# Ideathon - Season 3

## MANAKULA VINAYAGAR INSTITUTE OF TECHNOLOGY

TOPIC: ESG (Environmental, Social, Governance) EME TECH 1

TEAM NAME: SKY

TEAM LEADER: Aabid M K

**Teammates**

- Amal Salilan
- Dhamotharan S
- Shamsundar S M
- Vijayamalaiya S

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# Agenda

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# 01 Abstract

**ESG is a term used to represent the sustainable and ethical impacts of a company's corporate and financial interests.** It is a non-financial indicator and it is to ensure accountability and systems to manage a corporation's impact, such as carbon footprint, diversity, and inclusion in the workspace. Through the ESG report the companies can achieve sustainability goals. Our solution must rely on **Real-Time Metric Driven Analytics, Risk Forecast, Analysis, Monitoring & Reporting.** ESG can lead to trust with stakeholders, attract investment, reduce costs, improve organizational/Operational efficiency, and a better bottom line. So, our solution is to create several ML/DL models that provide insights on specific companies that the user searches for; the data of ESG can be scrapped from government report, social media, offical site.

# ESG at Virtusa

- Businesses and consumers are placing a high value on ESG and sustainability in 2022. The PwC survey in 2021 found that 76% of consumers wouldn't buy from companies that treated the environment, employees, or community poorly
- Forbes reports that 92% of Americans are more likely to trust a business if it supports social and environmental issues. Additionally, Employee churn decreases by 25%-55% for companies with dynamic ESG programs, while stock returns increase by 5%-10%

Social

Environemntal

Governance

virtusa
India

Sustainable
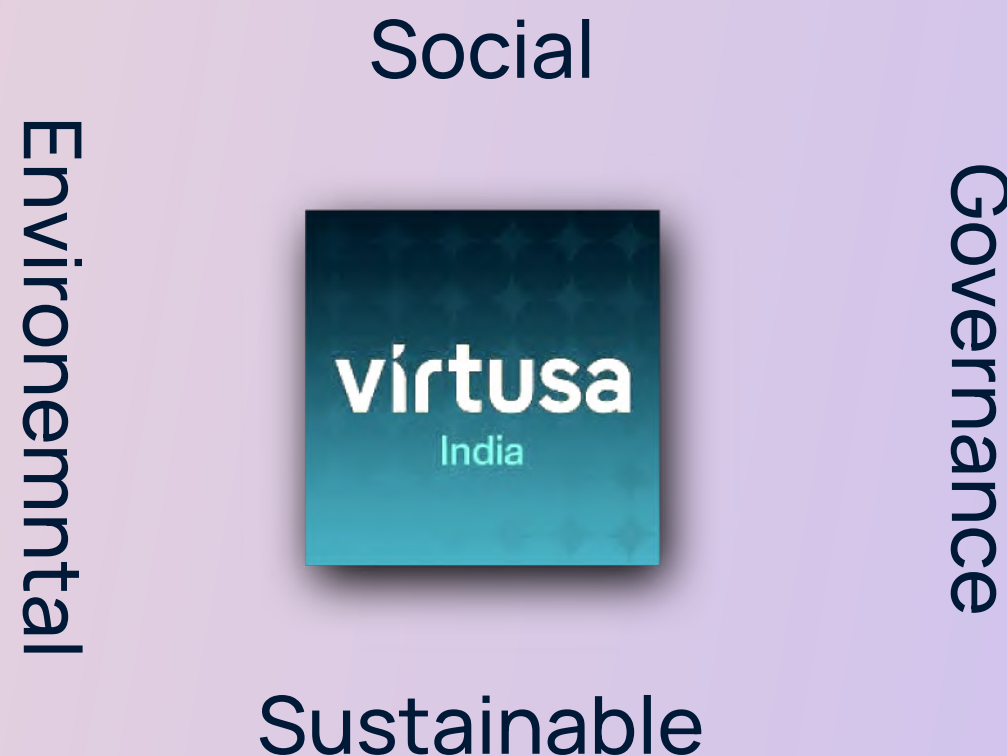
02 Problem Statement

## 01 Problem Statement

EME Tech 1 - ESG ( Environmental, Social, Governance).
To Build a Solution With real-time driven metrics for Global Companies using ESG data and to build trust with the stakeholders, to attract investment, to improve organizational (or) operational efficiency

## 02 Brief Solution

To Build an application that gives real-time ESG metrics (scores) and other analyzed data of a particular organization in a visually pleasing way, actionable insight, moreover, these data are expected to be displayed in a single dashboard
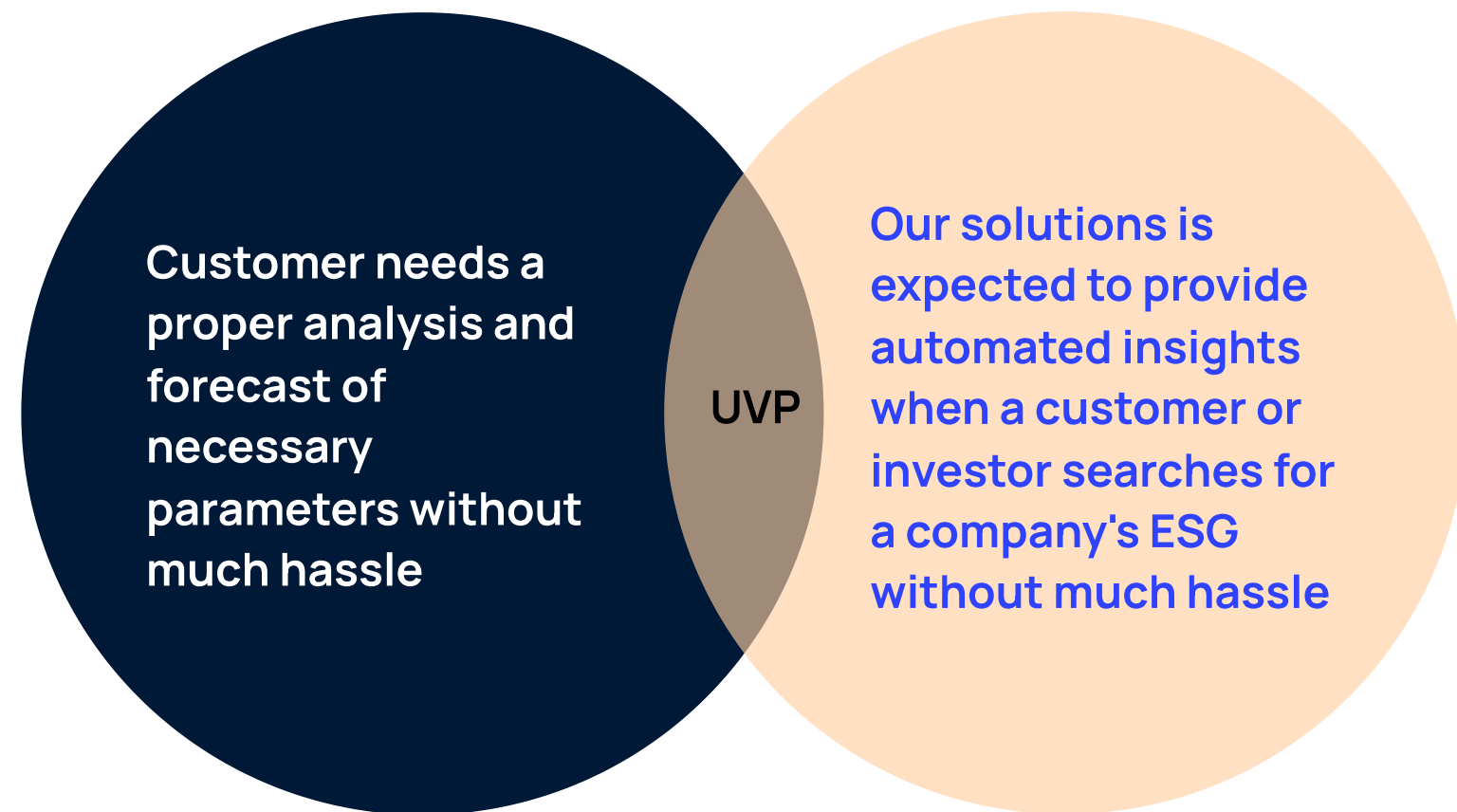
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# 03 Business Need

## Need Assesment

**01**

The ESG Analysis is still lacking a lot of automation; which is what our solution is focusing on.
A good ESG analysis will boost the efficiency of an organization by over 70%.
Improving ESG builds trust among Stakeholders and Investors

## Unique Value Proposition - UVP

**02**

Customer needs a proper analysis and forecast of necessary parameters without much hassle

UVP

Our solutions is expected to provide automated insights when a customer or investor searches for a company's ESG without much hassle

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Early stage → Later stages

| Problem | Solution Description |
|---------|---------------------|
| Environmental Factors | Providing Insights on how Environemet is affected , such as Air, Water, Energy Performance, Biodiversity, Natural resource depletion, and Climate Change |
| Social Factors | Giving an analysis of how all the Stakeholders are treated, i.e Customers, Employees, HR's, etc. Providing a relationship scale from 1-10 for each department will be insightful |
| Governance Factors | Analyzing the board's diversity, tax strategies, and building a model that learns all the basic policies of ESG to better extract information |
| Weakness | Listing all the weak area so that the organization can focus on improving those certain listed areas |
| Forecasting | Predicting the Risk, Growth Factor, etc. |

1. Currently Processing the Unstructured data of a company is itself a major Business need and that is the first step to getting insightful data
2. This ESG report will help investors to confidently invest in a certain organization
3. This Kind of Service is rare, hence provides greater market value and need

04 Target Segment

# Customers

**Company**

Most of the organizations look forward to give ESG analyzing task to some other organization or to a set of people

**VC's**

Venture Capitalist, Angel Investors, and other VC firms might need an ESG of a certain company before investment

**Investors**

Independent investors can use this services (tool) for risk free investments
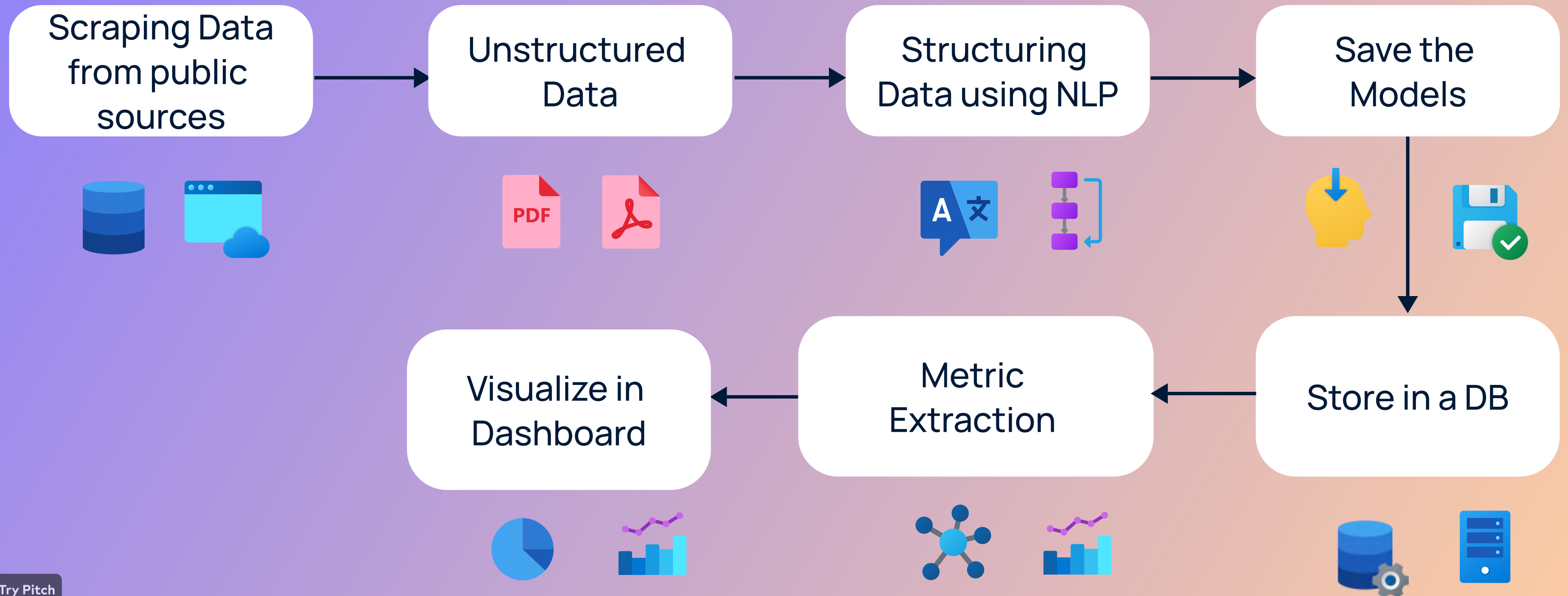
05 Market Size

# Market size

**01** **Total Addressable Market (TAM)**
If we consider every single customers from VC's, AI's, organizations, to educational institutions

**02** **Serviceable Addressable Market (SAM)**
The ESG for all the firms are hard to retrive, so serveable customers are Investors and Firms that have some data to provide

**03** **Target Market**
Organizations, and Investors

**04** **Market Share**
Estimating these services in the current market share

$5B

$2.5B

$500M

$50M

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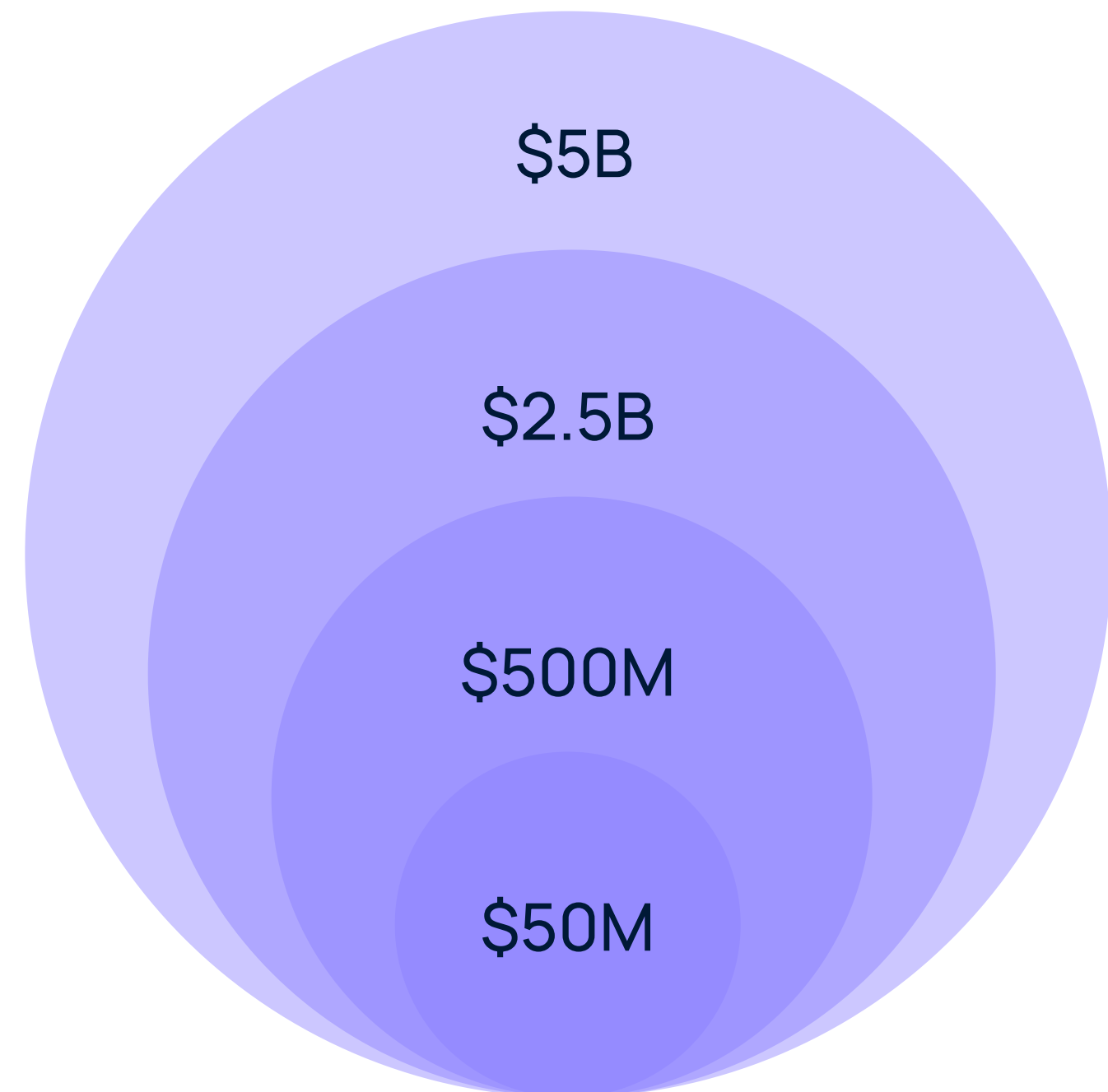
# 06 Solution Details

# Solution Roadmap

The solution involves scrapingthe data for the company the user searcher for, after that; giving insights using ML/DL, and with some basic analysis. We can compare what the company says and does, and using some unstructured data we can determine the ESG score

```
Scraping Data
from public      →   Unstructured   →   Structuring        →   Save the
sources              Data               Data using NLP         Models
                                                                   ↓
Visualize in     ←   Metric         ←   Store in a DB
Dashboard            Extraction
```

# Roadmap Description

**01** Scraping Data using Web Scraping Libraries in Python for the keyword and extracting available data from public sources like news, esg rating and reports

**02** The Data that we have extracted are mostly unstructured data PDF images, texts, gov reports, social media, and websites

**03** Using NLP libraries to preprocess the text, and using keywords to structure the data (topic modeling).

**04** Saving the trained ML /DL model in case of further use and increasing accuracy

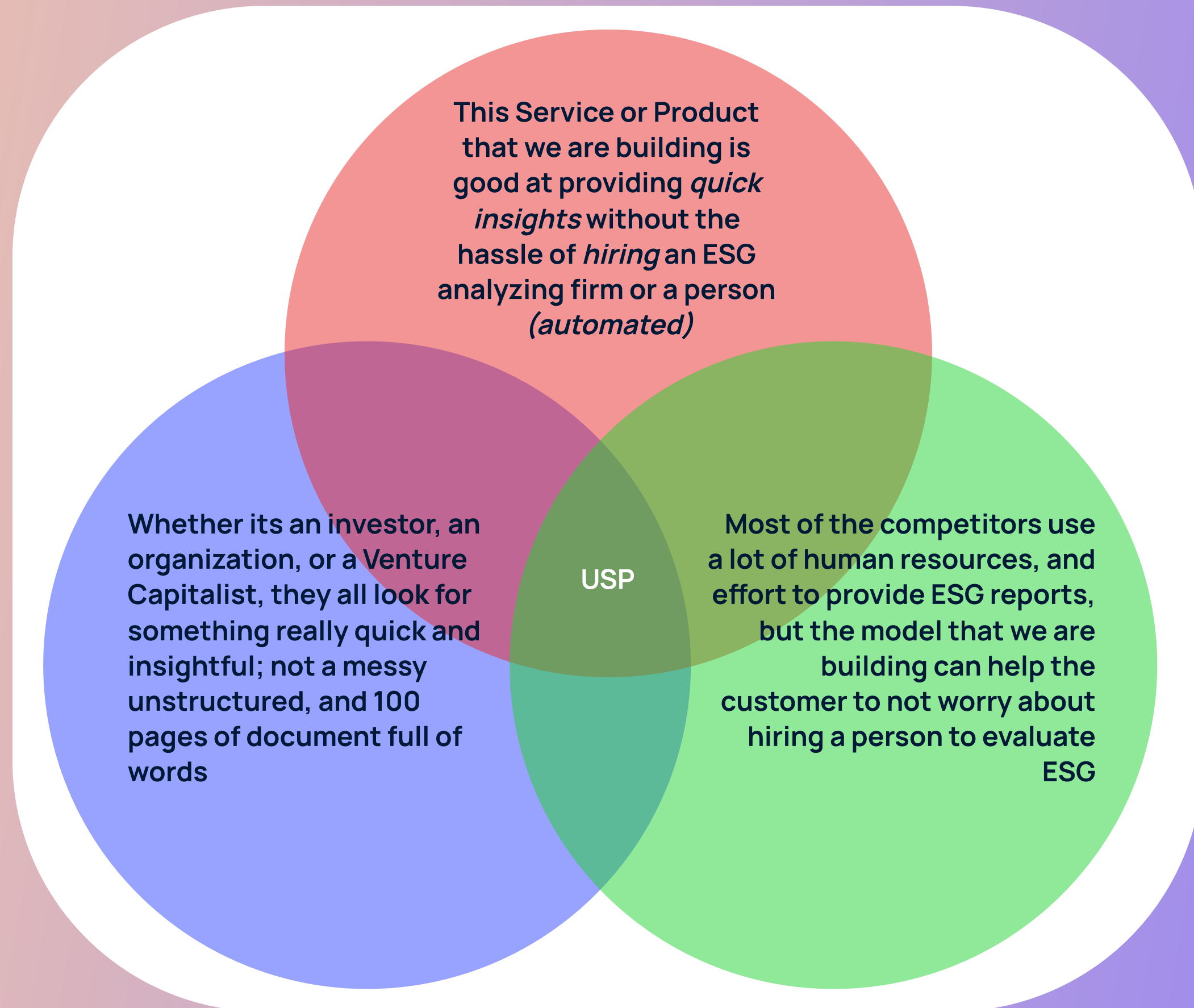**07** Finally using the CSV file we can plot the pie charts and regression charts using several libraries

**06** Extraction of Esg scores and Metric scores

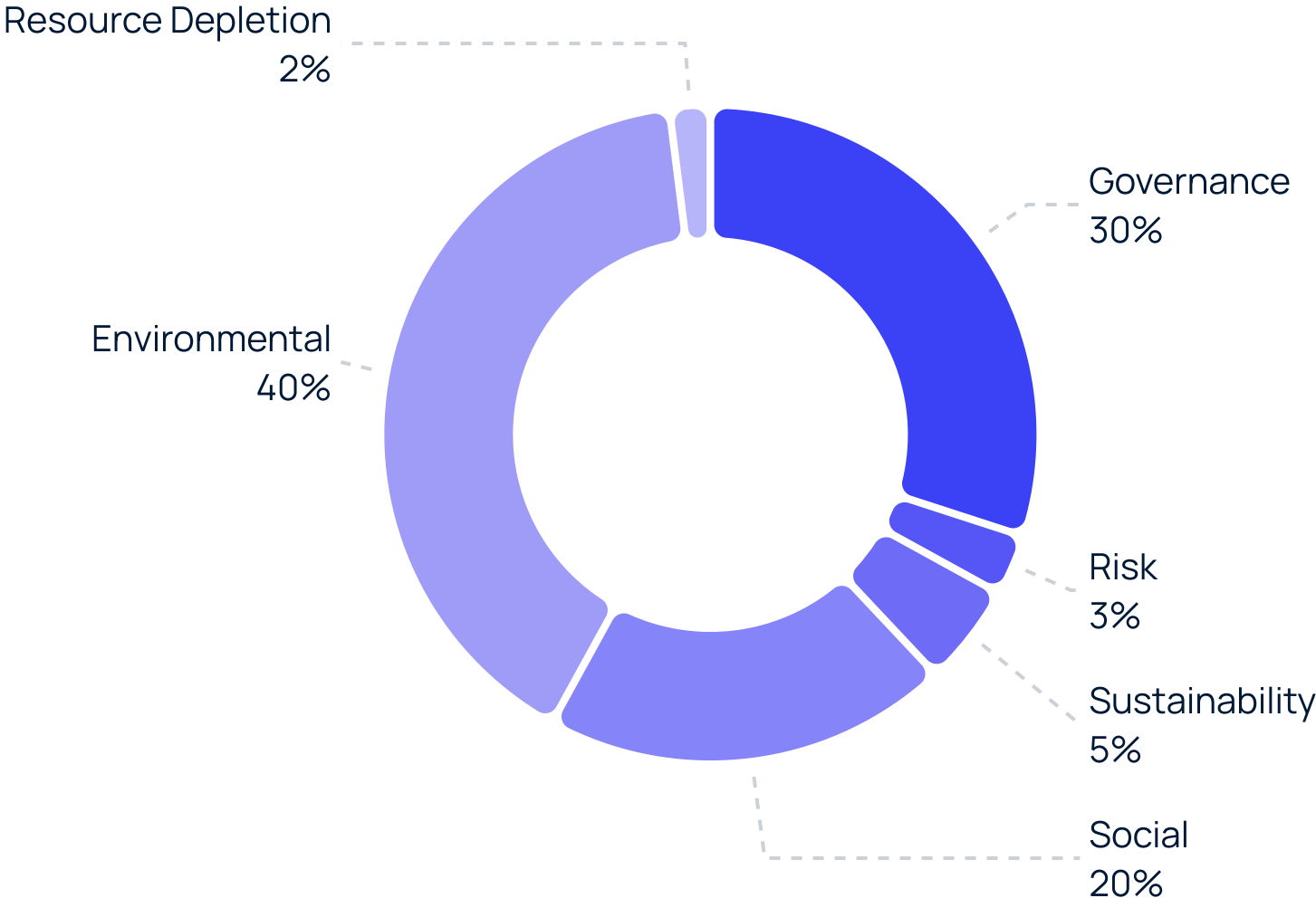**05** Storing the data for further processing in any Database

# Unique Selling Proposition

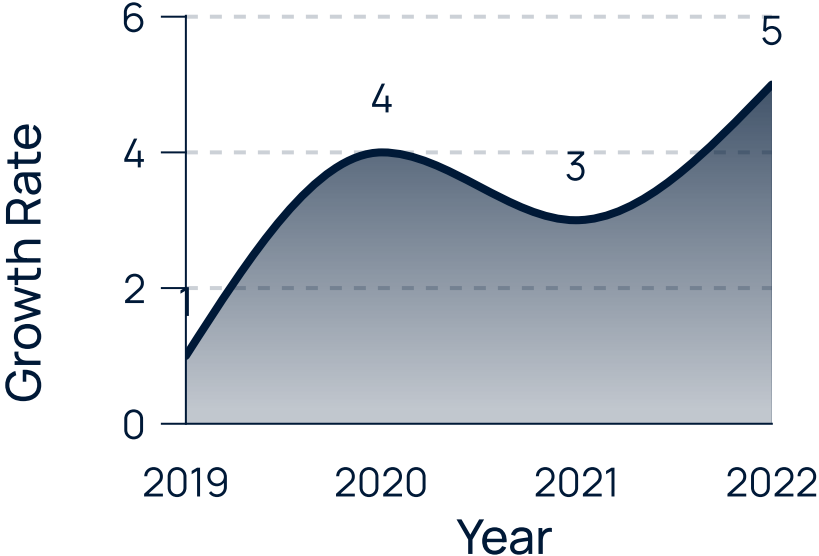This Service or Product that we are building is good at providing *quick insights* without the hassle of *hiring* an ESG analyzing firm or a person *(automated)*

Whether its an investor, an organization, or a Venture Capitalist, they all look for something really quick and insightful; not a messy unstructured, and 100 pages of document full of words

USP

Most of the competitors use a lot of human resources, and effort to provide ESG reports, but the model that we are building can help the customer to not worry about hiring a person to evaluate ESG
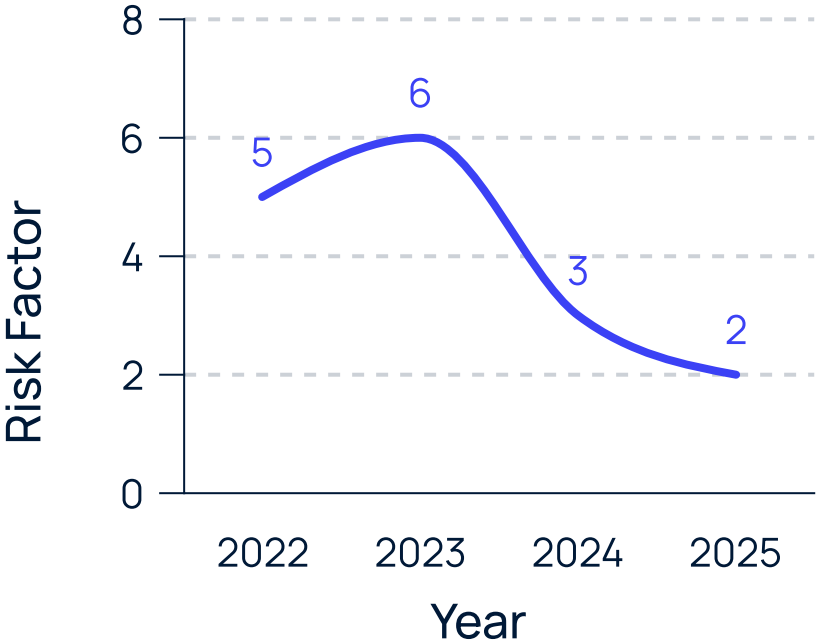
# Technology Stack

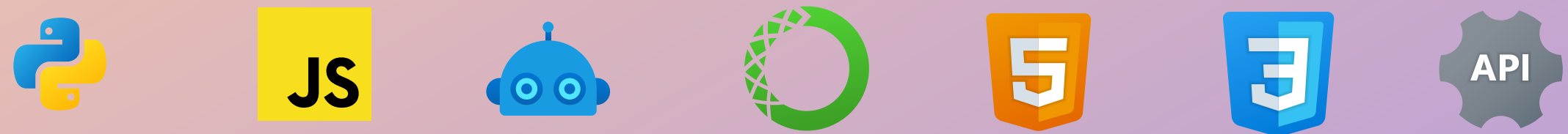| Technology Description | Language/Framework |
|---|---|
| Basic Functions, and AI/ML Tasks | Python, Tensorflow, Scikit-learn, and other necessary libraries |
| User interface/ User experience | HTML/CSS, Django, Java Script, and Figma |
| Database, operaion related to Data handling | Excel, CSV, and MySQL |
| Webscrapping, and Data Extraction | Python, Selenium, Beautiful Soup, and other Necessary API's |

# 07 Further Readiness

# Application Process Plan

Final Stage

Initial Stage

| | | | | | |
|---|---|---|---|---|---|
| | Extracting Numerical Info | | | | Building a Pleasing Dashboard |
| Structuring Data | Categorizing the Data | Score Extraction | Firebase DBMS | Creating tables for other data | Using API's to convert data |
| Scraping news , ESG rating and Repots | Training ESG Policies Model | News Summarization | Fire Store | Creating Snowflake Charts and regressions | Using Frameworks Eg: Django |

●     ●     ●     ●     ●     ●

| Data Collection & Processing | Pre-Training & Training Model | Machine Learning Engine | Database | Visualizing Data | UI & UX |
|---|---|---|---|---|---|

Initial Stage                                     Final Stage

# Market Launch

## 01
### Target Customer Niche

- Investors
- Companies Seeking for ESG report

## 02
### Features over Existing

- Automated
- Provides Better Insights
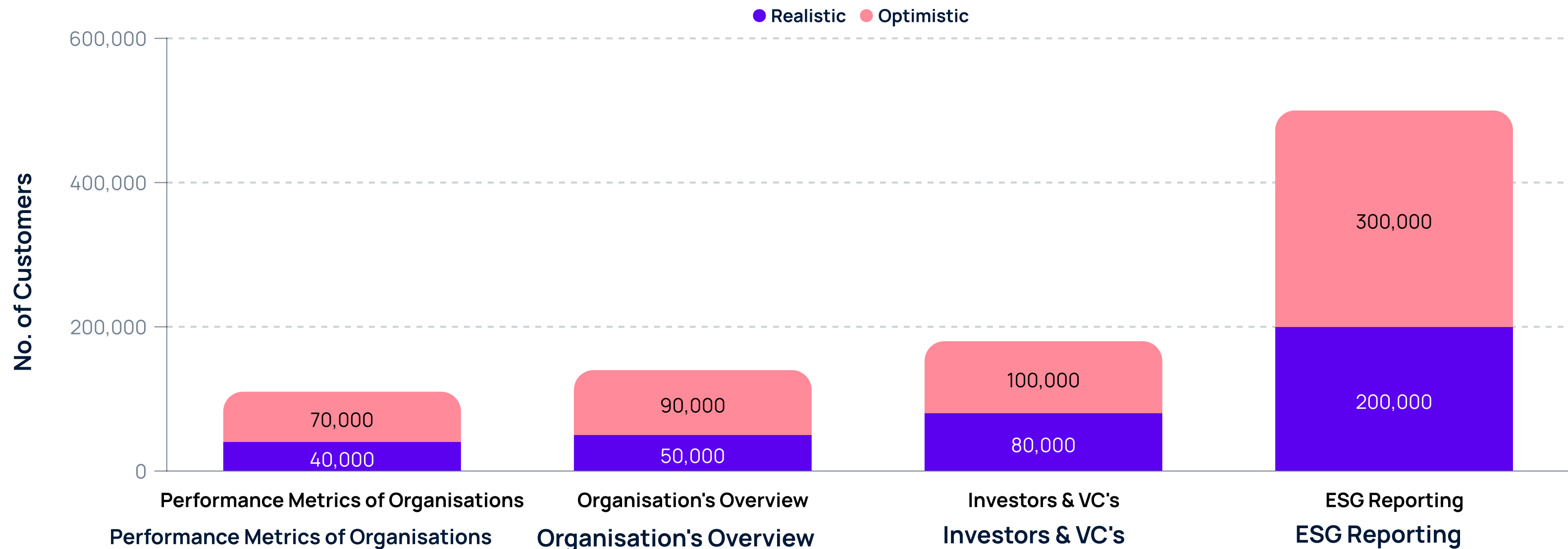- KISS (Keep it short and Simple)
- Risk Forecast for Investors

## 03
### Easy to Use

- Simple UI/UX
- Understandable instruction
- Time efficient

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# Other Segment Applications

Customers who are not looking for ESG but for other appications like overview of a company, for investing in stocks, to know how the organization works in all aspects



**No. of Customers** (y-axis)

Legend: ● Realistic ● Optimistic

| Category | Realistic | Optimistic |
|---|---|---|
| Performance Metrics of Organisations | 40,000 | 70,000 |
| Organisation's Overview | 50,000 | 90,000 |
| Investors & VC's | 80,000 | 100,000 |
| ESG Reporting | 200,000 | 300,000 |

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# 07 Team Details

## Aabid M K

| Department | CSE |
|---|---|
| Sex | Male |
| Status | Team Leader |
| Skills | Tech savy, App Dev |

## Amal Salilan

| Department | CSE |
|---|---|
| Sex | Male |
| Status | Team Member |
| Skills | Data Analysis, AI/ML |

## Dhamotharan S

| Department | CSE |
|---|---|
| Sex | Male |
| Status | Team Member |
| Skills | Data Analysis, Django, Web scrapping |

## Shamsundar S M

| Department | CSE |
|---|---|
| Sex | Male |
| Status | Team Member |
| Skills | Maintenance |

## Vijayamalaiya S

| Department | CSE |
|---|---|
| Sex | Male |
| Status | Team Member |
| Skills | Django , Presenting |

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# Thank You

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