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Tech Consulting: TCG x DS3

Consulting Subcommittee
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**[01]
Background**

What is Data Science & Consulting?

Consulting is a term loosely applied to providing business advice on various topics including marketing, information technology, operational improvement, and corporate strategy

Data Science revolves around revealing trends and creating intelligence that organizations can use to make smart and better decisions, predict change, and of course, create more innovative services and products

- Consulting allows you to take initiative for client development and results
  - Find a problem in the data, infrastructure, etc and propose solution(s)

Source: https://towardsdatascience.com/why-working-in-consulting-is-so-valuable-for-data-scientists-710f3a4cc2d0

How is Data Science useful in Business?

- Directs Actions based on trends which in turn helps define goals
  - data scientists examine and explore organizations' data, after which they recommend and prescribe certain actions that will help improve the institution's performance, better engage customers, and ultimately increase profitability.

- Data science + business practices = a huge difference in productivity, decision-making, and product development.
  - Data helps inform decisions that minimize the risk of fraud and error, increase efficiency, and provide better customer service

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[02]
Applications

Gaining Customer Insight

- Data about your customers (all with different characteristics) can reveal details about their:
    - Habits
    - Demographics
    - Preferences
- Having and understanding reliable customer data can inform:
    - Retargeting efforts
    - Personalized experiences for specific users
    - Improvements to website and product's user experience.
- Pattern recognition in e-commerce helps spot trends in customer purchasing behavior.

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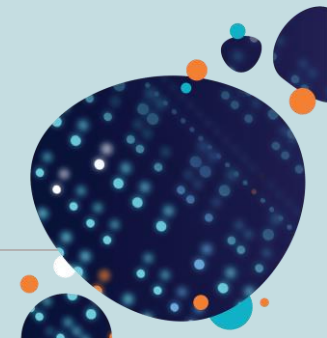# Predicting Future Market Trends & Developing Better Product

- Collecting and analyzing data on a larger scale can enable you to identify emerging trends in your market.
- To find what products people are interested in, we can track:
  - purchase data
  - celebrities and influencers
  - search engine queries

Streamline Processes

- First step is to measure performance through data collection to make educated decisions by using trends and empirical evidence to help produce solutions.
- Data can enable the company to grow and take on more load by increasing the efficiency of daily operations and work volume.
  - With data collection, a business can allow for testing and measuring different methods and feedback from workplace operations.
- Identify inefficiencies, like high data volume for manual analysis
  - algorithm can be written to clean, sort, and interpret it quickly and accurately to gather insights

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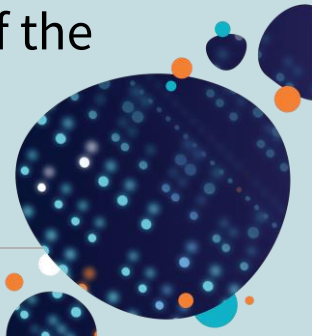# Inform Internal Finances and Security

- Data science in a business can be used to:
  - Create reports
  - Generate forecasts
  - Analyze financial trends.

- Data on a company's cash flows, assets, and debts are constantly gathered, which financial analysts can use to manually or algorithmically detect trends in financial growth or decline.

- Protect sensitive information and increase the security of the business

PowerBI

- PowerBI is a popular business analytics service by Microsoft

- Aims to provide interactive visualizations and business intelligence capabilities with an interface simple enough for end-users to create reports and dashboards

- Allows non-technical users to create customized dashboards

- **Source:** https://learn.microsoft.com/en-us/power-bi/create-reports/sample-datasets

Tableau

- Similar to PowerBI, **Tableau** is a powerful and fast growing data visualization tool used in the Business Intelligence Industry.

- It helps in simplifying raw data in a very easily understandable format. Tableau helps create the data that can be understood by professionals at any level in an organization.

- Has advanced settings for handling more complex or larger volumes of data faster than PowerBI and other data vis applications

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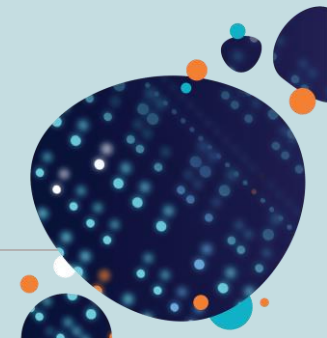
Consulting Project Opportunities

- In DS3, Triton Consulting Group (TCG), and Cornerstone Community Consulting (CCC) there are plenty of projects like these for you all to work on

- In these clubs and committees, you'll have opportunities to take advantage of the technical skills you've learned and built through your coursework and apply them to business contexts and help solve

- Over the next few slides, I'll talk about some of my experience working on and leading one of these projects over the past few quarters
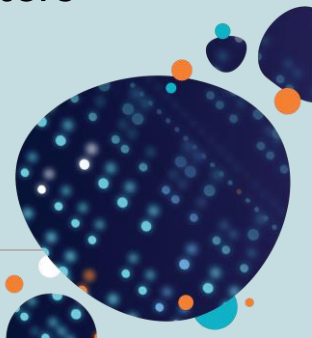
Frontier Dental Services (FDS)

- **Project Focus:** Use revenue data to analyze client engagement, understand revenue trends, and compare lab performances

- **Project Goal:** Generating key revenue insights to help Frontier Dental Superholdings (FDS) maintain and expand their client base

Task 1

Use predictive analytics focused on the churned clients. Key Performance Indicators (KPIs) were identified to predict which dentists were most likely to leave FDS, including product prices, time between purchases, average revenue. Additional improvements were made to the robustness of the algorithm.

Task 2

Use PowerBI to conduct data analysis and visualization of dental clinic performance. Dashboards will segment the client-base, providing us with insights on customer purchasing patterns. Additionally, create dashboards to compare performance across several labs to understand their best-selling products and identify important customers.

[04]
Q&A

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Thank you!