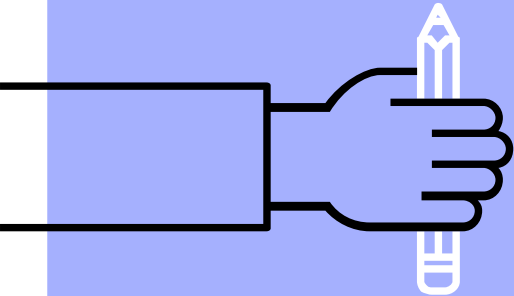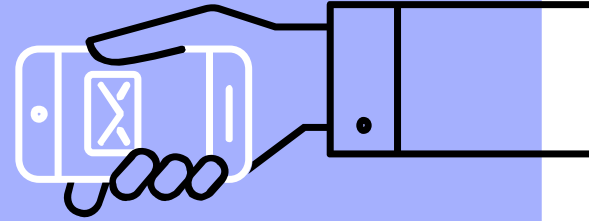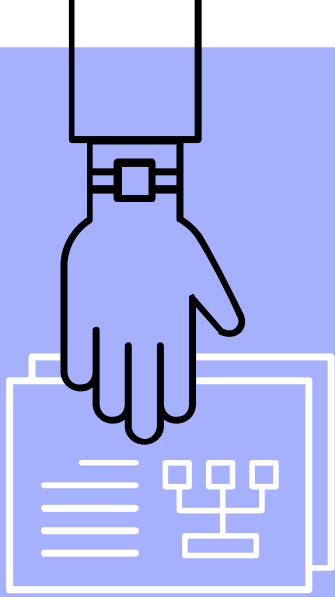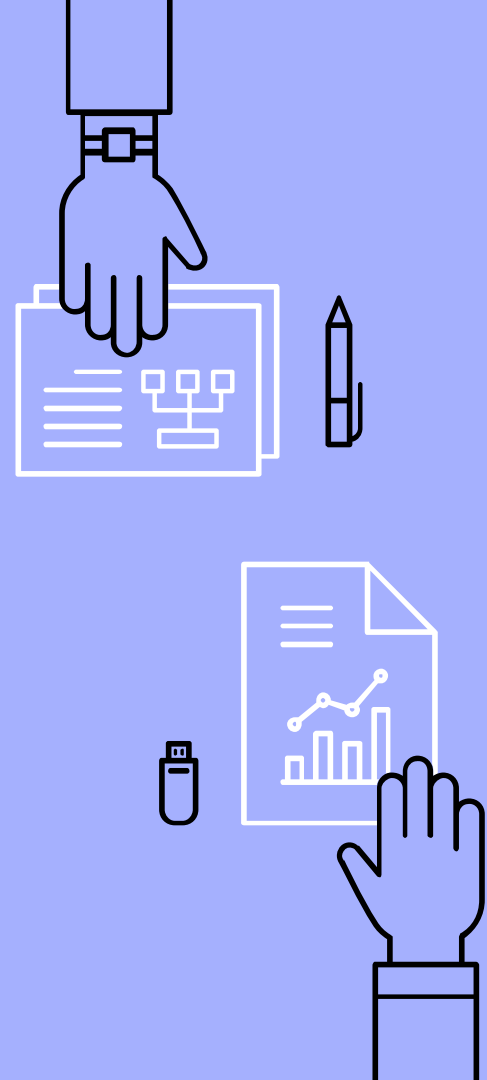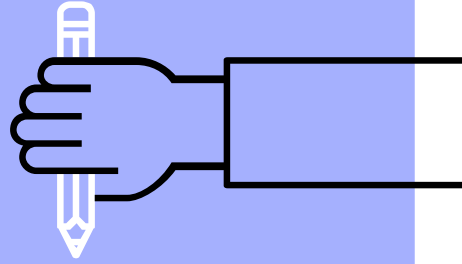# The Case for Recommendation Systems

Amanda Rowe
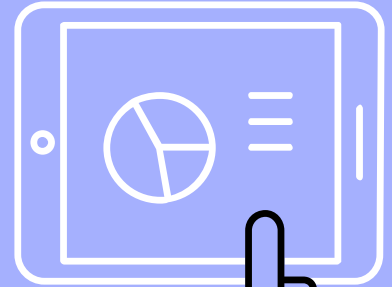
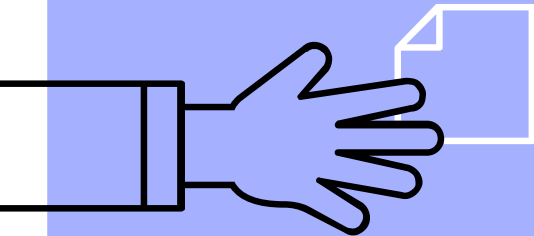# THE CASE FOR RECOMMENDATION SYSTEMS

▷ Problems addressed
▷ Implementation
▷ Demonstration

# 1.
# Personalization

How do recommendation systems personalize the customer experience?
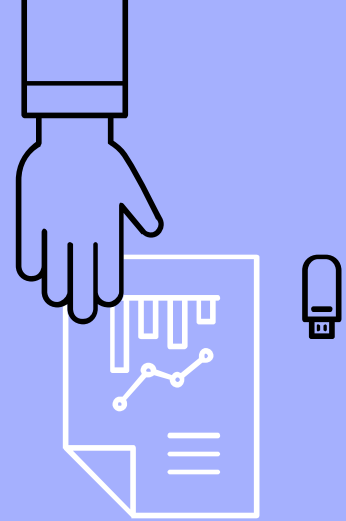
# HISTORY OF BUSINESS TRANSACTIONS

# EVOLUTION OF THE MARKETPLACE

LOCAL VENDORS AND TOWN MARKETS
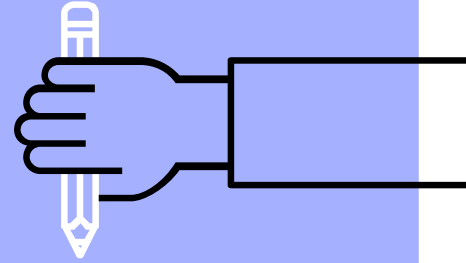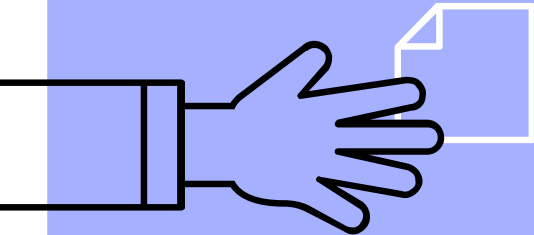
LARGE DEPARTMENT STORES AND CATALOGUES

BUYING ONLINE

# PERSONALIZATION FOR A DIVERSE POPULATION

# 2.
# Securing Loyalty

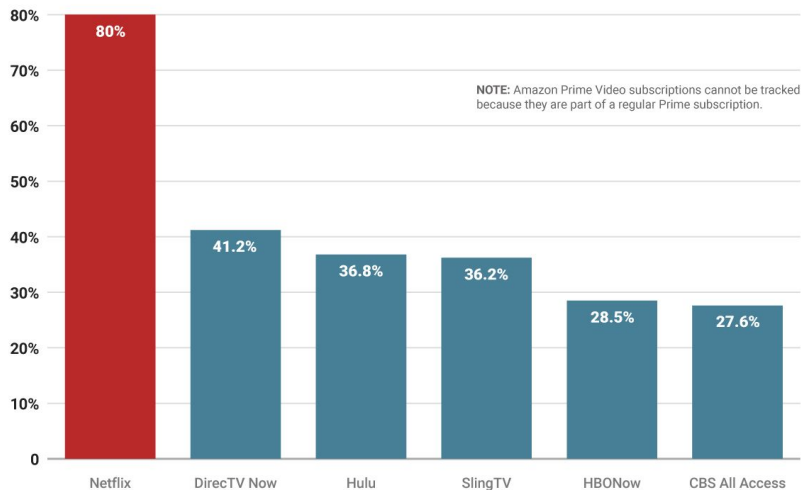How do recommendation systems secure customer loyalty?

# CUSTOMER LOYALTY

# Securing Loyalty: Netflix



**TECH 📊 CHART OF THE DAY**

### NETFLIX SUBSCRIBERS ARE A FAITHFUL BUNCH

Share of the respective service's user base who only subscribe to that service

NOTE: Amazon Prime Video subscriptions cannot be tracked because they are part of a regular Prime subscription.

Netflix: 80%
DirecTV Now: 41.2%
Hulu: 36.8%
SlingTV: 36.2%
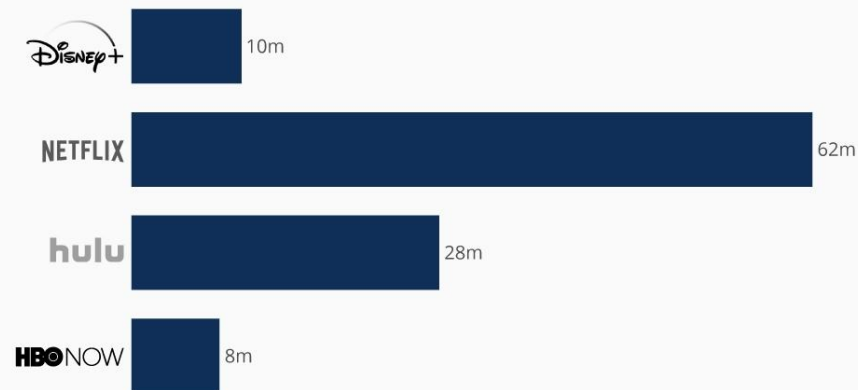HBONow: 28.5%
CBS All Access: 27.6%

SOURCE: Second Measure via Recode

statista | BUSINESS INSIDER



**Disney+ Hits 10 Million Subscribers Within 24 Hours**

Number of paying subscribers in the U.S. for ad-free streaming services as of November 2019*

Disney+: 10m
NETFLIX: 62m
hulu: 28m
HBO NOW: 8m

* Including free trials
Disney+ launched November 12, 2019
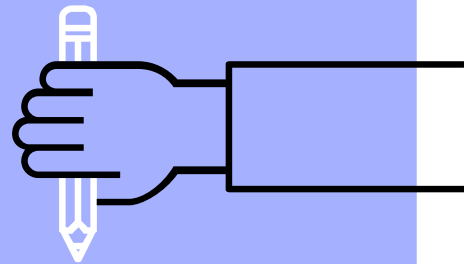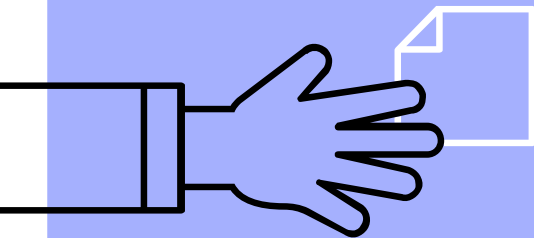@StatistaCharts  Sources: Disney, Netflix, Hulu, HBO, Bloomberg, BTIG

statista

# 3.
# Product Exposure

How do recommendation systems bring more products exposure?

Long Tail by **EZAKO**
Find me on ezako.com/blog

Number of sales / Popularity – from low to high

BEST SELLERS

LONG TAIL

20 %

80 %

99 % of your product offering sells

Market competitiveness – from high to low
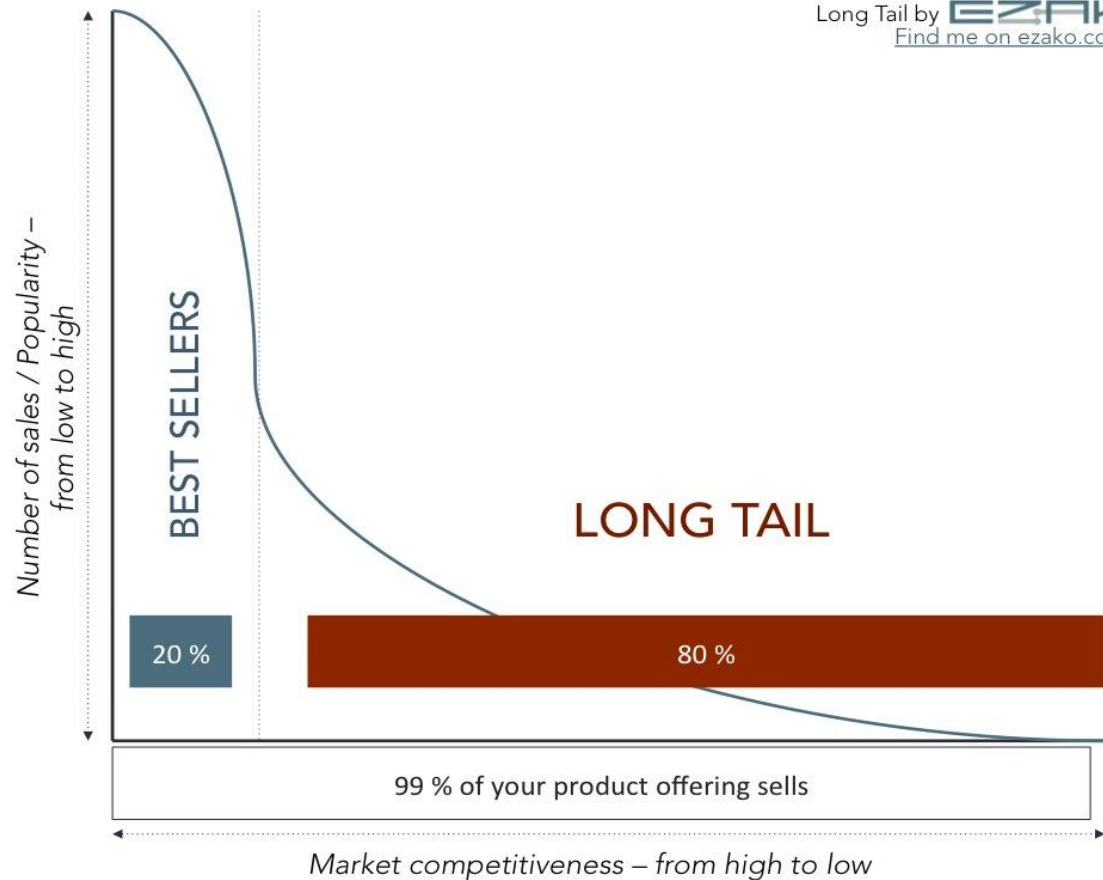
The Long Tail of Products

# $280.5 billion
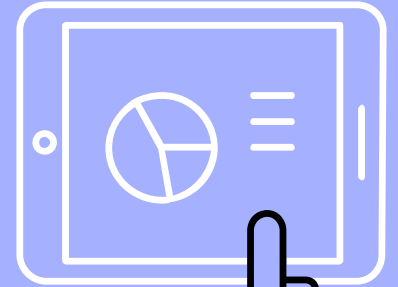Net sales of Amazon in 2019

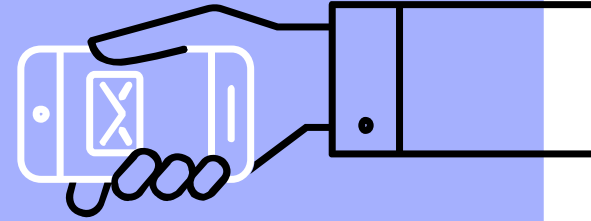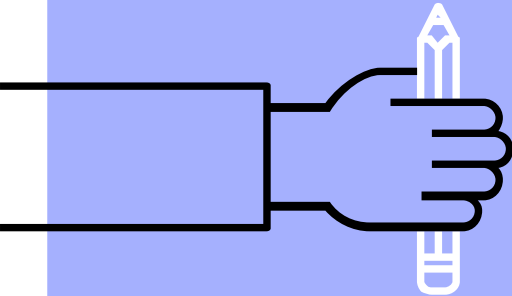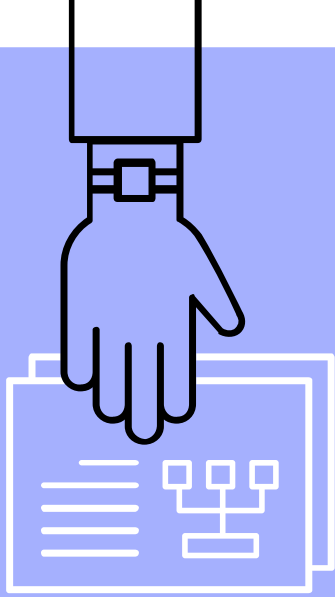# 150 million users
Amazon Prime members

# 35%
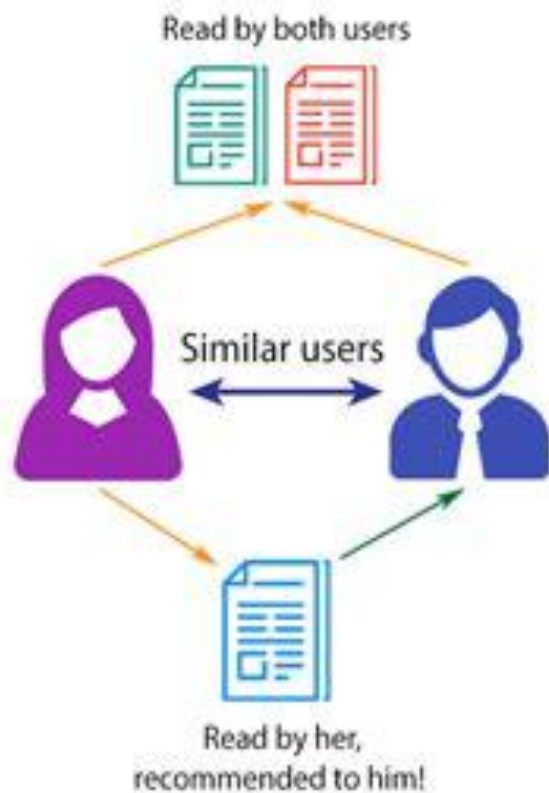Sales based on recommendations

# How To Implement

# IMPLEMENTATION

▷ Gather data
▷ Build and train a model
▷ Addressing the "Cold start" problem
▷ Maintenance

COLLABORATIVE FILTERING

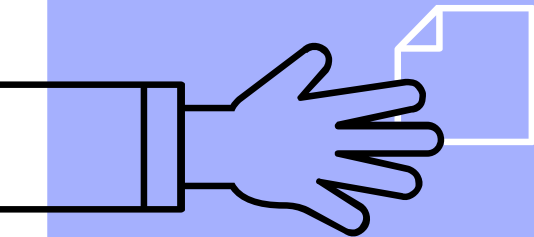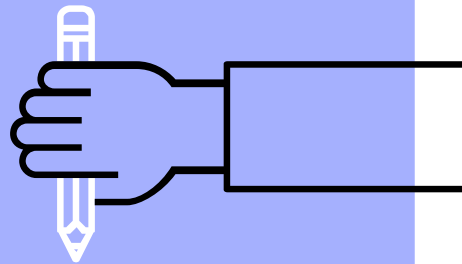Read by both users

Similar users

Read by her, recommended to him!

CONTENT-BASED FILTERING

Read by user

Similar articles

Recommended to user
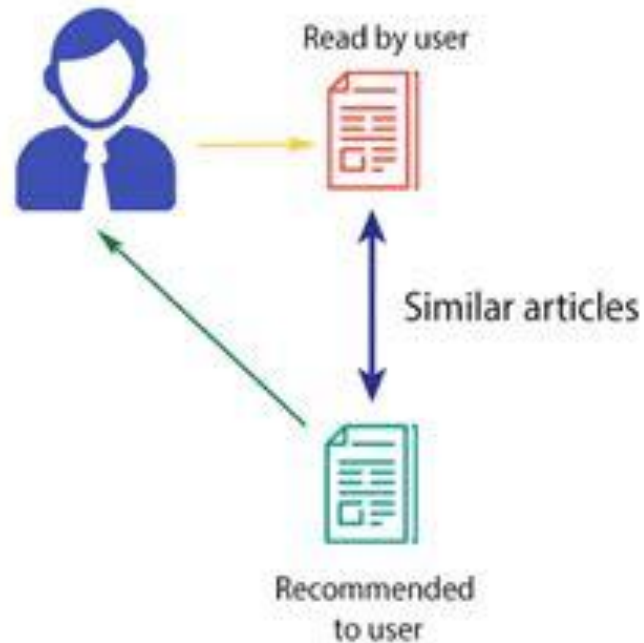
# A Sample Recommendation System

Using the dataset from MovieLens

# RESULTS MODELS TESTED

| Algorithm Name | RMSE | MAE |
|---|---|---|
| Singular-Value Decomposition (SVD) | .84 | .65 |
| KNN Basic | .96 | .73 |
| KNN Baseline | .87 | .67 |

*Demonstration*

# THE CASE FOR RECOMMENDATION SYSTEMS

▷ Personalization
▷ Securing loyalty
▷ Product exposure

# FURTHER EXPLORATION

▷ Hybrid approach
▷ Integration into other industries

# THANKS!

Any questions?