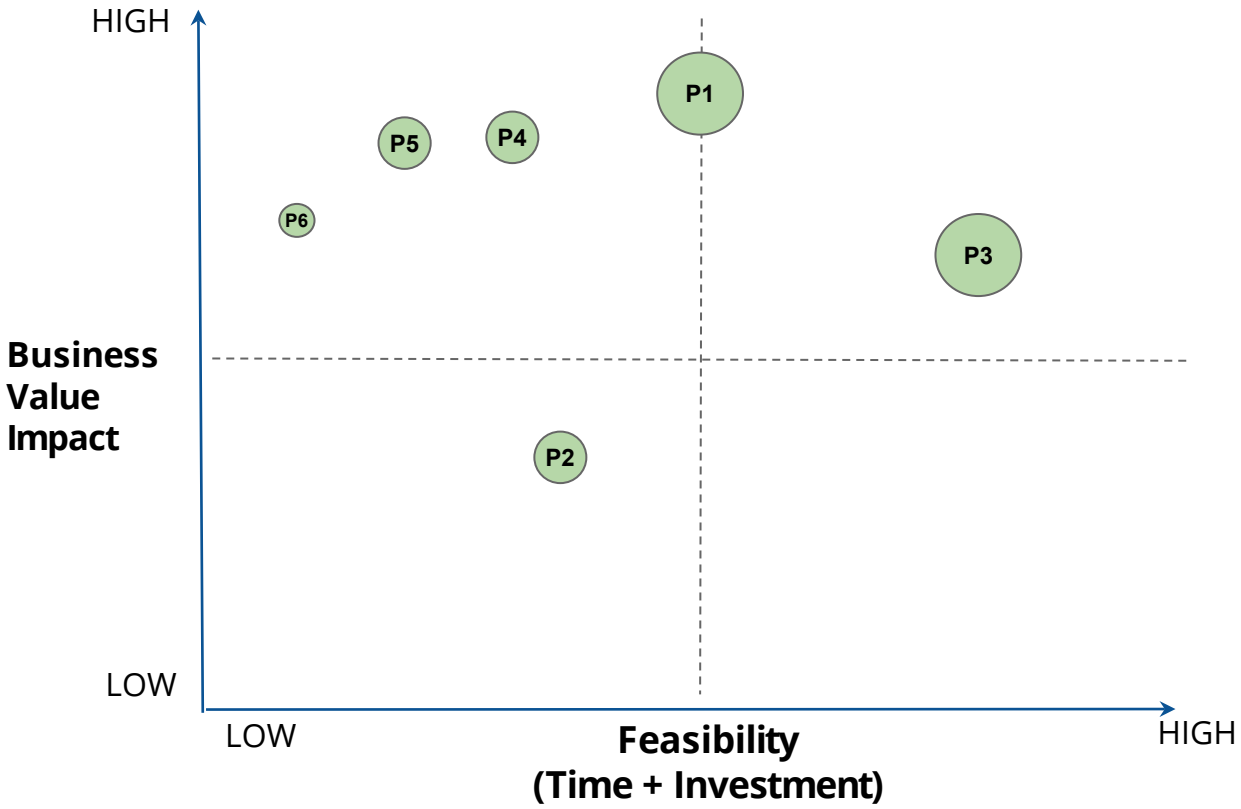
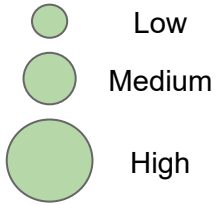
Step 2, Part 2: Complete the "Data Science Opportunity Matrix" below by modeling each of the six projects in terms of feasibility (time & investment), business value impact, and likelihood of value capture



Project 1: Trend Forecasting
Project 2: Data Driven-Recruitment/Retention Management
Project 3: Customer Sentiment Analysis
Project 4: Price Optimization
Project 5: Inventory Optimization
Project 6: Fraud Detection

Likelihood of Value Capture



Harris Scarfe Data Science Transformation

Naif Alaskari
Software Engineer

02-Jan-2023

Executive Summary

Purpose of 100-day plan

- The setting of concrete, achievable goals, and strategies to set and measure progress toward the completion of the data-driven transformation journey.

Approach

- Identifying the company’s key business problems and addressing those problems with the help of data science.

Results

- Identified key business projects that have high business value and likelihood of success.

Scope of Work for First 100 Days

- **Marketing and Sales**
- **Customer Service**
- **Procurement**
- **Technology**
- **HR**

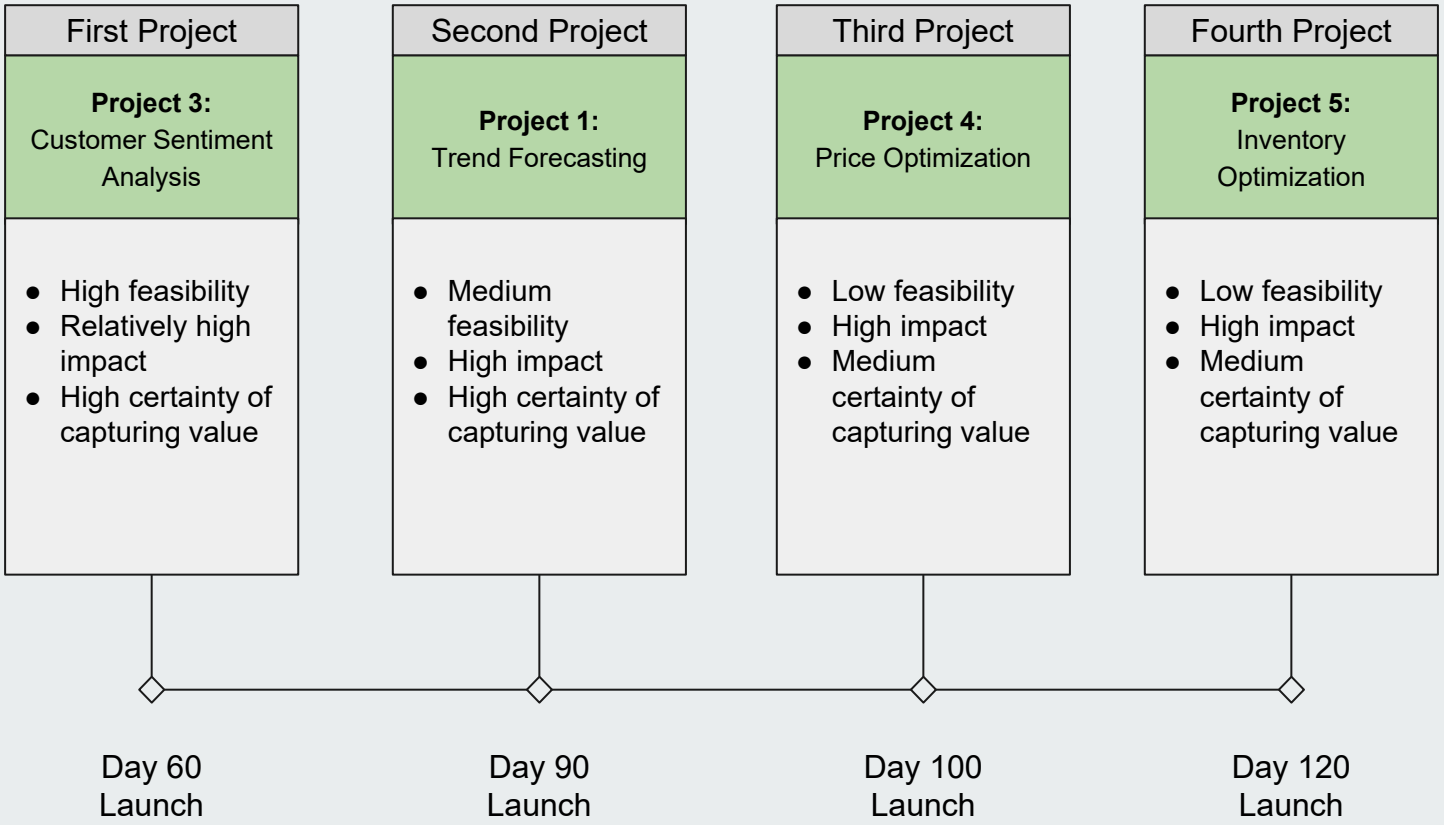
Candidate Data Science Projects

	Functional Area	Project Description
Project 1: Trend Forecasting	Marketing and Sales	Predict and recommend best offers to the customers.
Project 2: Data-driven Recruitment/Retention Management	HR	Understand the candidate market and create an efficient recruitment process that will allow employers to attract and hire the best-suited candidates for the job.
Project 3: Customer Sentiment Analysis	Customer Service	Analyse customers feedback for better products offering
Project 4: Price Optimization	Sales	Generate maximum profits from pricing by offering the most competitive prices in the marketplace while still covering their cost of goods sold.
Project 5: Inventory Optimization	Procurement	Optimize the inventory to make better-informed decision for products replenishment.
Project 6: Fraud Detection	Finance Technology	Identity potential fraudulent activities to avoid potential transaction risks.

Step 2, Part 3: Complete the "Data Science Road Map" below with the first four data science projects chosen for implementation.

Order	Project	Order Justification
1	**Project 3:** Customer Sentiment Analysis	The feasibility of this project is high and is directly aligned to the company's strategic goals. Starting off with this project will benefit the implementation of the next one because the resulting analyzed data will determine important data points.
2	**Project 1:** Trend Forecasting	The feasibility of this project is relatively high. It is important to analyze the trend based on the customers' feedback to make informed decisions on predicting consumer demands. It will enable the business to focus on which products to procure.
3	**Project 2:** Price Optimization	The feasibility of this project is medium but has a high impact on business value. After forecasting the trends, the analysts will be able to create competitive pricing strategies that will create an immediate positive impact to the business.
4	**Project 6:** Inventory Optimization	This project has an average feasibility score but business value impact and likelihood of success are rather high. It is one of the key functional areas that the business needs to focus on and again would create an immediate positive impact in operations.

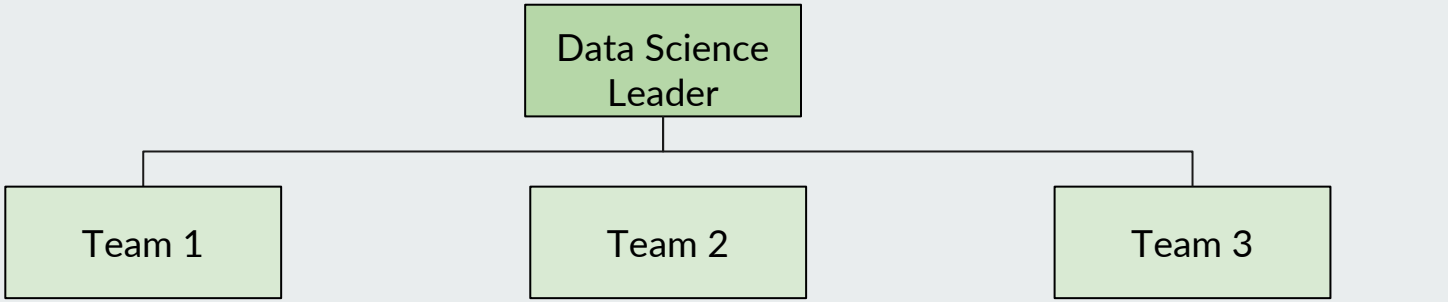
Step 2, Part 3: Complete the "Data Science Road Map" below with the first four data science projects chosen for implementation.



Our Highest-Priority Data Science Projects

Order		Direct Alignment with Strategic Goals?	Cost	Complexity of Implementation	Certainty of Value Capture	Magnitude of Benefit
		1=Low; 5=High	1=High; 5=Low	1=High; 5=Low	1=Low; 5=High	1=Small; 5=Large
First	**Project 4: Customer Sentiment Analysis**	4	4	4	5	4
Second	**Project 1: Trend Forecasting**	5	3	3	4	5

Initial Structure of the Data Science Team



- Data Science Architect
- Data Scientist
- Business Analyst
- Data Engineer

- Data Science Architect
- Data Scientist
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- Data Science Architect
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I have identified six strategies for promoting a data-driven culture in our business

Strategies for promoting a data-driven culture

Strategy 1: Promoting data-driven decisions is the use of data analytics first and foremost and have everyone buy in to the culture that the use of data analytics is the way to move forward.

Strategy 2: Promoting data governance to set up frameworks to protect and control the access to, and usage of, data; to ensure that data is secure and compliant with relevant laws and regulations.

Strategy 3: The use of machine learning algorithms to process large volumes of data and identify patterns and to detect and address system-wide anomalies in a timely manner to avert potential risks.

Strategy 4: Implementing visual presentations of data to enable better understanding and analysis of data which would result in better decision making.

Strategy 5: Promoting data storytelling will provide an effective way to communicate data driven decisions by the use of familiar words and images that bring data to life.

Strategy 6: Last and certainly not the least is to have extreme support from management as they will be the main drivers and decision makers in promoting a data driven culture.

Technical Infrastructure Needed to Support the Data Science Organization

Data Requirements	What data should be included in the Data Strategy?	● Customer preferences, needs, buying habits, purchase history, demographic data. ● Data security ● Reliable, up-to-date data storage.
Data Governance	Data Availability	● A clear plan to identify who is responsible for collecting, storing, and sharing the company's data. ● Data available for employees only to their functional area assignment, this will be made possible by implementing user access rights
	Usability	● Structuring and organizing the data by adding labels, documents and other descriptive details eases its efficient retrieval. ● Making sure that the data being used is compatible and easily understandable by the business users.
	Integrity	● Perform regular backups, establish authorization policies and access control protocols, and ensure data encryption measures. ● Develop a system for error-checking.
	Security	● Establish and implement a reliable access control policy. ● Backup data to an external server or cloud-based storage system regularly.

Technical Infrastructure Needed to Support the Data Science Organization

Technology	Data Architecture Components	• The database which is the foundation for the system • Data modelling where data is decomposed into different entities and relationships and to provide data organization • Data analytics for applying algorithms or machine learning techniques to analyze large data sets
Skills and Capacity	Data literacy skills and organizational capacity	• The business should allow employees opportunities to learn and practice with real data • Encourage an understanding of data-driven decision-making among staff to understand manipulated data • Easy access to systems and tools
Support for Machine Learning	Machine learning architecture	• Commercial Solutions • An out-of-the-box solution that is the quickest solution to deploy and has tons of standard and customizable functionality that the business needs. Applications can interface with the MLA through API endpoints.