



3_1. Settings





Our objective:
Using own data, to help companies to
impact society and business

The group project is an opportunity for students to demonstrate not just their **technical skills** but also their ability in **presenting results** and propose **business recommendations**.



Statistical Analysis for Business Insights



Track / Module / Course contents

Data Cleaning and Preprocessing Techniques:

In-depth exploration of methods to clean and preprocess datasets, addressing data quality issues and preparing data for meaningful analysis.

Statistical Analysis for Business Insights:

Application of statistical methods to extract actionable insights from data, with a focus on making informed business decisions.

Data Visualization Tools and Techniques:

Introduction to various data visualization tools and techniques, enabling students to create compelling visuals for effective communication of analytical findings.

One step back to get inertia

Hardware



Data

Software

JupyterLab	Google Colab	Zeppelin
JetBrains Datalore	Kaggle	Mode Notebooks
Observable	Databricks notebooks	Visual Studio Code
Amazon SageMaker	CoCalc	Hex
Nextjournal	DataCamp Workspace	Deepnote

Kaggle	Google Dataset Search	DrivenData
UC Irvine Machine Learn...	Dataworld	Data.gov
Topcoder	GitHub	FiveThirtyEight
InnoCentive	Awesome-public datasets	Zindi
Data hub	KDnuggets	Tianchi
World Bank	Open data portal	Dataportals
HackerEarth	HackerRank	CodaLab



Day 1. Collect Data

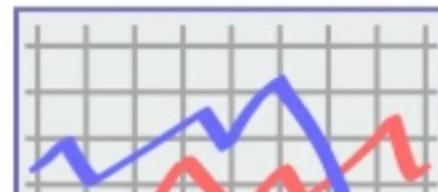


Day 2. Explore Data

The Essence of Exploratory Data Analysis

GARBAGE IN,
GARBAGE OUT.

YOU ARE ONLY AS GOOD
AS YOUR DATA



Day 3. Identify trends, develop insights

“We are surrounded by data,
but starved for insights.”

Jay Baer
marketing and customer experience expert



identify trends **and develop** valuable insights

Day 3. Identify trends, develop insights

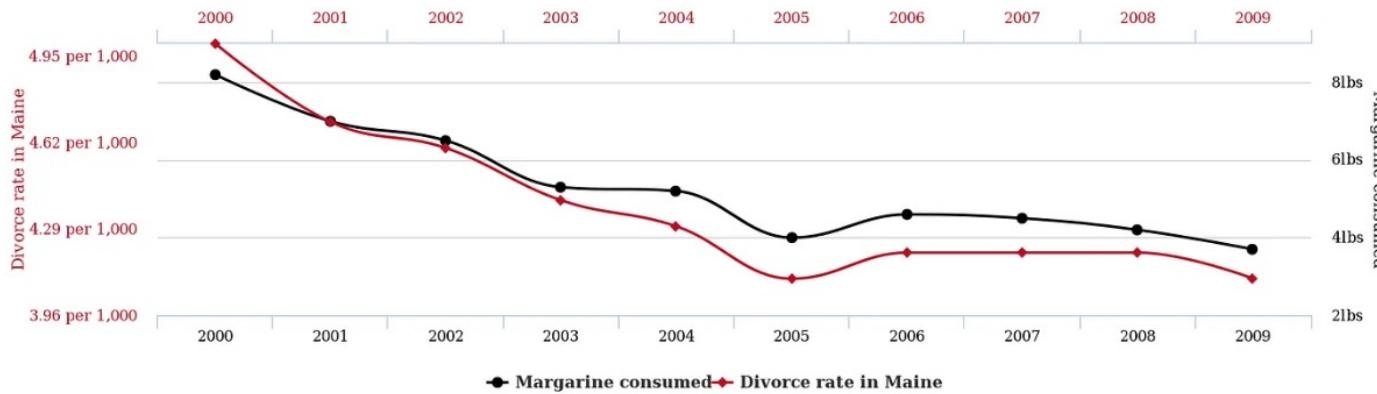
**CORRELATION
IS NOT
CAUSATION**



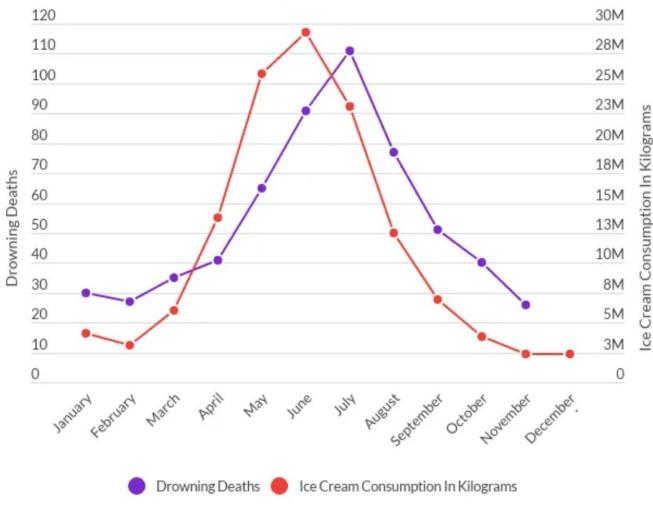
Day 3. Identify trends, develop insights



Divorce rate in Maine
correlates with
Per capita consumption of margarine



Drowning Deaths and Ice Cream Consumption by Month in Spain (2018)



Statista (2020)

Statistical Analysis. How?

Descriptive statistical analysis

Descriptive statistics summarizes the information within a data set without drawing conclusions about its contents.

Inferential statistical analysis

Inferential statistics takes the results of descriptive statistics one step further by drawing conclusions from the data and then making recommendations.

Benefits of Statistical Analysis for Business

1. Discovering New Opportunities

- Discover **untapped consumer groups** or categories that they have yet to previously target.
- Make informed decisions based on data and **design strategies** that will contribute to the company's growth.
- Identify **redundancies in the market** and pinpoint areas that need to be removed from the current business plan, increasing operational efficiency.

Benefits of Statistical Analysis for Business

2. Understanding Consumer Behaviour

- Understand **consumer buying patterns** and their usage of products or services. This information can be used to determine which products and services should be offered to meet consumer demands.

3. Identifying the Right Target Market

- To determine the **profitability** of their target market.
- **Avoid** offering products to people who don't need them.

Benefits of Statistical Analysis for Business

4. Reviewing Products and Services

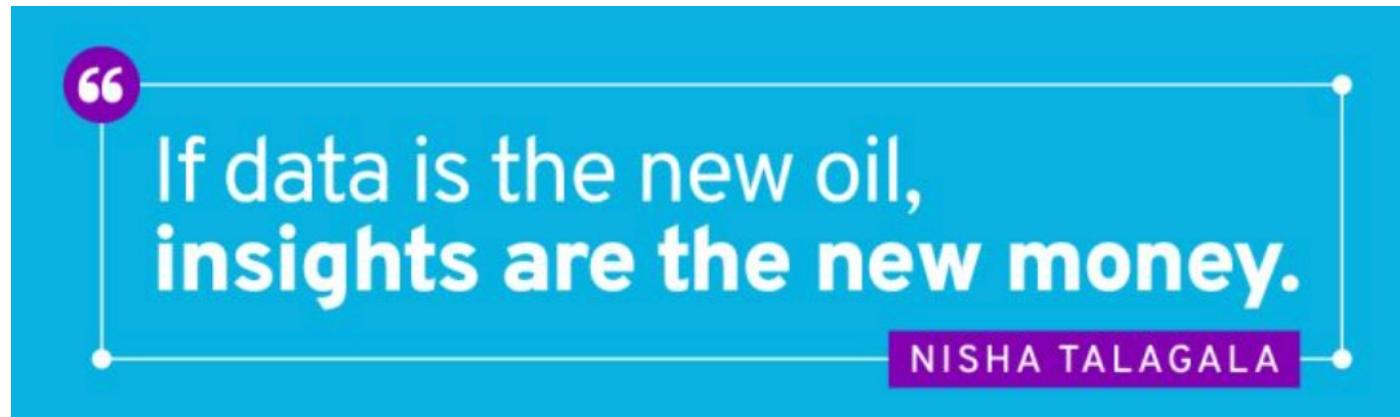
- Identify the **products** that are **being purchased** and utilized by consumers.
- Generate **fresh concepts** or enhancements for their current products or services.

Benefits of Statistical Analysis for Business

5. Making Better Business Decisions

- What strategies are effective?
- Hiring new employees.
- Making changes to business operations.
- Marketing and advertising efforts.

Day 3. Identify trends, develop insights



identify trends
and **develop**
valuable insights



Hands on. In-class Groups!

Benefits of Statistical Analysis for Business

Hardware

Software

Data





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