



# AI & CUSTOMER DATA SCIENCE

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# What to Expect

## Discussion Highlights

Background & motivation  
Customer data science use cases  
Data privacy matters!  
Use case deep dive: demand forecasting in the times of pandemic  
Key takeaways  
Open discussion



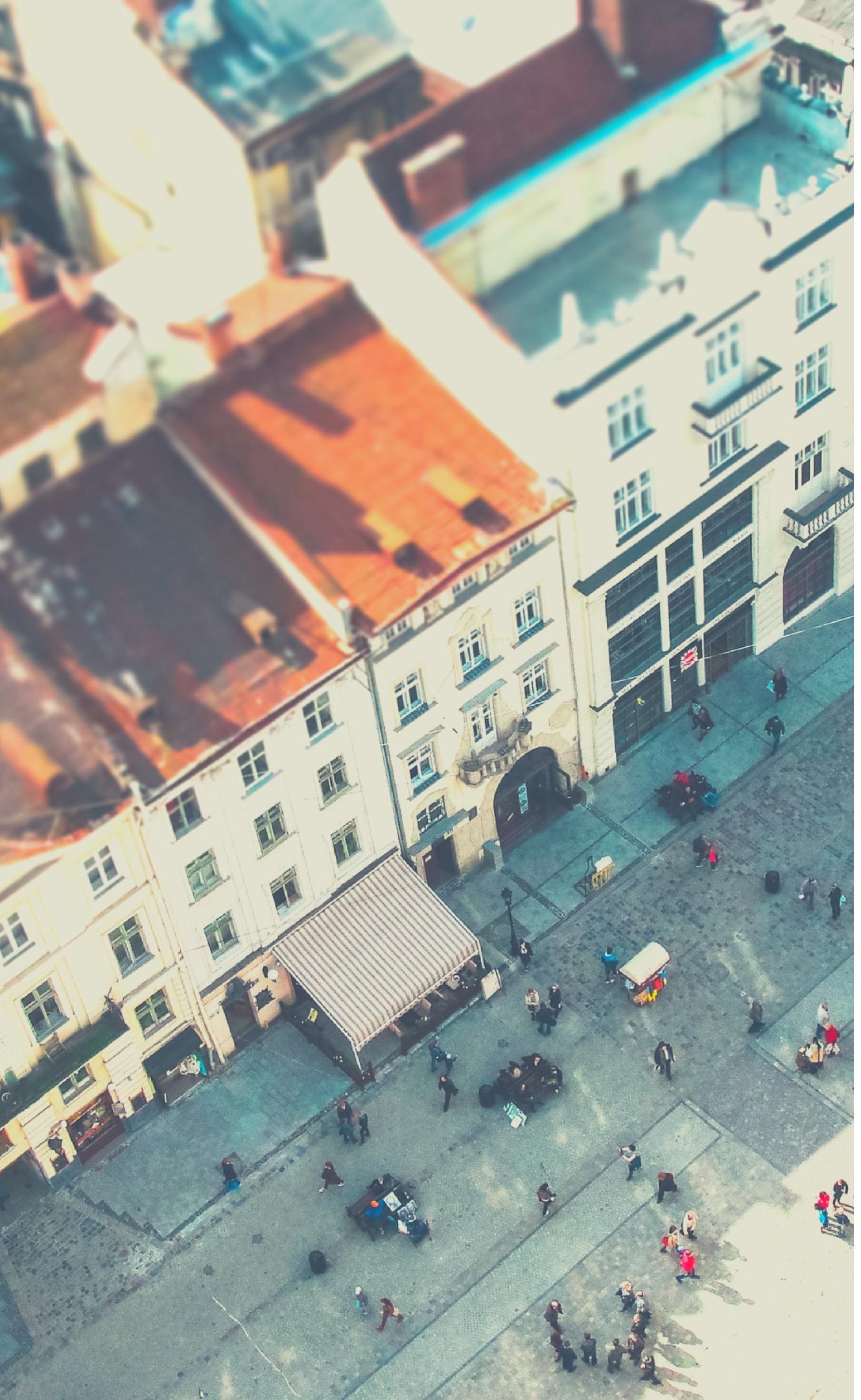


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# About Me

**Helping consumer brands to implement winning  
data-driven strategies with the power of AI**

- Founded Fard Consulting in 2019 after years of experience in implementing data science & AI solutions for international companies
- Research background in AI & Neuroscience: conducted Ph.D. research on predictive modeling of human decision making
- Employment background of working at customer analytics capabilities of global consulting firms
- Expertise in customer & marketing analytics, and digital marketing strategy
- Clients including global corporations (Boehringer Ingelheim, Sartorius, Morgan Philips Group) and startups & SMEs (in Germany, Switzerland, US, Australia)
- The host of "The Customer Analytics Podcast"
- Global delivery partner network in marketing & customer data science



# • What is Customer Analytics / Data Science?

According to Gartner:

- Customer analytics is the use of data to understand the composition, needs, and satisfaction of the customer.
- The enabling technology used to segment buyers into groupings based on behavior, to determine general trends, or to develop targeted marketing and sales activities.



**~200%**

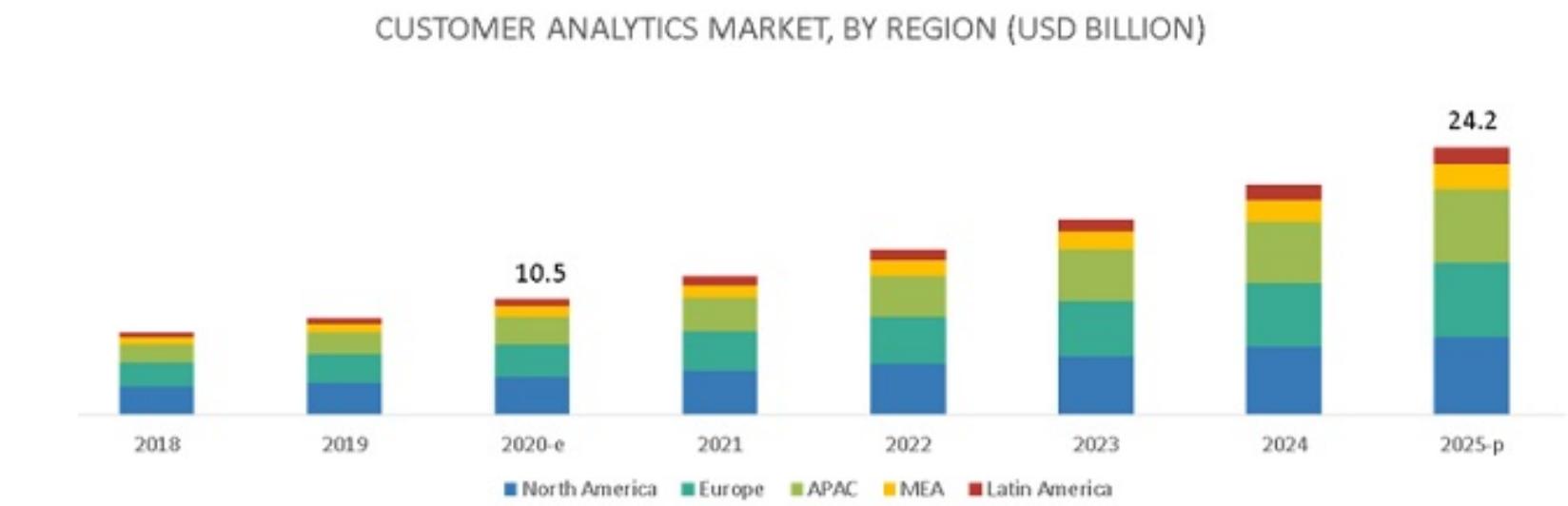
**BUSINESSES ARE MORE LIKELY TO  
ACHIEVE SIGNIFICANTLY HIGHER  
SALES GROWTH & RETURN-ON-  
INVESTMENT BY USING  
CUSTOMER ANALYTICS**

**SOURCE: MCKINSEY**



# Customer Data Science & AI Market

- By 2025, the global customer data science market will grow by 250% to 25 Billion \$.
- Companies from the US, EU, and Chinese markets will lead global market growth.
- Global Top 5 vendors: Google (US), Microsoft (US), Adobe (US), SAP (Germany), SAS Institute (US).



Source: MarketsandMarkets Analysis

SOURCE: [MARKETSANDMARKETS](#)

# Customer Data Science & AI Market

- According to Gartner:
- AI techniques for marketing Customer Data Platforms are finding their way into marketing systems.
- However, marketers are meeting multiple challenges, including data availability and team skills gaps.

## Hype Cycle for Digital Marketing, 2020



[gartner.com/SmarterWithGartner](http://gartner.com/SmarterWithGartner)

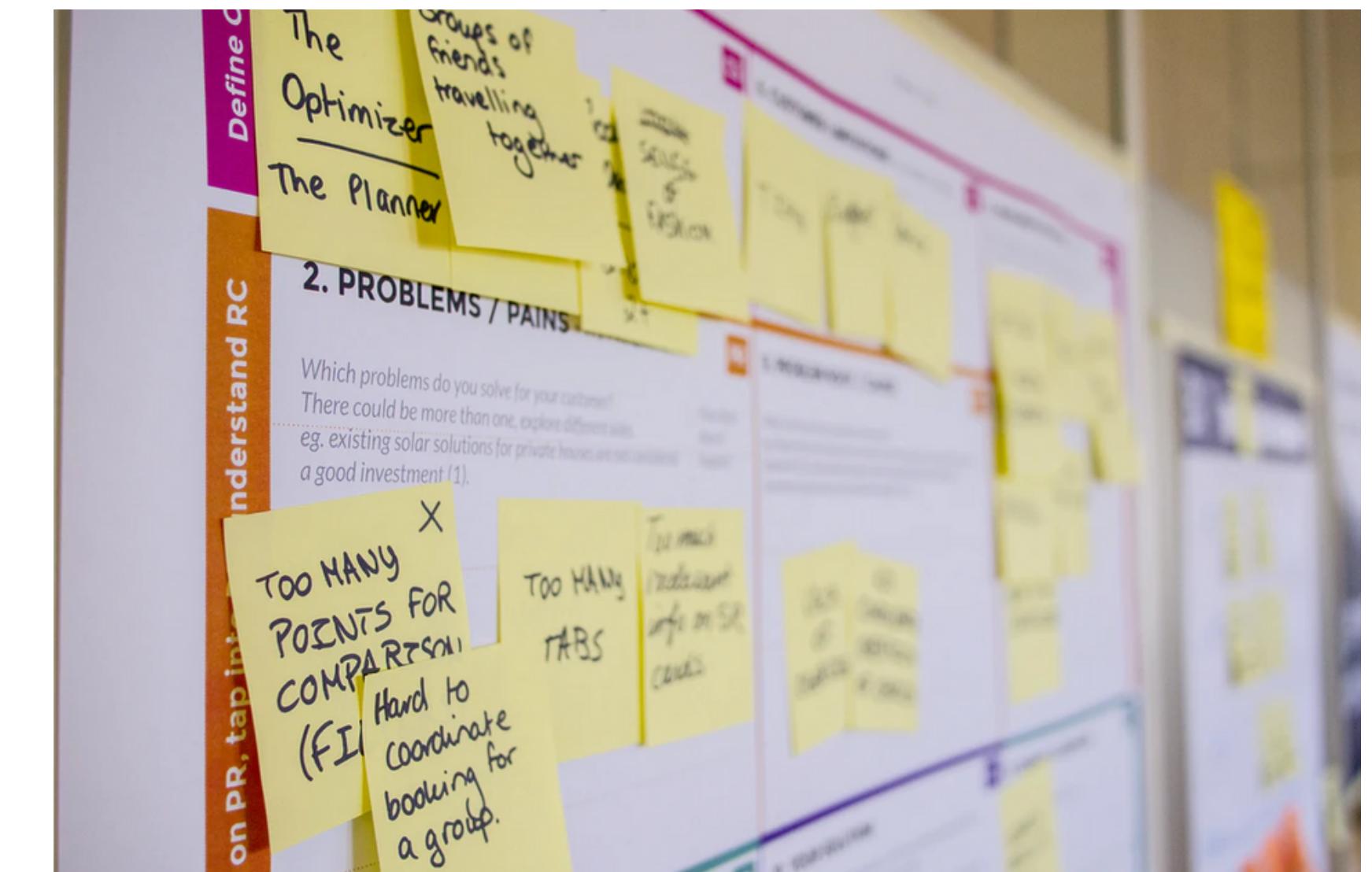
Source: Gartner  
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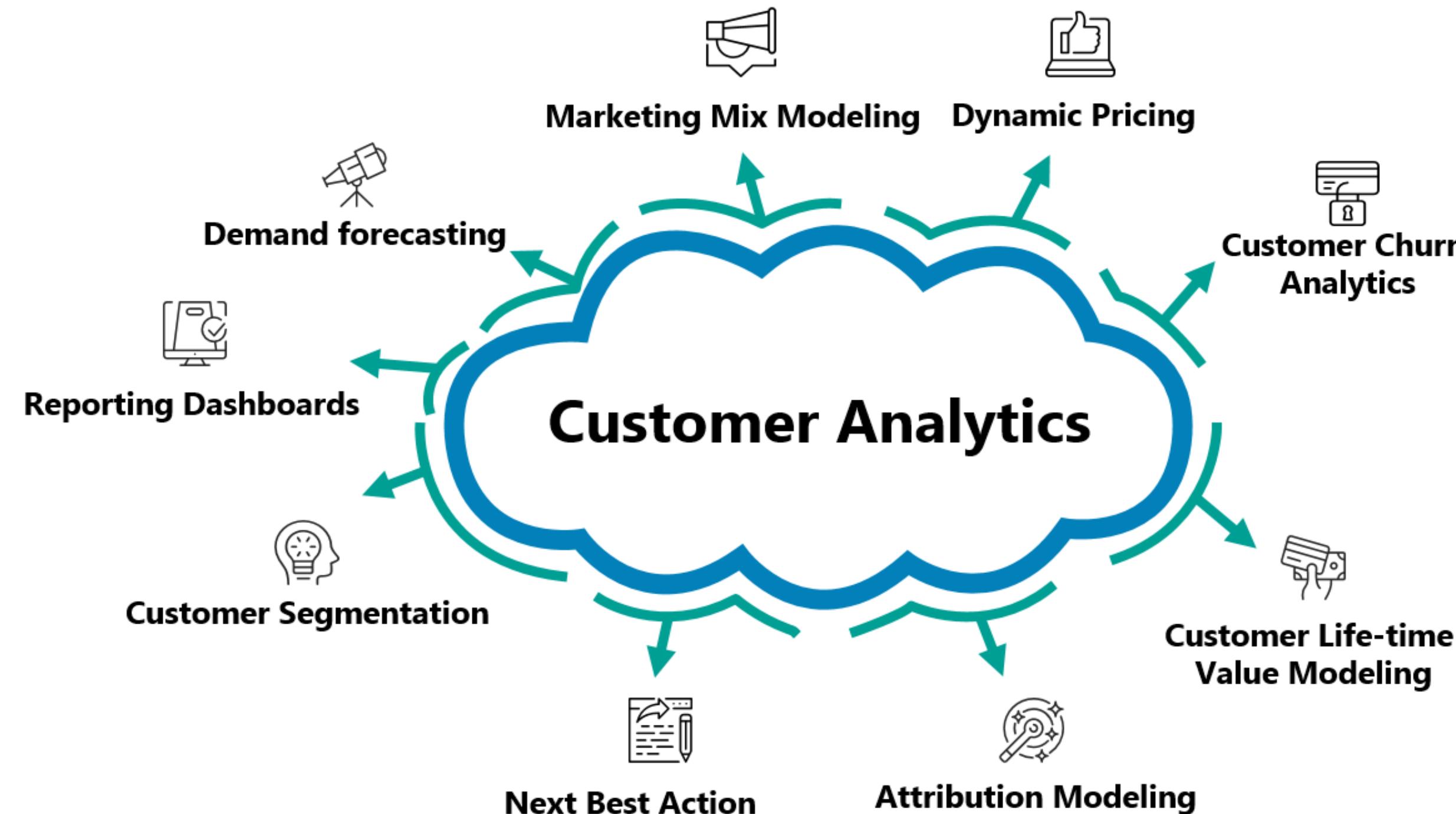
# Common business problems in marketing

- We are making decisions based on gut feelings
- Marketing ROI goes down or is unclear
- We can't keep track of ever-changing customer needs
- Too risky for marketing campaigns to go back to normal
- Don't know how to allocate the marketing budget to all the different channels
- We don't know how to specify the best pricing for our products / services





# Common Customer Analytics Use cases

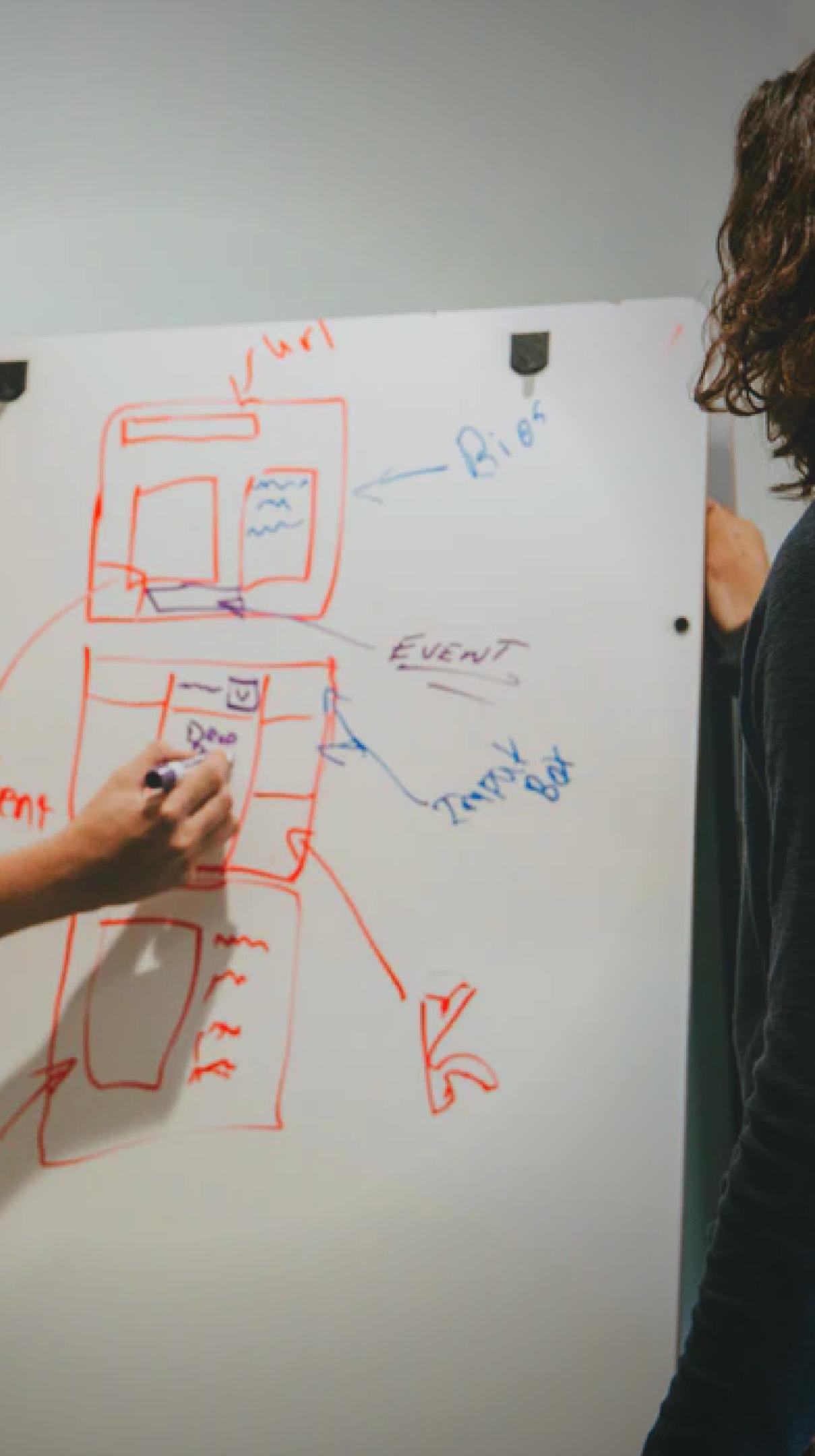


# Data Privacy Matters!

## How to stay compliant with GDPR when doing customer analytics

- DISCLAIMER: Please consult with your GDPR legal advisors before gathering and processing any personal data from customers.
- Customer Analytics or analyzing customer data on an individual level is defined as "profiling" under [Article 4 of GDPR](#)
- The legal basis for doing profiling under GDPR must be informed to the customers and explicit consent must be obtained and stored (Article 13)
- The lawfulness of processing and purposes of data processing and legitimate interests of the controller or third parties must be specified (Article 6).
- Consumers must have the right to ask for human intervention when automated decisions are made using profiling (Article 22)

SOURCE: [CMSWIRE](#)

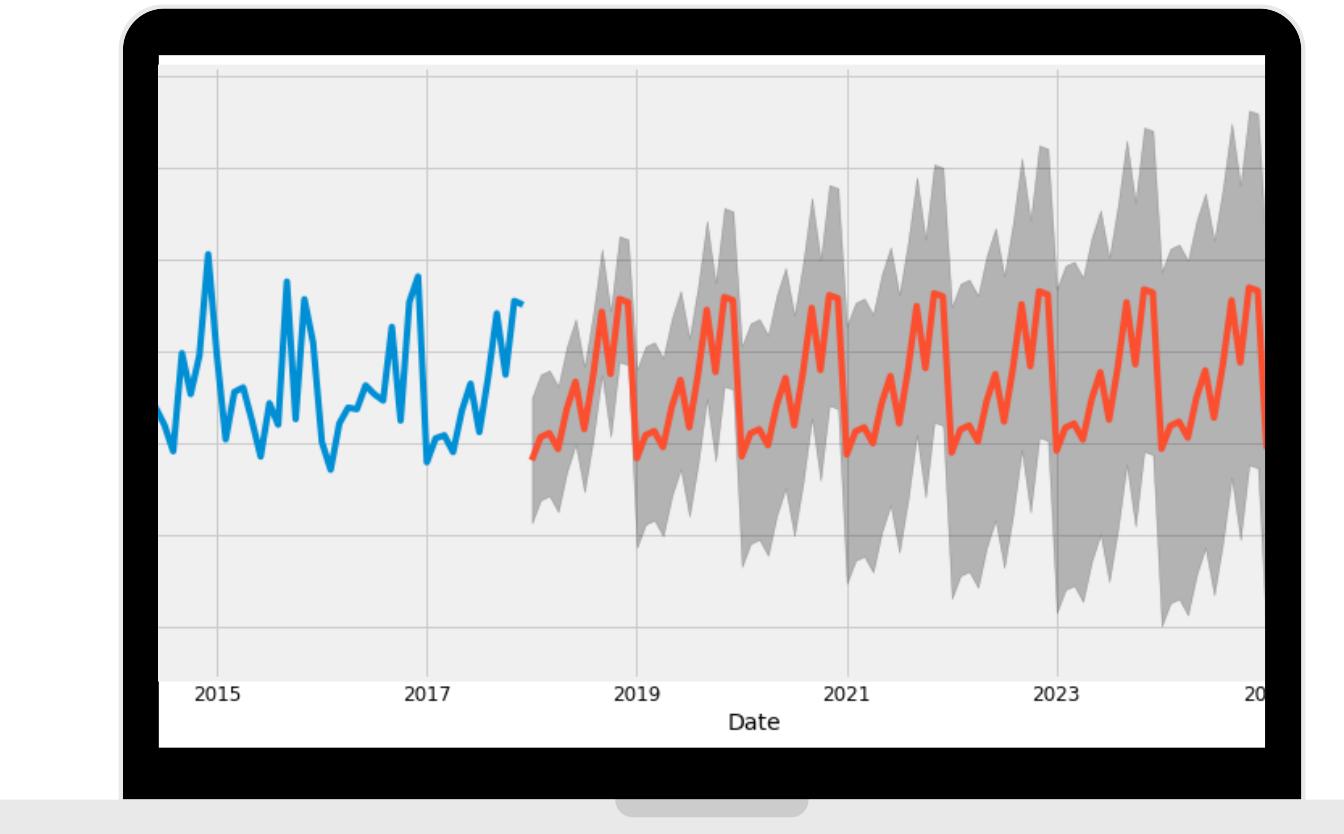


● USE CASE DEEP DIVE  
DEMAND FORECASTING IN  
THE TIMES OF PANDEMIC



# What is demand forecasting?

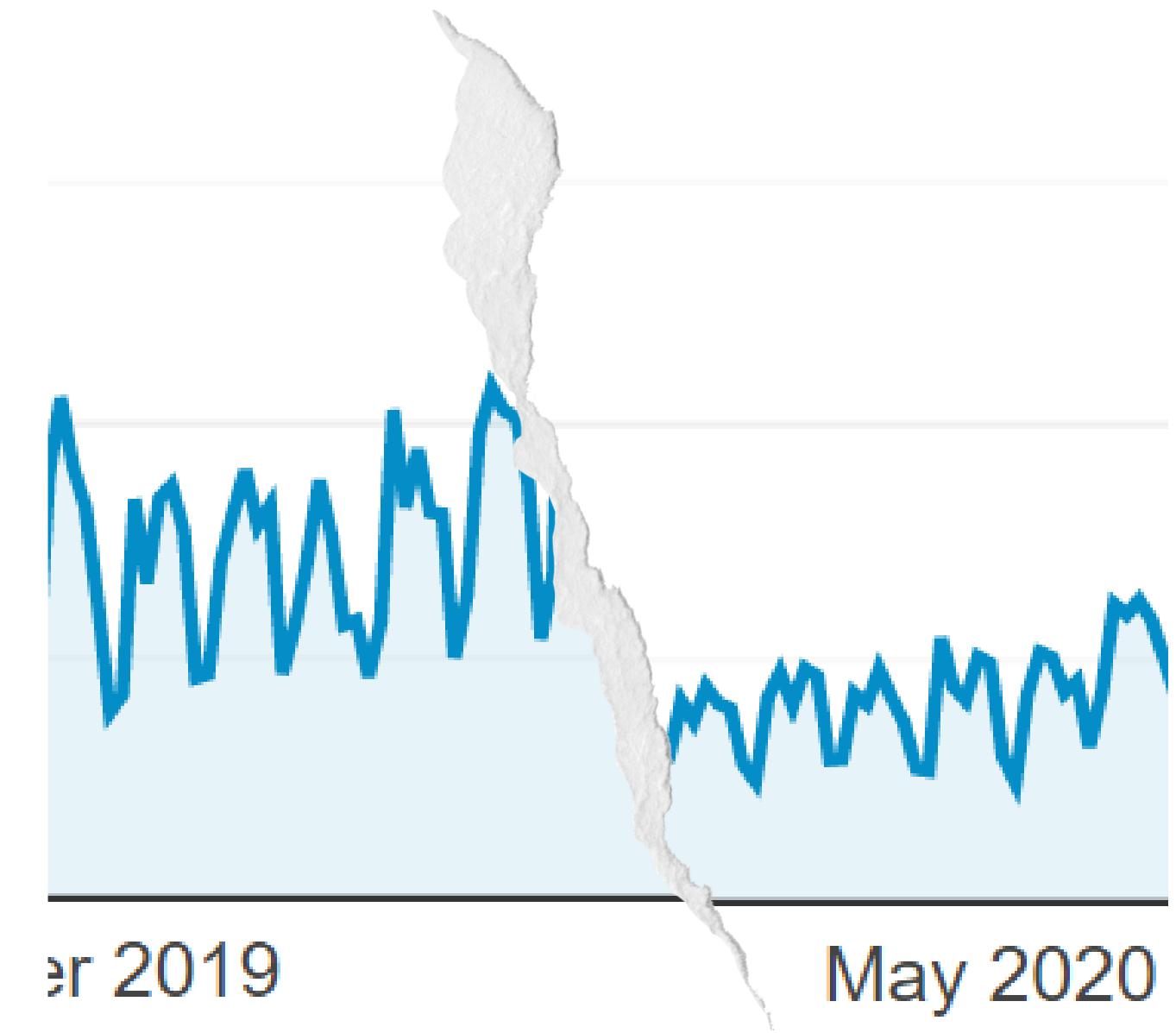
- Demand forecasting is an AI use case in marketing & sales.
- The historical data about key marketing KPIs (e.g. sales, leads, visits, marketing spend) is used to predict future sales.
- External demand intelligence is often used as regressors to assist the predictive power of the machine learning algorithms.
- Demand forecasting can help companies to navigate through volatility in sales and plan their marketing spend, as well as inventory and production levels in a data-driven way.





# Difficulties of demand forecasting in the pandemic

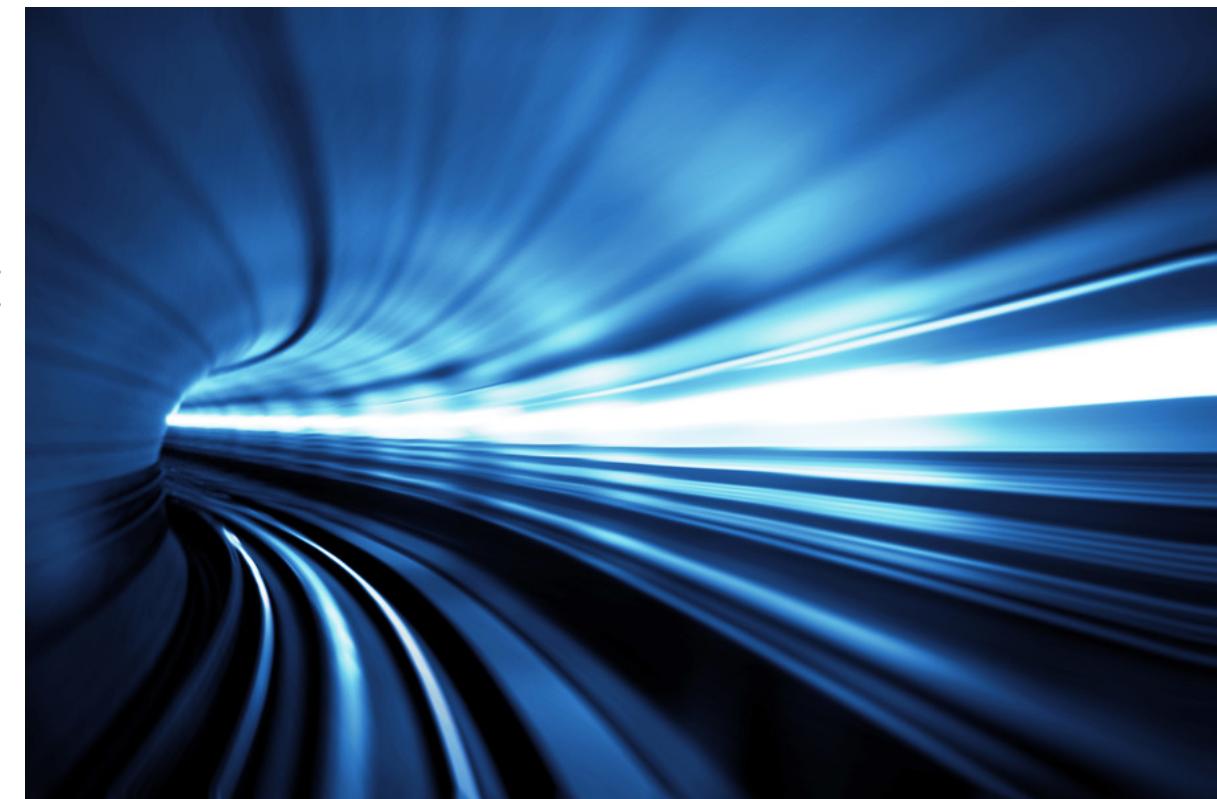
- The deep disconnect of the key marketing & sales KPIs after March 2020 with the historical data before that
- Unpredictable delayed orders due to uncertain economic conditions
- Disruption in the global supply chain and delays in the fulfillment of orders
- Reduced marketing activity and production level for many companies
- Unbalanced effects across the industry sectors
- Insufficient amount of historical data about the emerging trends and the shaping "New Normal"





# Demand forecasting & transition to the "New Normal"

- Do NOT ignore any parts of your historical data especially seasonality
- Leverage external indicators to explain the anomalies as much as possible
- Try to model the biggest components of changes in demand level:
  - The downward shift in the demand level
  - The upward recovery trends
  - The random delayed sales due to uncertainty
- Re-train your demand forecasting models more often and on a more granular time-series data
- Remember, not-so-perfectly-accurate models are still better than making decisions based on gut feeling especially in these uncertain times



# Key takeaways

## CUSTOMER DATA SCIENCE

Customer data science offers huge potentials for the optimization of marketing & sales processes. There is still much room for collaboration between domain experts with data scientists to come up with data-driven solutions to optimize these processes

## DATA PRIVACY MATTERS!

While doing customer data science you need to be extremely mindful of data privacy and protection. Customer-level data must be anonymized and processed in full-compliance with GDPR regulation

## DEMAND FORECASTING NEEDS EXTRA ATTENTION

In times of uncertainty, even imperfect demand forecasting can offer a quick win to businesses that are struggling due to volatility in sales and uncertainty in planning marketing campaigns, and inventory levels



# Q & A

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