Transforming Data into Decisions:

The Anatomy of a Corporate Analytics Project

Barkin Saritas

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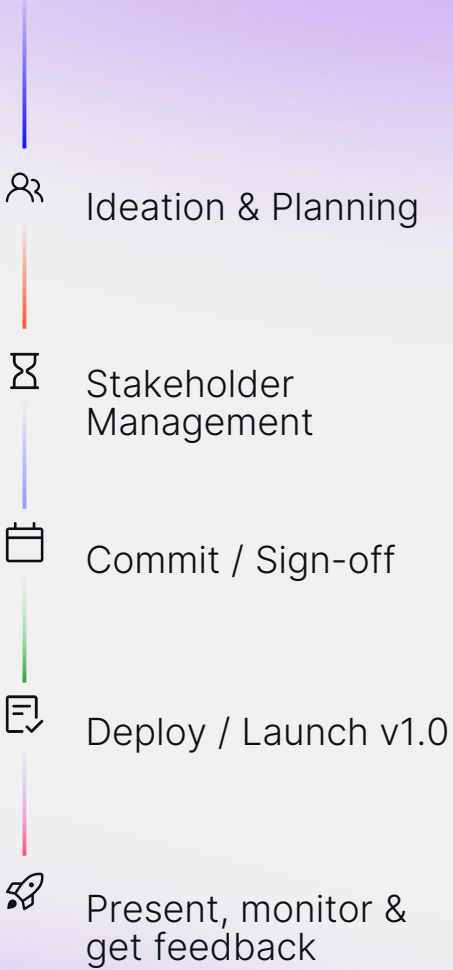
Our Agenda

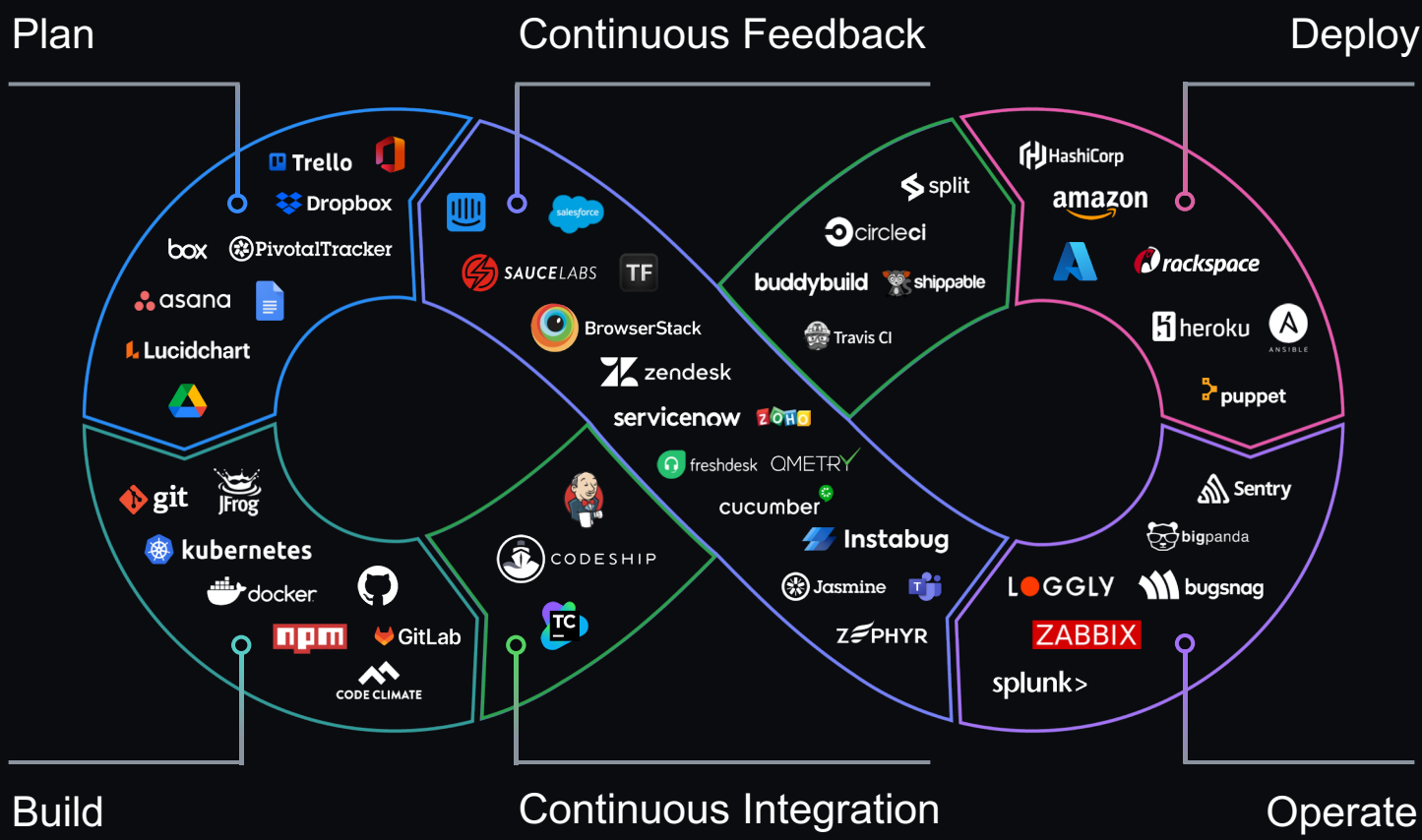
- Introduction
- Starting a Project: Identifying the Need
- Stakeholder Management
- Data Analysis / Modelling
- Transforming Analysis into Insights
- Challenges and Best Practices
- GitHub

WHY

- Corporate projects are very different than university projects
- Experience that compliments your lessons
- I do not have a technical role anymore

Example Project Roadmap




Plan
Continuous Feedback
Deploy
Trello
Dropbox
box
PivotalTracker
asana
Lucidchart
SAUCELABS
TF
BrowserStack
zendesk
servicenow
freshdesk
QMETRY
cucumber
Instabug
Jasmine
ZEPHYR
split
circleci
buddybuild
shippable
Travis CI
HashiCorp
amazon
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JFrog
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GitLab
CODE CLIMATE
CODESHIP
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Sentry
bigpanda
LOGGLY
bugsnag
ZABBIX
splunk>
Build
Continuous Integration
Operate

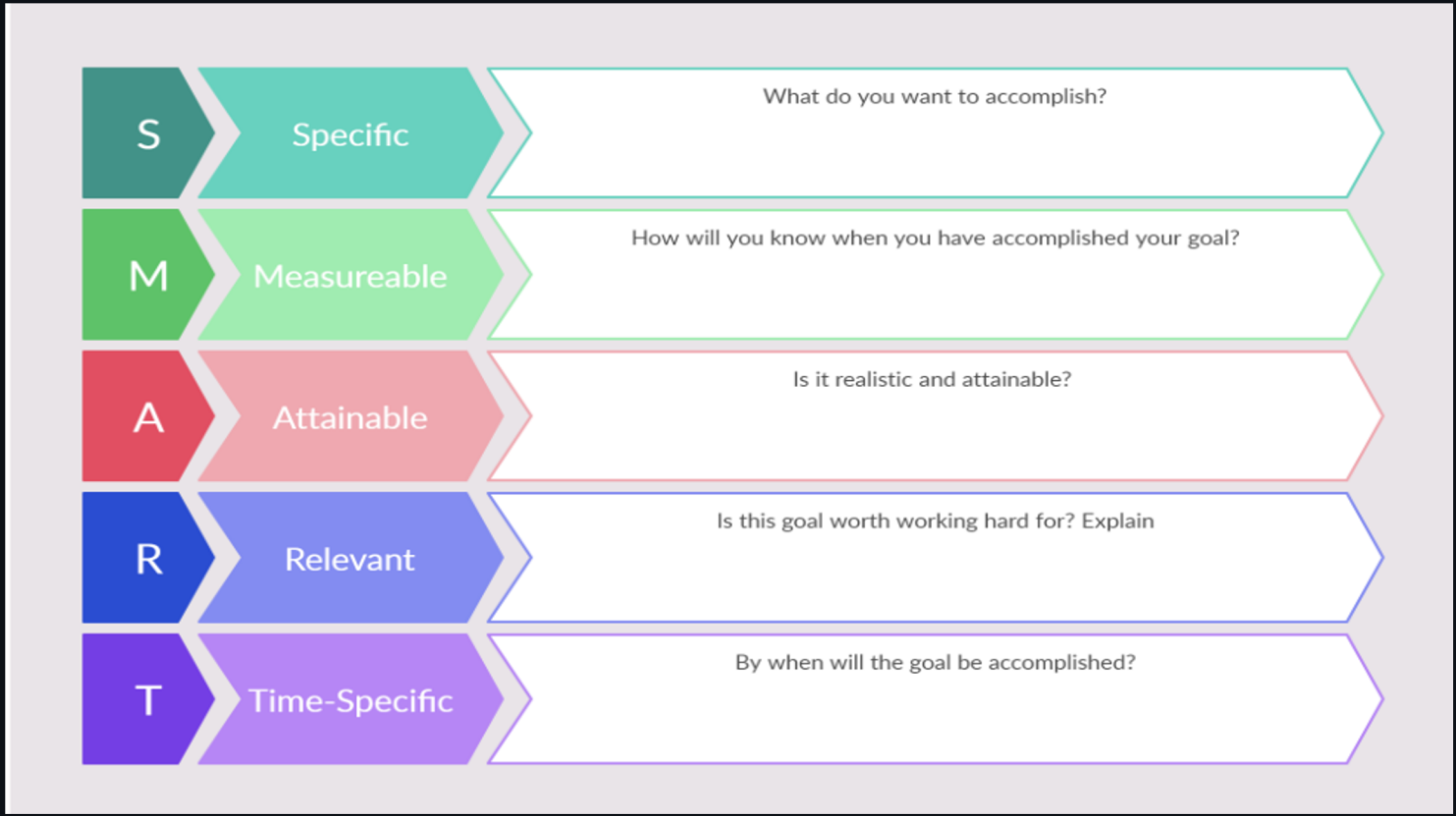
Ideation & Planning

- **Identify the specific business issue the project aims to address**
- **Identify stakeholders**
- **Review prior projects**
  - Identify the main results of these projects.
  - Determine if any components or materials can be repurposed for the current project.
  - Identify any errors from past projects to avoid repeating them.
- **Determine the scope**
  - Outline the necessary criteria for these outputs.
  - Specify what elements will be excluded from the project's scope

Ideation

- **Determine the KPIs of the projects**
  - Specific: Clearly outlined, ensuring that all team members comprehend it.
  - Measurable: Capable of being assessed to determine if the KPI is met.
  - Achievable: The team possesses the necessary capabilities and resources to achieve the KPI.
  - Relevant: The KPI aligns with overarching organizational objectives.
  - Time-related: A set timeline exists for achieving the goal.
- SMART for Interview
  - Situation & Task
  - Metrics
  - Action
  - Results
  - Tie-in

Ideation


S
Specific
What do you want to accomplish?
M
Measureable
How will you know when you have accomplished your goal?
A
Attainable
Is it realistic and attainable?
R
Relevant
Is this goal worth working hard for? Explain
T
Time-Specific
By when will the goal be accomplished?

Ideation

- **Specific: Improve Inventory Forecast Accuracy**
  - Increase the accuracy of inventory forecasts from 70% to at least 85%
- **Measurable: Tracking Forecast Accuracy**
  - Success will be measured by comparing the predictive model's forecasted inventory levels against actual sales data on a monthly basis
- **Achievable: Leveraging Advanced Predictive Modeling**
  - The team will employ time-series analysis and demand forecasting algorithms, to improve the accuracy of inventory predictions
- **Relevant: Alignment with Operational Efficiency**
  - This project directly contributes to the company’s objective of optimizing inventory levels, reducing overstock, thereby improving operational efficiency.
- **Time-related: 12-Month Target Period**
  - Providing sufficient time for model development, testing, and refinement based on ongoing results.

Ideation

- **Estimate**
  - Effort & resources that needs to go into projects
  - Project duration
  - Project risks
  - Impact
    i. Determine the organizational gains if the project meets its objectives.
    ii. In case of uncertainty, offer a range or confidence interval for these benefits.
    iii. Identify any non-quantifiable, qualitative advantages.

Stakeholder Management

Stakeholder Management

- **Communication**
  - Be mindful of the data literacy of the stakeholders
    i. Customize messaging based on stakeholder's level of technical knowledge and interest.
    ii. Keep stakeholders informed about project progress, challenges, and changes.
  - Manage expectations
    i. Under promise over deliver
    ii. Clearly communicate project scope, timeline, and potential challenges.
    iii. Be adaptable to changing stakeholder needs and project dynamics.

Understanding Data at Hand

- **Determine data availability**
  - Assess the existing data resources within the organization and identify accessible external data sources to understand the scope of available information
- **Identify data requirements**
  - Define the specific types of data needed for the analytics project, considering factors like data format, granularity, and relevance to the project objectives.
- **Collect initial data**
  - Initiate the process of gathering the required data, ensuring adherence to data quality standards
- **Explore data and characteristics**
  - Conduct a preliminary analysis to understand the data's structure, quality, and peculiarities, such as trends, patterns, and potential outliers in the dataset.

Data Preparation and Modelling

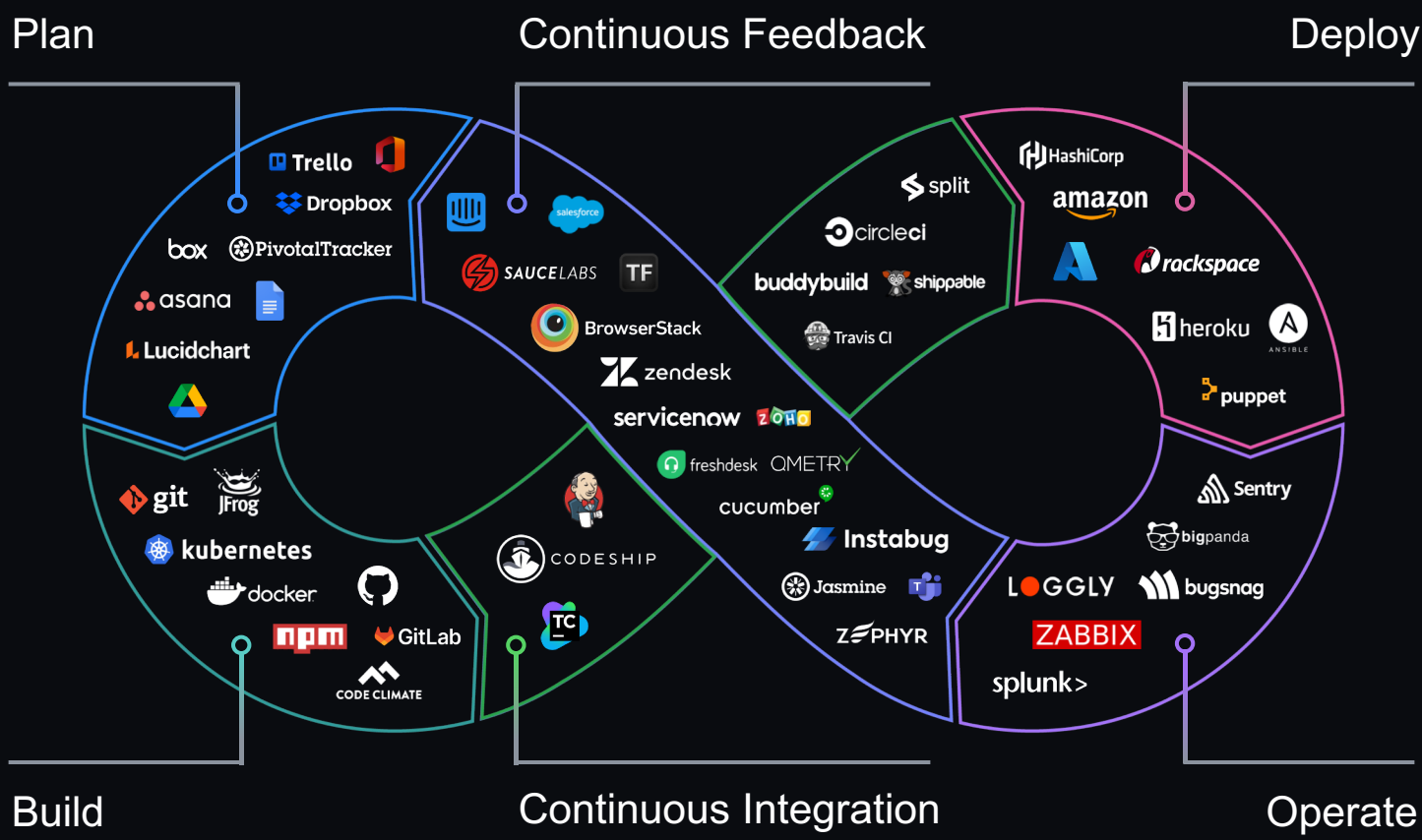
- **Data Cleaning and Preprocessing**
  - Address data quality issues by cleaning and preprocessing data, which includes handling missing values, outliers, and errors to ensure the data is accurate and consistent for analysis
  - Feature selection and engineering
- **Model Selection, Training & Validation**
  - Choose appropriate statistical or machine learning models based on the project objectives and the nature of the data. Consider factors like complexity, interpretability, and computational efficiency
  - Assess the model's performance using appropriate metrics (e.g., accuracy, precision, recall) and validate the model on a separate dataset to ensure it generalizes well to new data.

Transform Analysis into Insights

- **Data Visualization and Stakeholder Presentation**
  - Tailor presentations to the stakeholders' level of expertise and interest, highlighting key insights, business implications, and actionable recommendations derived from the data analysis.
- **Training and Empowerment**
  - Develop training sessions for end-users, especially power users, to ensure they understand how to interpret and utilize the analytics tools and reports effectively in their decision-making processes.
  - If needed: Implement a phased rollout of the project, starting with a pilot group of power users to test the effectiveness and gather early feedback, followed by a broader implementation across the organization.
- **Feedback and continuous improvement**
  - Gather feedback from initial presentations and training sessions to refine the analytics outputs and make them more relevant and user-friendly.

Challenges and Best Practices

- **Constant change of Requirements**
  - Documentation
  - Get sign off
- **Blockers from other teams**
  - Continuous communication with stakeholders, be transparent and clear
  - Add buffer to your planning
- **Decreasing Adoption**
  - Make sure ‘Product market fit’
  - Set up office hours
  - Announce success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shippable
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CODESHIP
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Sentry
bigpanda
LOGGLY
bugsnag
ZABBIX
splunk>
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Continuous Integration
Operate

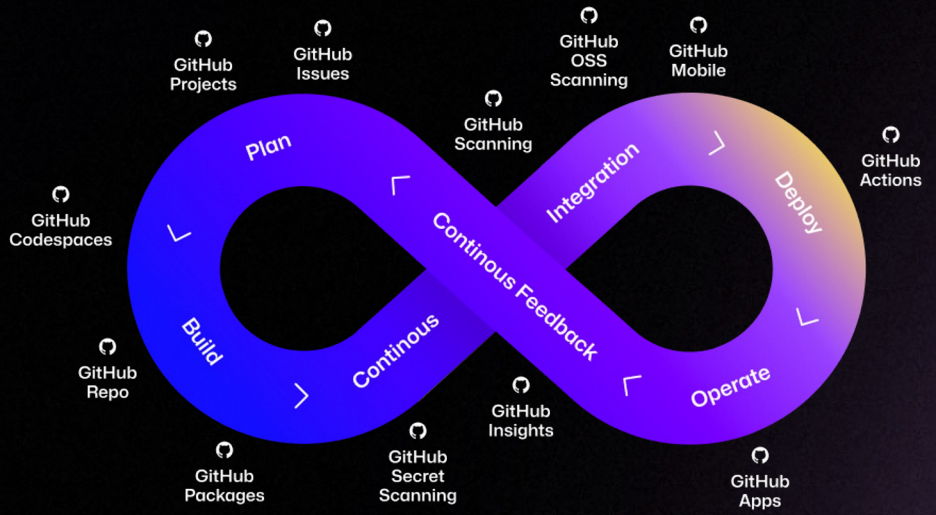
Consolidated Efficiency

Driving 433% ROI with GitHub

Seamless Integration + stack alignment
<6 months' payback After go-live

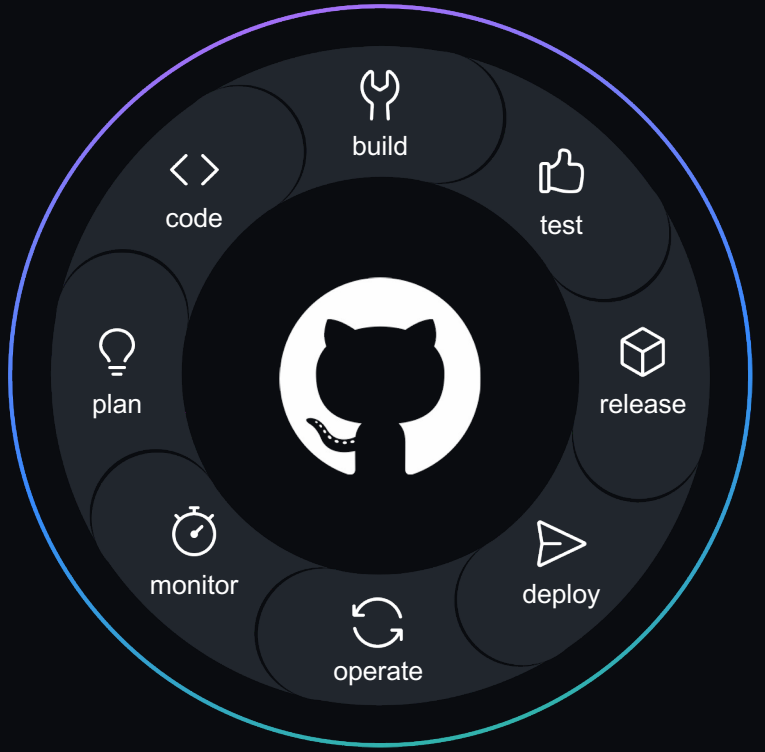
Developer efficiency
22% improvement In developer productivity
80% time saved In developer onboarding

Maintenance and overhead
75% improvement In time spent managing tools and code infrastructure



GitHub Enterprise

single, integrated platform that empowers developers



GitHub

Platform

Integrations & APIs

Copilot

Collaboration

Pull requests | Projects | Issues | Discussions | Merge queue | Search

Productivity

CI/CD with Actions | Automation | Copilot | Codespaces | Runners | npm | Mobile

Security

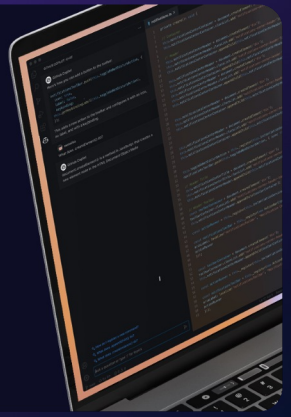
Advanced Security | Secret scanning | Code scanning | Security overview | Supply chain | Dependabot

Scale

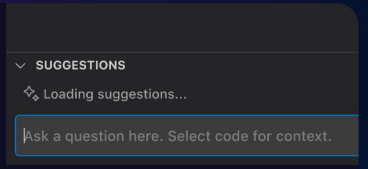
100M+ developers | Source code management

Powered by AI

Copilot enables faster coding by 55%



20,000+ businesses have used it



46% of code is written with the help of Copilot

75% of developers are more fulfilled

More than 1M developers

100M+
Registered Users

4M+
Organizations

330M+
Repositories

90%
Fortune 100

...and backed by the world's largest software company

Thank you