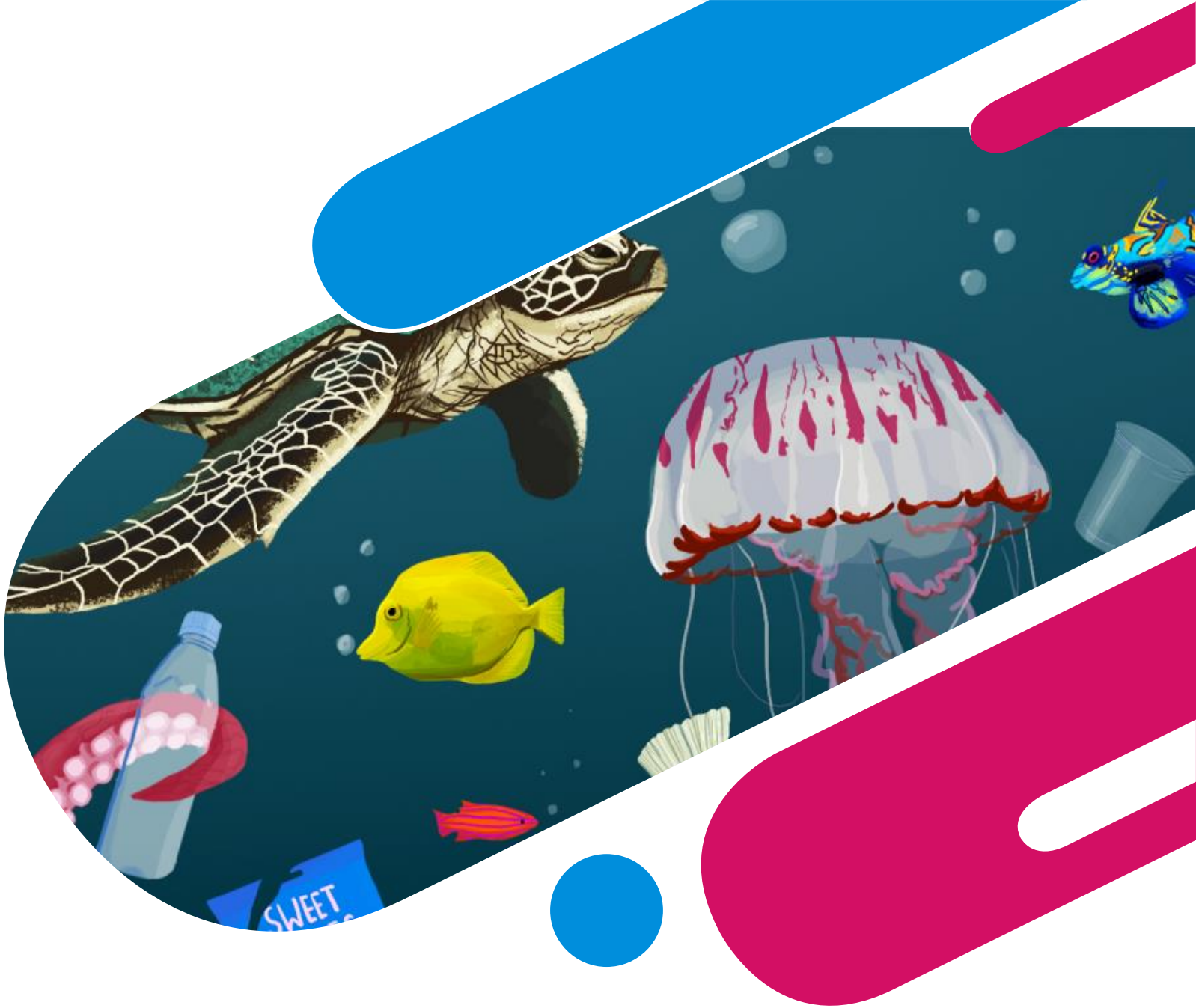
Built BI tools

Design Tableau
Code Python ML
Ocean Cleanup BI
Bi on Plastic pollution

June
2021



CONTENT

Contoso

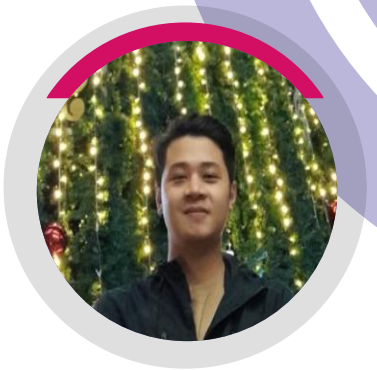
TEAM2

THANH

Feedback collector)

LAM

Code designer



BEE

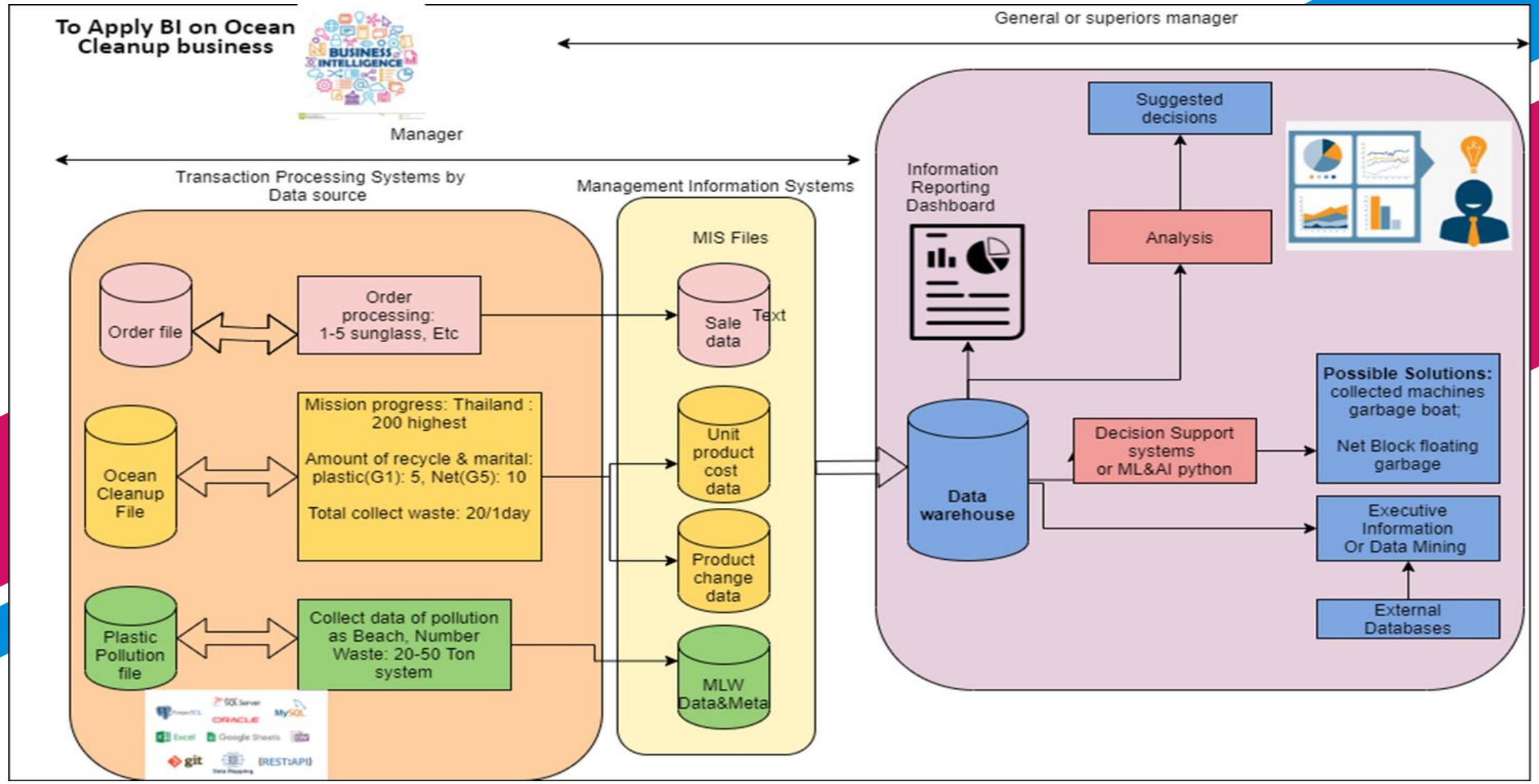
Design Tableau & python program BI’s model algorithm as program Instruction provider

Contoso

Business Intelligence (P3)

Use to control the huge amount of data coming from different sources and

exploit that data source to enable them to make decisions more effectively in their business activities

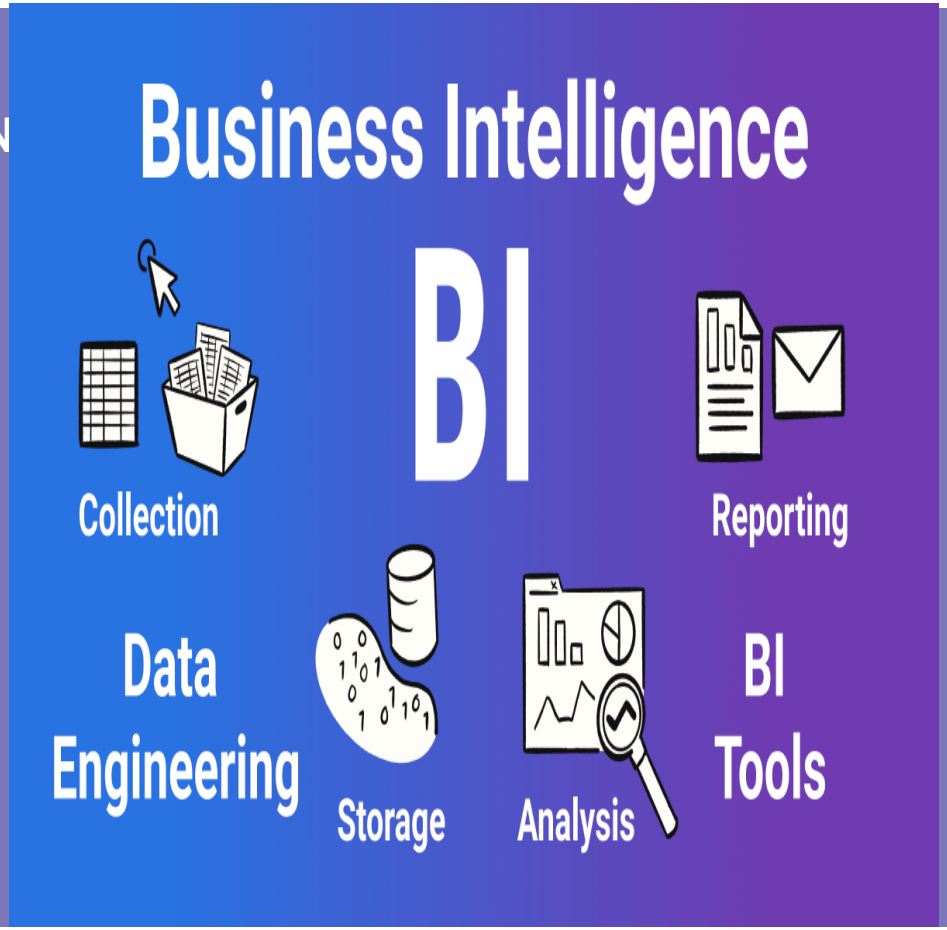


Apply BI on business ocean cleanup and design tool architecture on decision levels

BI'S COLLECTION & ANALYSIS TECHNIQUES

COLLECTION

- Data mining:
- provides a concise summary of the given data collection
- Exploiting, analyzing and identifying models for databases or trend forecasts.



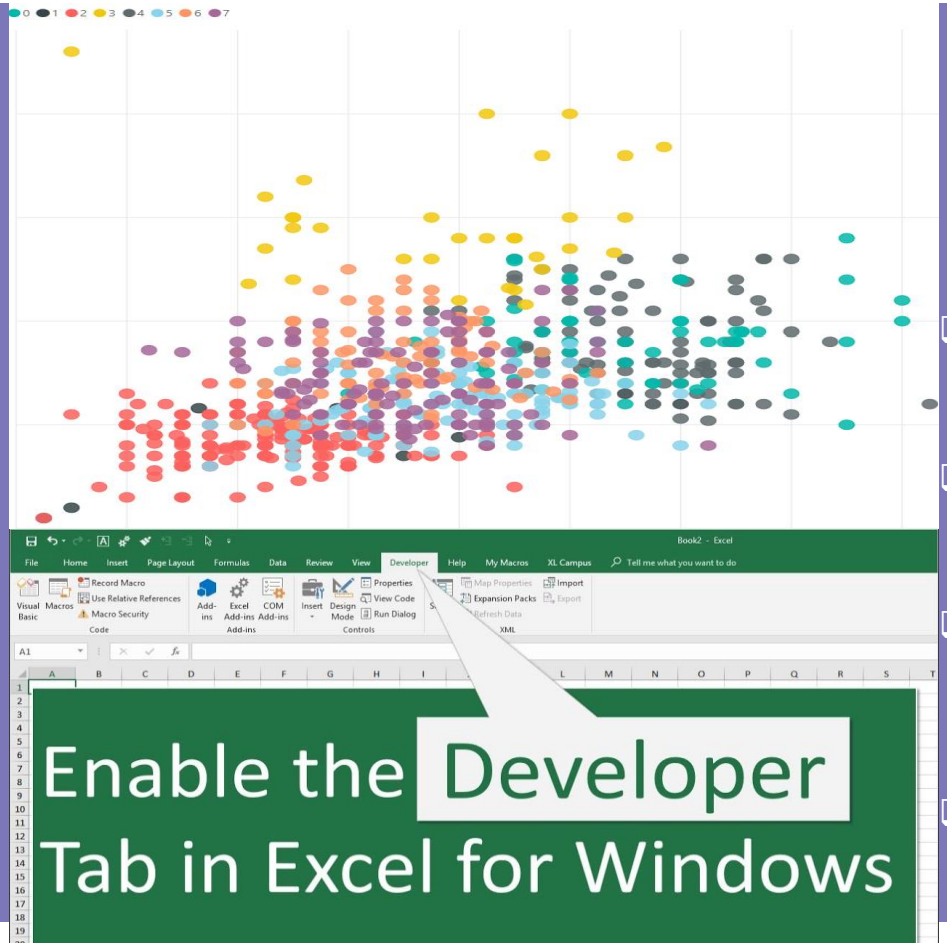
ANALYSIS

- Classify
- Identify the class of the data item.
- Association, correlation
- Identify the relationship between attributes
- Predictive analytics
- Predict probabilities and trends.
- Predict the value of a data item attribute using different statistical.
- Orient the best process for certain situations.
- Optimization & simulation
- Model Visualization
- Events are made possible by charts, storylines, charts and other visual means

PROGRAMMING, DATA WAREHOUSE, VISUALIZATION

EXCEL WAREHOUSE

- Spreadsheets: Often use excel, open-source spreadsheets. Website based spreadsheet.
- Users interactively analyze data from different sources in multidimensional mode based on the user's perspective.
- Functions are drilled deep, drilling on them is consolidation, exchange, synthesis, and division



PYTHON LANGUAGE

- Using python In BI's Dataset which able to use working with a variety of modules,
- which allows it to start up and soon realize that everything is an object that has a namespace itself.
- To give the program structure while keeping it clean and simple as why Python excels at introspection, which comes from the object nature of Python.
- Regression searches for relationships among variables.

PROGRAMMING, DATA WAREHOUSE, VISUALIZATION

TABLEAU

- Digital dashboard: Use for real-time reporting by graph of the current state that the user wants to see.
- visually analyze data sets to create customer visualization for meaningful insight. The images help users to distinguish and share with the company's department.

JUPYTER NOTEBOOK IDE

- configure and arrange the user interface to support a wide range of workflows in data science and scientific computing.
- With best environment for data visualization

Contoso

Dataset (P4)

MLW_Meta	MLW_Data	Plastic community table
This Dataset is used to keep Category detail which identify common kind and specific of waste as Plastic, wood, net etc.	This dataset is used store Targeted Beach's Detail information and sort Each rubbish code of categories into columns.	This Dataset is used to store information trading of rubbish between counties that Export and Import. We use this information to trade our recycle plastic with marketing.

Pre-process steps by python

7-Steps process	Apply to Dataset analysis
Acquire the dataset	We are able to create a dataset by collecting data via different source. Once the dataset is ready, we must put it in a CSV or XLSX file formats. (Apply to)
Import all the crucial libraries	▪ NumPy as np for using mathematical method. (Apply to) ▪ Pandas as pd for analysis with managing the dataset. (Apply to)
Import the dataset	(Apply to) Create path and files name to read as set directory
Identifying and handling the missing values	(Apply to) Deleting a particular row, the Dataset in MLW_Data.csv have too much null value or not has unusable value. So, we will delete some row and select only Generalcode that is included on plastic category (Apply to) Calculating the mean for additional miss-value as Total rubbish and average value of mode.

Pre-process steps by python

7- Steps process	Apply
Encoding the categorical data	(Not Apply to) the country and beach column won't cause problems because Beach's pollution detail and categories are separated into two files, if uses category, would use as related database with primary key generalcode with G1-213. So, we don't need to convert it into numerical values.
Splitting the dataset	(Apply to) Split Global plastic pollution dataset into two sets as MLW_Data(Beach detail set) and MLW_Mata(category Set) for avoid case problem as mess-data and over-labeling.
Feature scaling	(Apply to) we must combine and modify each calculation into one Method to predict solution as well as each define function by programing code.

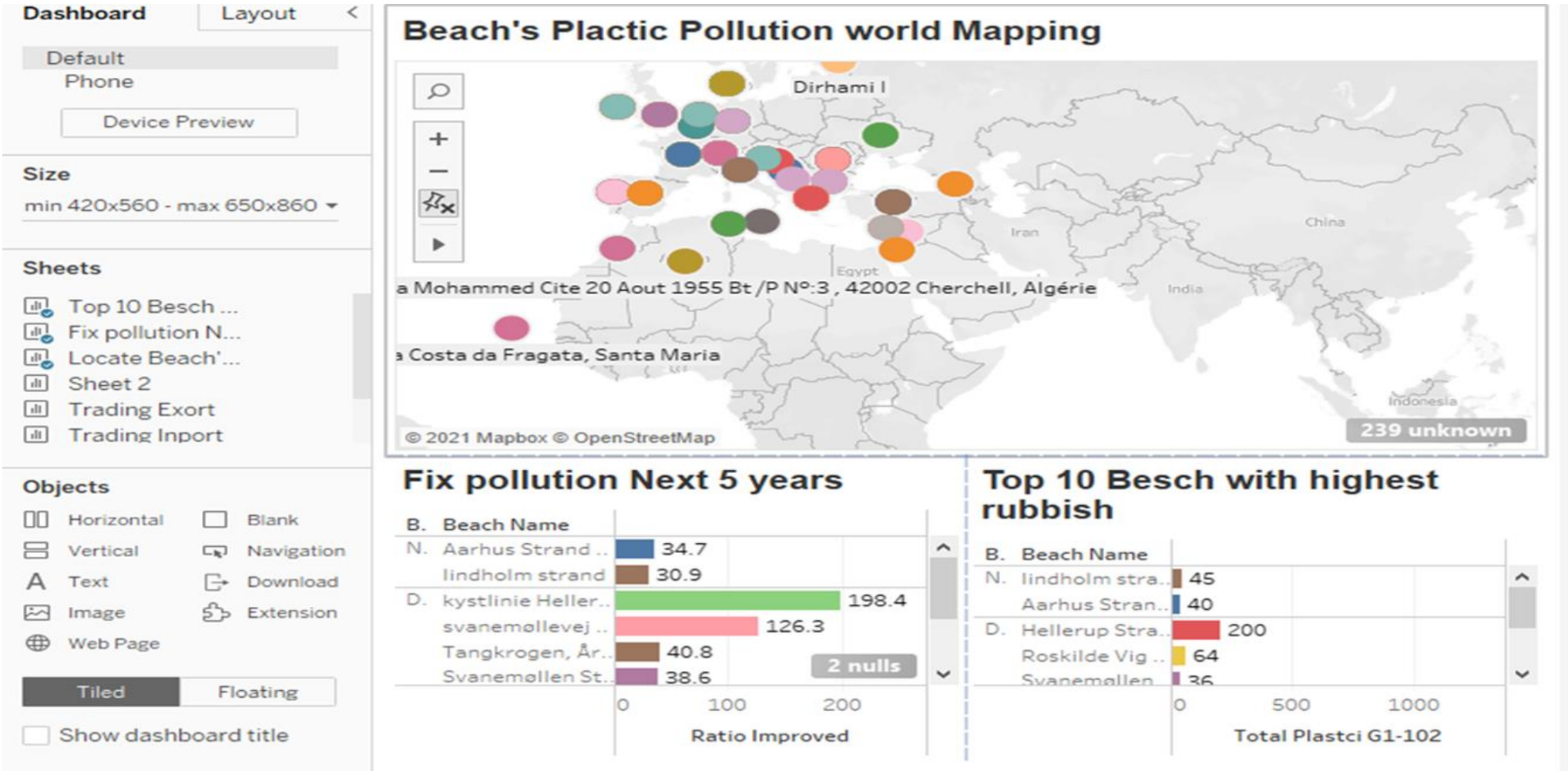
Dashboard (M3)

Plastic pollution and Trading

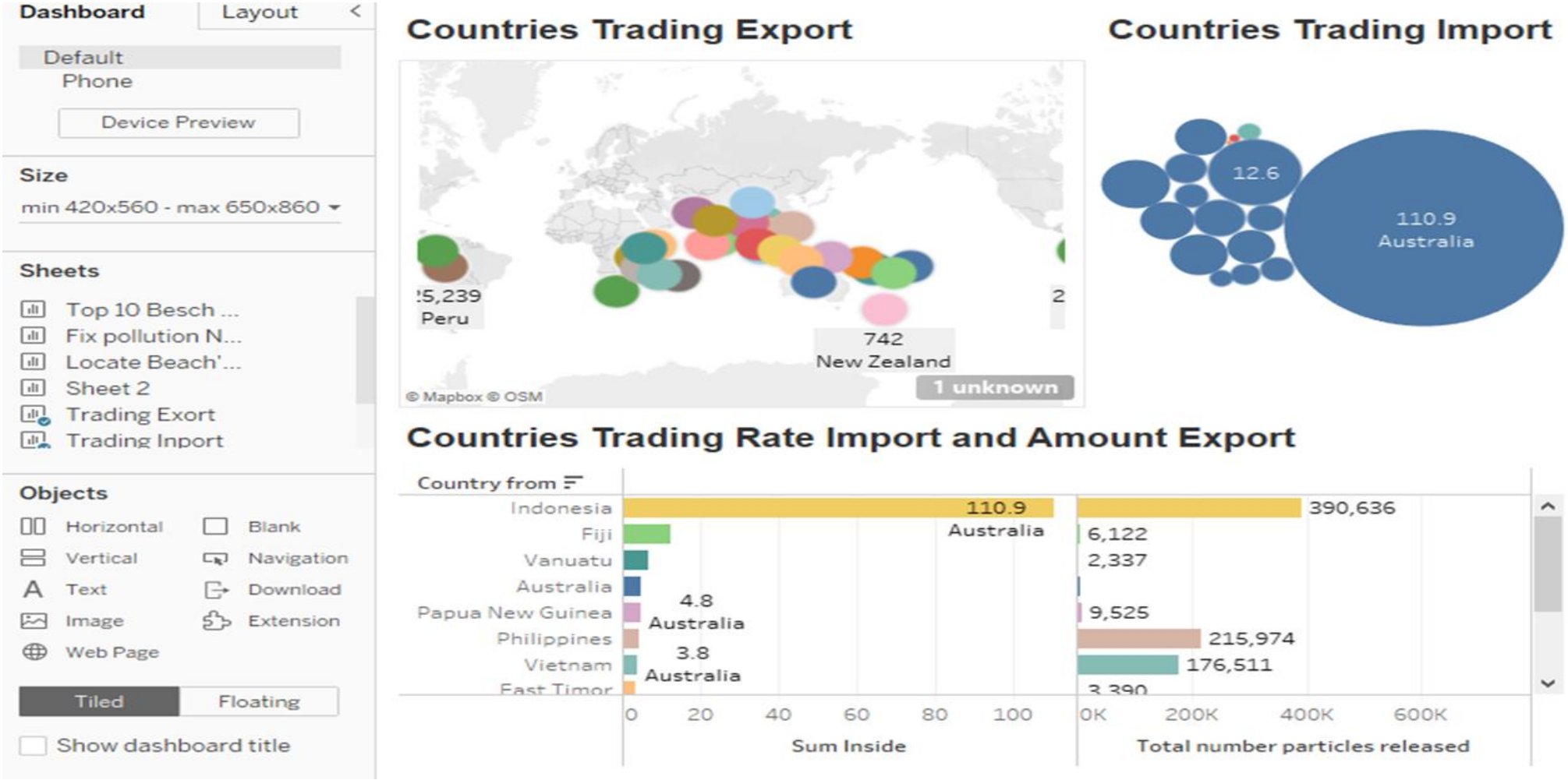
- **Plastic pollution's dashboard**: This dashboard is purposely crated for broad observation on amplification behavior of plastic pollution. By first dashboard, we can do tracking and locate beach on mapping with analyze amount of plastic rubbish. Also, analysis calculation is formatted formular to support decision-making process which be based on present analysis amount Plastic category while compared with increased year's average amount to 5 years.

- **Plastic Trading's Dashboard**: for broad evaluate community behavior of plastic trading. By second dashboard, able to tracking and analyze amount of plastic consumption and selling with countries. Also, analysis select potential retailer to support business's decision-making process by present analysis huge amount Exporter as Indonesia who trend to pollute a lot plastic with many collect competitor but able to get a best retailer of importer as Australia who import from counties that will be target partner business to sell product as recycled plastic.

Dashboard of Plastic pollution



Dashboard Chart of Plastic trading



View Feedback (D3)

Review user's opinion after our Dashboard reporting

Questions Responses

User Feedback for BI Research's Ocean cleanup

Design Tableau of global plastic pollution with trading revenues

1 How will it help you in having a suitable vision and making intelligent strategy for your Ocean Cleanup?

- Yes
- No

Q1 Suggestion

Short-answer text

2 Do you think this project will have possibility in the future?

- Yes
- No

FEEDBACK & COMMENT

SURVEY FEEDBACK

Question survey
(Q) How will it help you in having a suitable vision and making intelligent strategy for your Ocean Cleanup?
(Q)Do you think this project will have possibility in the future?
(Q)Will you want to put more importance on possible markets in each country where there are high profits of reselling recycled plastic?
(Q)Do you think having change in the strategic campaign depending on this analysis from BI can bring profits?
(Q)What can we improve in our project in the future?
(Q)Do you think BI is helpful in your decisions for future improvement?

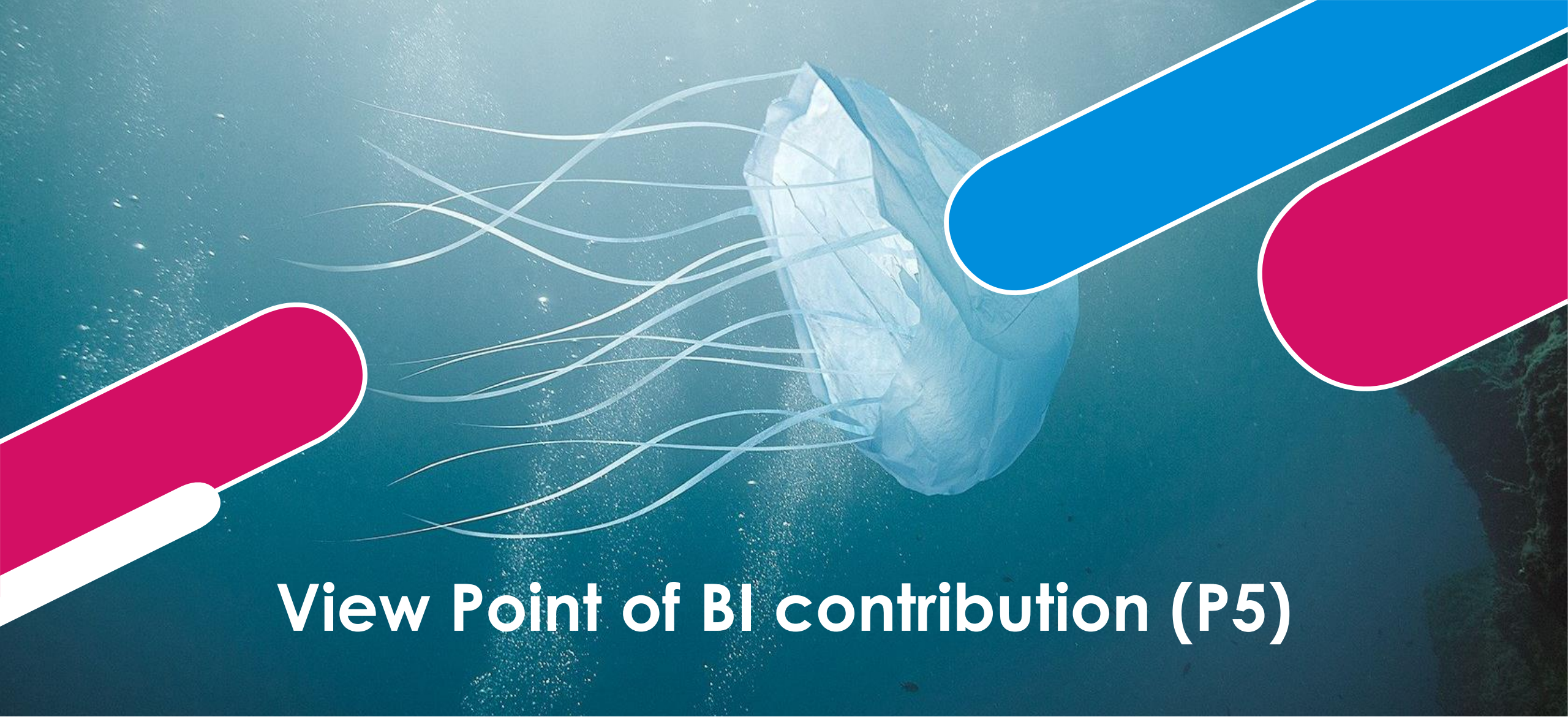
Repose
(Yes), which able select new target mission of highest beach based on possible prediction future amount and to analyze benefic of recycles plastic and estimate competitor and new revenue partnership who will deal with reselling plastic in long-term.
(Yes), by BI Result, it keeps up high demand to eliminates garbage with offer great price by government
(Yes), Our Business strength is based on modern Ocean cleanup technology which none has developed yet with this project's profile focus on ocean service fee with local government and reselling recycled material to directly factory while is a sable market
(**Middle agree**), currently version of Tableau still lack potential on Machine leaning of developed functionality as Prediction feature on type production type.
(**Yes**), for additional feature ML and Algorithm
(**Yes**), this BI research's Dashboard can capably successful almost cover all of our purpose.

REPOSE

Additional comment for future BI tool's version 2

Recommendation of future feature

- (**Apply**) Prediction on how pollution rate grows next 5 years.
- (**Comment**) Very impressive result, but couldn't find any trend production type
- (**Comment**) Our company Ocean Cleanup's Priority stability market place
- (**Apply**) Provide more dataset of production trend
- (**Apply**) Add site production's dataset or connect site's database for new market productions phototype
- (**Apply**) Fix Security of user personal data
- (**Apply**) for Open new path project of marketing by AI Marketing of BI research which benefit cash-back to advertiser and marketer.



View Point of BI contribution (P5)

To provide Our point of view about how business intelligence tools can contribute to effective decision-making

Point of View to BI

BI can helps extract crucial facts from an amount of unstructured data and transform them into actionable information that enables companies to make informed strategic decisions, improving operational efficiency and business productivity

Improve Business Productivity

- need not divert their resources to BI gathering work which is handled by the BI team such as results in cost saving, time saving and efficient reporting supporting improved business productivity.

- pull up vital information from customer interactions and present it in a manner that is easy to understand, communicate and execute

Crucial Information Easily Accessed

- provides crucial information to companies, improving their ability to make quick decisions and generating a competitive advantage.

Point of View to BI

BI can helps extract crucial facts from an amount of unstructured data and transform them into actionable information that enables companies to make informed strategic decisions, improving operational efficiency and business productivity

Good Return on Investment (ROI)

- can significantly reduce costs, enhance revenue, improve margin, drive cost.
- ensure qualitative ROI such as improvements in business and process efficiency, employee productivity, better strategic decision making, customer satisfaction and much more.

Informed Decision Making (Our built python BI Tool)

- Reporting based on accurate and timely information helps companies measure the performance of their processes.
- make informed decisions on strategic issues by providing crucial information on current and historical performance of the company along with future trends, expected demands, customer behavior etc.
- Receives real-time advanced reports to ensure that the company can efficiently utilize the information at hand to better manage the business.

The legal issues to exploiting user's data with BI tools

An important resource for law firms and one that primarily serves the roles of library and analysis within the firm. Historically, through packaged reports, dashboard-based information displays, and data analysis, BI has been used to capture a moment in time and put out static information on different subjects

The legal issues involved(P6)

Maintain privacy of clients

- Client's confidentiality has revolutionized the physical world which expect to protect information with increasing dependency on online portals and access to devices due to the confidential information of each individual shouldn't be shared to anyone

Privacy:

- Most User have their personal data distributed all over the digital globe as items considered to be safe may be unintended outlets, such as email or private accounts. Software behaviors of the majority of workers.

Digital Ownership:

- Digital media has allowed information to flow freer than ever before that comes with a legal and reaction against this exchange of ideas. Ownership be defined in the digital realm as things can be copied and shared very quickly online which makes intelligent property difficult to manage. Legal concepts like copyright failed to keep up with modern days

Data Gathering:

- In some national security such as the USA have approved laws authorizing government action to track private citizens. Such steps rekindled a controversy as what & why of information should be obtained which companies need to decide specific information have to gather.

Security Liability:

- Security problems, in order to secure sensitive information and valuable properties which is a much more complex protection mechanism for data networks to be electronic. This increased protection comes with increased supervision.

Specific Example on our Organization Ocean Cleanup (M4)

Problem

- The unprecedented and ever-growing amount of plastic pollution is causing serious damage to the world's ecosystems.
- Of all of them, the ocean and its lifeforms are suffering the most. Every year, over 8 tons of plastic are dumped into the ocean and by 2025, this number is expected to double.
- Studies show that one million seabirds and 100,000 marine mammals die every year from plastic ingestion, with a growing number of species facing a risk of extinction

Specific Example on our Organization Ocean Cleanup

Solution

- Conducts scientific research into plastic pollution including to the North Pacific Gyre, collecting huge amounts of data, and publicizing multiple scientific papers which satellite imaging and ML to capture the **5** trillion pieces of trash they have observed in the world's "ocean garbage patches." to estimate that within **5** years they could collect **50**% of the ocean waste.
- To maximize the use of data more effective. The Dataiku Data Science team supports the organization with logistics, image detection, including identifying plastic in images and barrier identification, marketing operations,
- Democratizing data science and encouraging the use of AI for good can empower organizations and individuals to make a difference.

Evaluate organization's BI usage (D4)

Overview

- The designed tools are user friendly or not that we designed for the IT company in our earlier tasks and customized tool. Analyzing all the reports from the tasks to ensure that BI tools and techniques plays a dynamic role in organizations successful as the BI helps in following the modern trends to provides several ideas and techniques to satisfy the current modern generation customer needs in every way possible
- However, making the business process more accurate and automated. The fact, not every business process can run smoothly without taking some legal issues in consideration as every organization and company should follow the laws made by the government of their country.
- Thus, taking Legal issues into consideration that are involved in the secure exploitation of business intelligence tools is important if a company wants to implement BI tools for enhancement or improvement their business.

Evaluate organization's BI usage

Extend 10 Usage 's way lists of BI Tools in our Ocean Cleanup

- To understand what drives revenue for organization's business.
- By personalizing the sales strategy and anticipate objections.
- To avoid bottlenecks and problems in a fragile market.
- By tracking inventory and capitalize on trends.
- To discover the motivates of consumer's behavior.
- To help building organization's own brand in a competitive, complex retail environment.
- Powering up productivity.
- Tightener up Data Accuracy and Compliance.
- To determine the Return on Investment of organization's marketing strategy.
- By helping the organization in making smart decision making.

THANK YOU!

Team 2’s group work

Class:
GCD0805