

**UBER**

SYSTEM PROPOSAL  
DATA INTELLIGENCE SYSTEM

Mohammed Arslaan Kola

## Contents

About Uber.....	1
Mission.....	1
Vision .....	1
Company Objective .....	1
Balance Scorecard .....	3
Data Intelligence System Proposal .....	4
Requirement for the Dashboard.....	4
System Design .....	4
Project Methodology and Testing.....	5
Time Scale of the Project.....	5
Organisational Structure .....	7
Chosen Roles.....	8
1. Chief Financial Officer .....	8
1.1 Dashboard Specifications and Drill Down Paths.....	8
1.2 Metric Derivation .....	8
1.3 Metric Dimensions.....	9
2. Chief People Officer .....	16
2.1 Dashboard Specifications and Drill Down Paths.....	16
2.2 Metric Derivation .....	16
2.3 Metric Dimensions.....	17
3. Marketing and Public Affairs Head.....	22
3.1 Dashboard Specifications and Drill Down Paths.....	22
3.2 Metric Derivation .....	22
3.3 Metric Dimensions.....	23
Span of Analysis .....	30
1. Descriptive Analysis .....	30
2. Diagnostic Analysis .....	30
3. Predictive Analysis.....	30
4. Prescriptive Analysis .....	30
Conclusion.....	31
References .....	32
Additional Reading.....	33

## **About Uber**

Since its inception in 2009, the Garrett Camp and Travis Kalanick company- Uber has had hassle-free transportation for all individuals at the core of its operation enabling users to:

- Schedule taxis to arrive at their precise location at the tap of a button, saving long commutation periods.
- Accept the closest or most convenient passengers, cutting down waiting time, cost of travelling in the hope of a passenger, thus increasing the drivers' revenues with a much simpler process.
- Tread unknown routes, drop off or pick up at new locations without needing to know the route maps owing to the built in GPS whose technology has made both routes and price prediction much more transparent and reasonable.

After launching in the UK in 2012, Uber has progressively expanded to over 40 cities, employing over 60,000 drivers, and providing regular service to an estimated 5 million customers. The company has grown to investigate E-bikes, rental automobiles, food delivery, freight, and real-time public transportation data integration, in addition to widening its reach. (Uber, Public First, n.d.).

## **Mission**

With the mission to "Reimagine the way the world moves for the better" (Uber n.d.), the tech company has worked to connect the physical and digital world, striving for travel to happen at the user's fingertips. Uber has ensured accessible, safe, and sustainable modes of travel while simultaneously making provisions for users to earn by driving with Uber.

## **Vision**

Uber has pioneered the easy, reliable, and accessible transport chain with a vision of providing "Transportation as reliable as running water, everywhere for everyone" (Smith, n.d.). Uber envisions the building of a system which is reliable for its security, services, and cost

## **Company Objective**

Focused on providing quick, reliable, and reasonable transportation, Uber constantly aims to expand its domain to acquire more drivers and riders to connect. The company aims to abolish private transportation by providing inexpensive, uncomplicated transport. Uber looks to further diversify their hold on logistics as well as transportation.

Post pandemic, Uber continues to remain dedicated to providing seamless transportation and is working on improving its long-term goals. Uber opted to expand geographically with their existing product to extract new customers as they develop their market (Khankasi, 2020). Figure 1 shows the Ansoff matrix for the same.

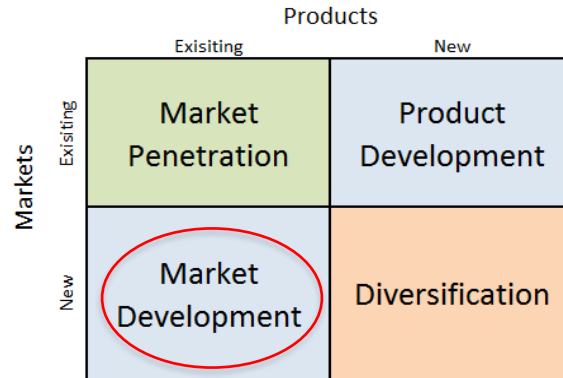


Fig 1: Ansoff Matrix for Uber

Uber has defined following long-term goals in particular departments:

### Finance

- Analyse the investments, consumables, and net gains, to determine growth and progress.
- Determine expenditure per project and keep track of funds.
- Accomplish above and beyond the predicted targets of revenue.
- Monitor expenses based on prediction to keep a track record.

### Human Resource

- Account for and track fresh recruitments and employee terminations.
- Determine the need for terminations and invest in the training of fresh recruits.
- Boost employee satisfaction levels and keep track of female employees.
- In view of maintaining balance, ensure resource allocation in terms of seniority for every project.

### Marketing

- Monitor the customer base and revenue inflow.
- Track Uber's online presence, enabling it to suit the varying market trends.
- Analyse the cost of expanding customer base and deterioration rate.
- Keep track of customer acquisition cost and customer attrition rate.
- Follow the brand's social media presence, adapt to market trends, customer demands and have an active presence across all established social media platforms.

The Data Intelligence System (DIS) provides a user-friendly easy to understand set of dashboards in line with the goals determined by the board members which helps the respective stakeholders to track and analyse the required metrics and key performance indicators. The balance scorecard (BSC) shown in figure 2 depicts the objective of the company further.

	Strategy Mapping	Objectives	Measures	Targets	Initiatives
Financial		<ul style="list-style-type: none"> <li>-Reduce cost in terms of operations and insurance provided to drivers.</li> <li>-Increase profit of services within scheduled time frame.</li> </ul>	<ul style="list-style-type: none"> <li>-Provide drivers with option to adapt for personal insurance.</li> <li>-Lower the cost per ride to increase rides.</li> </ul>	<ul style="list-style-type: none"> <li>- Increase the profit by 10% every month.</li> <li>-Increase the number of rides by 20% every month.</li> </ul>	<ul style="list-style-type: none"> <li>- Deploy a team to analyse frequent paths taken by customers and increase the services at those locations.</li> </ul>
Customers		<ul style="list-style-type: none"> <li>- Increase passenger satisfaction by on-time taxis.</li> <li>- Improve customer loyalty by good communication.</li> <li>-Lower the cost to beat the competition.</li> </ul>	<ul style="list-style-type: none"> <li>- Advance algorithm to find taxis in 30 seconds.</li> <li>- Take actions on reported claims and feedbacks from last year.</li> <li>-Provide seasonal and weekly offers.</li> </ul>	<ul style="list-style-type: none"> <li>- Deploy the algorithm beta phase by the end of 2023.</li> <li>- Increase the customer satisfaction ratio by 25% in by mid – 2023.</li> </ul>	<ul style="list-style-type: none"> <li>- Analyse the problems encountered by the customer while booking an Uber or during the ride.</li> <li>- Conduct frequent surveys.</li> <li>- Keep track of regular riders.</li> </ul>
Internal Processes		<ul style="list-style-type: none"> <li>-Improve the quality of services provided.</li> <li>-Increase the quality of ideas proposed and implement them quickly.</li> </ul>	<ul style="list-style-type: none"> <li>- Decrease the average time to respond to complaints.</li> <li>- Provide the team with resources and trainings to motivate them to work on new ideas.</li> </ul>	<ul style="list-style-type: none"> <li>- Test and implement new ideas regularly.</li> <li>- Increase the rate of new ideas by 10% by the end of first quarter.</li> </ul>	<ul style="list-style-type: none"> <li>- Understand the market need and direction to propose effective ideas.</li> <li>- Analyse the past data of customer and performance to find room for improvement.</li> </ul>
Organisational Capacity		<ul style="list-style-type: none"> <li>- Attract new and maintain highly qualified staff.</li> <li>-Increase the employee skill sets.</li> <li>-Understand employee issues and respond to it at the earliest.</li> </ul>	<ul style="list-style-type: none"> <li>- Increase the number of staff training programs.</li> <li>- Conduct webinars on related technical and business topics.</li> <li>- Improve the IT handle with advanced software.</li> </ul>	<ul style="list-style-type: none"> <li>- Conduct one training program a month.</li> <li>- Increase the number of attendees to the training programs.</li> <li>- Increase the employee satisfaction ratio by 25% by the end of 2023.</li> </ul>	<ul style="list-style-type: none"> <li>- Understand the needs of the market and provide training in those fields.</li> <li>- Conduct employee surveys frequently and analyse the scope for improvement.</li> <li>- Purchase at least 5 new software's and increase the licenses by 50 per software.</li> </ul>

Fig 2: Proposed Balance Scorecard

The BSC suggests measures and actionable areas to be focused on for the organisation to achieve its targets. The table depicts a rundown of the steps that need to be implemented to meet the company's set targets. The BSC recommends

areas of improvement and tasks that need achieving to the managers, while allowing for individual objectives to be implemented by respective department heads.

## **Data Intelligence System Proposal**

In the age of digitalisation, data is time and time is efficiency. With all the fast-growing companies turning to DIS for more efficient and improved operations, this report is aimed to enable the board of directors to adapt DIS to utilise historical data for the benefit of the company. It also allows the usage of interactive dashboards that will improve business operations, enrich customer satisfaction and boost employee productivity, thus bringing about an overall progress to the company.

### **Requirement for the Dashboard**

The DIS provides a set of dashboards to the stakeholders which can be drilled down to view specific information. The main requirements for the DIS to function smoothly is considering different metrics used by the department heads to measure progress and analyse the data. The dashboard will incorporate these key performance indicators in different styles and charts.

The data needed to run the DIS is available on the centralised servers of Uber which can be accessed with the right authorisation. The DIS will also consist of the option to enter data manually which will first be verified, then added to the system and stored on the main database. The system will be hosted centrally which will make it available throughout the organisation to the board members, stakeholders, and managers with necessary authorisation. The data can be modified only by the stakeholders (Valks, 2021).

### **System Design**

The design of the DIS focuses on enabling the stakeholders and decision makers to interpret organisational data to generate insights that help them make better business decisions and deriving values from it (Rivera & Shanks, 2015).

Following are some important factors to be considered before designing the dashboards (Wolf & Renita, 2016):

- Presenting KPIs/ metrics in consistent formats.
- The audience who will utilise the dashboard.
- How often the data will be updated.
- Consistency throughout the dashboards in terms of colour, text size and fonts.

The wireframes and initial dashboard designs have been presented further. These designs have been generated by working closely with the stakeholders and understanding their requirements. To make the system more flexible, the developers have made it easy to export snapshots of the charts in different formats which can be shared within the organisation. The colours used in charts are minimal and easily distinguishable to help people with poor eyesight.

## **Project Methodology and Testing**

The developers of the system have chosen the waterfall and Agile mix (Perkowska, 2021) methodology to implement the project.

The first stage is understanding the requirements and collating necessary sources from where data can be extracted. Then the initial design phase will be developed based on the requirements and managers will be allowed to test the system locally to provide feedbacks. After considering all the feedbacks and resolving bugs the system will be run on the test phase where the stakeholders can use the system. Once the test phase of the system is checked thoroughly, feedbacks will be gathered to tailor the dashboards to the needs of different stakeholders.

Once all the testing phase is complete and stakeholder requirements have been met, the system will go live on the company's server with the approval of the board members and right authorisation.

## **Time Scale of the Project**

The DIS will be fully functional and ready for launch on the company servers within 14 weeks of understanding the requisites. The process is broken down into various processes and sub-processes which will be achieved as per the time frame shown in Figure 3.

During the intermediate stages of the project, the dashboards are repeatedly tested, feedbacks gathered and implemented during the implementation phase with close correspondence between developers and stakeholders to meet stakeholder demands to the best abilities as shown in the chart below. Every functionality is duly and thoroughly tested before deploying it to the company's servers.

Project timeline	14 weeks
------------------	----------

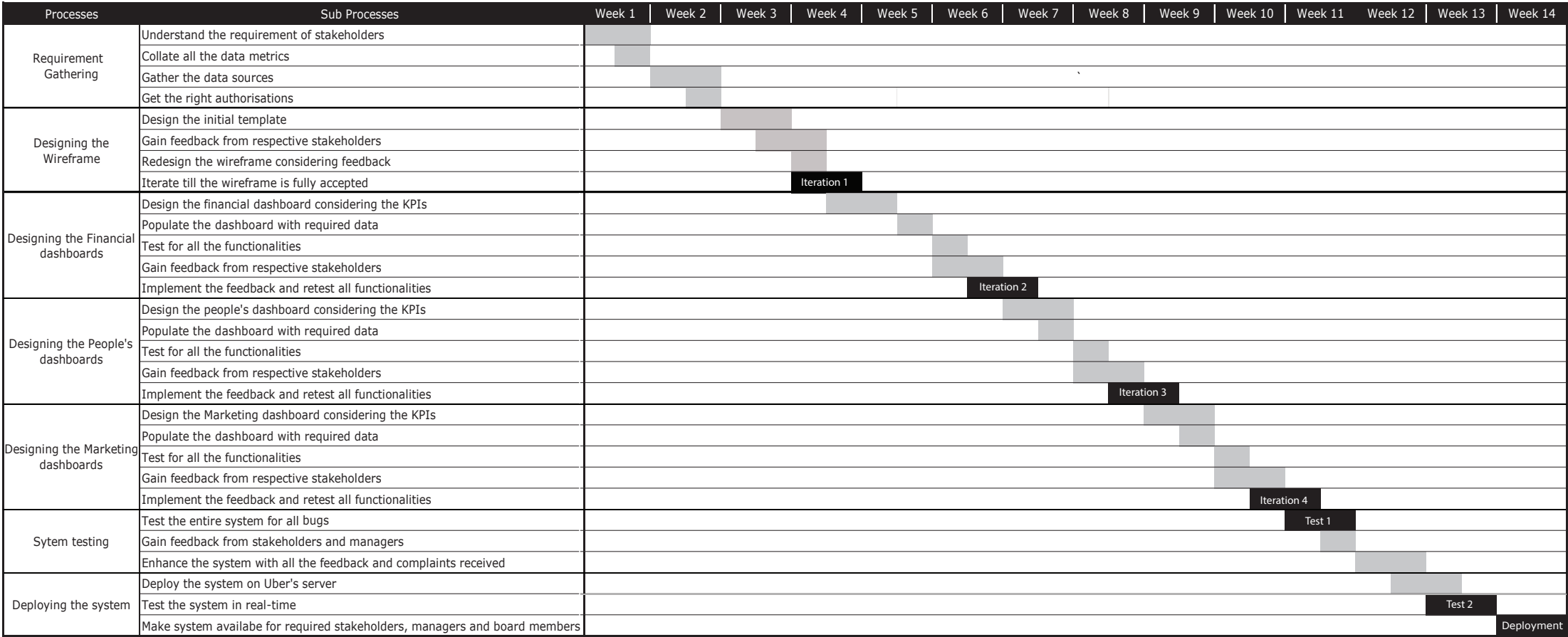


Fig 3: Gantt chart for Data Intelligence System Project



## Organisational Structure

Like any large-scale business, Uber is managed by a board of directors and a group of C-level executives. The Board is charged with monitoring and counselling the executive team, and the executive team is in turn charged with overlooking the daily operations of the company. Figure 4 (Uber n.d.) shows the structure of the firm.

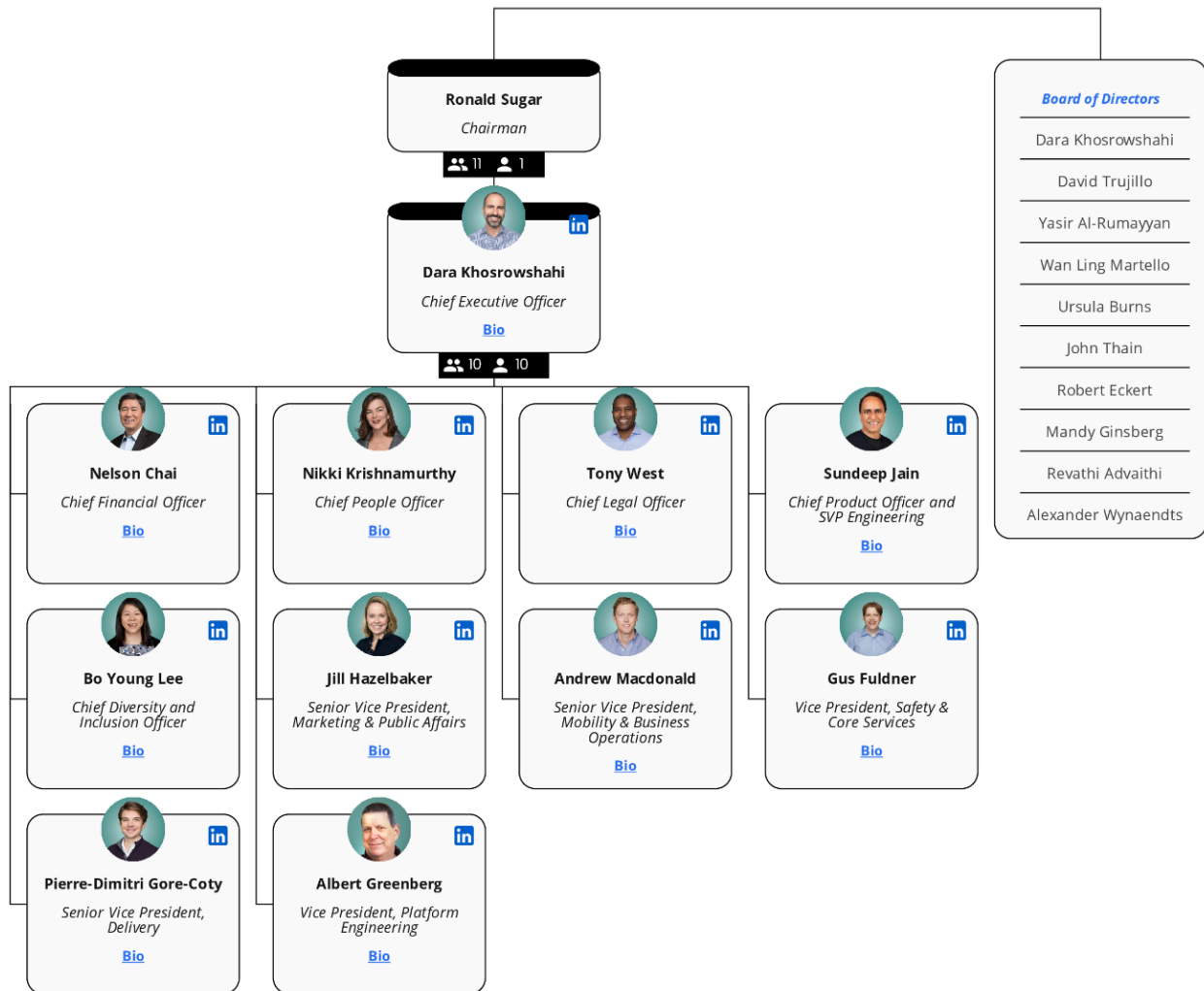


Fig 4: Uber’s organisational structure

## Chosen Roles

### 1. Chief Financial Officer

Nelson Chai, the Chief Financial Officer monitors and handles all the financial operation of Uber at its apex. While the DIS provides an outlook of the cash flow, the CFO is tasked with development of new strategies and mitigating any foreseeable financial risks.

A DIS backed strategy often has real-time outlook on all areas of the organisation which is utilised for insights on domains including sales, inventory, marketing, customer demands and trends, thus building a viable business strategy.

The CFO also ascertains that all relevant dashboards are accessible to concerned members right from the executives to individual members to track the operation of the firm. For instance, sales executives can access sales numbers and goals, project leaders access project expenditure, human resources team can access any in-house expenditures of the company.

#### 1.1 Dashboard Specifications and Drill Down Paths

- The home screen displays four dashboards and a menu bar which guides the user to access news updates, project updates, settings etc.
- The screen can be filtered based on region and time which will be implemented on all the dashboards, individual implementation only for time is possible.
- Additionally, the screen contains user information, tools to analyse and export charts in various formats, and recent details.
- Data can be filtered based on time and money on individual dashboards. Data is also displayed when the mouse is hovered over the chart.
- Prediction tool is available for dashboards which can be turned on/off as per requirements. However, this feature is absent on the project cost dashboard.

#### 1.2 Metric Derivation

Uber can use several metrics to track the financial performance. Some of them are:

- Revenue: Total money generated by Uber's operations.
- Gross profit margin: Percentage of revenue retained after subtracting the cost of goods sold (COGS), inclusive of the costs pertaining to Uber's services.  
$$\text{Gross profit margin} = (\text{Net sales} - \text{COGS}) \div \text{Net sales} \text{ (Bloomenthal, 2021)}$$
- Operating income: The net income generated by operations after deducting operating expenses, consisting of salaries, marketing, rent etc. but prior to the deduction of income taxes.  
$$\text{Operating income} = \text{Net Earnings} + \text{Interest Expense} + \text{Taxes}$$

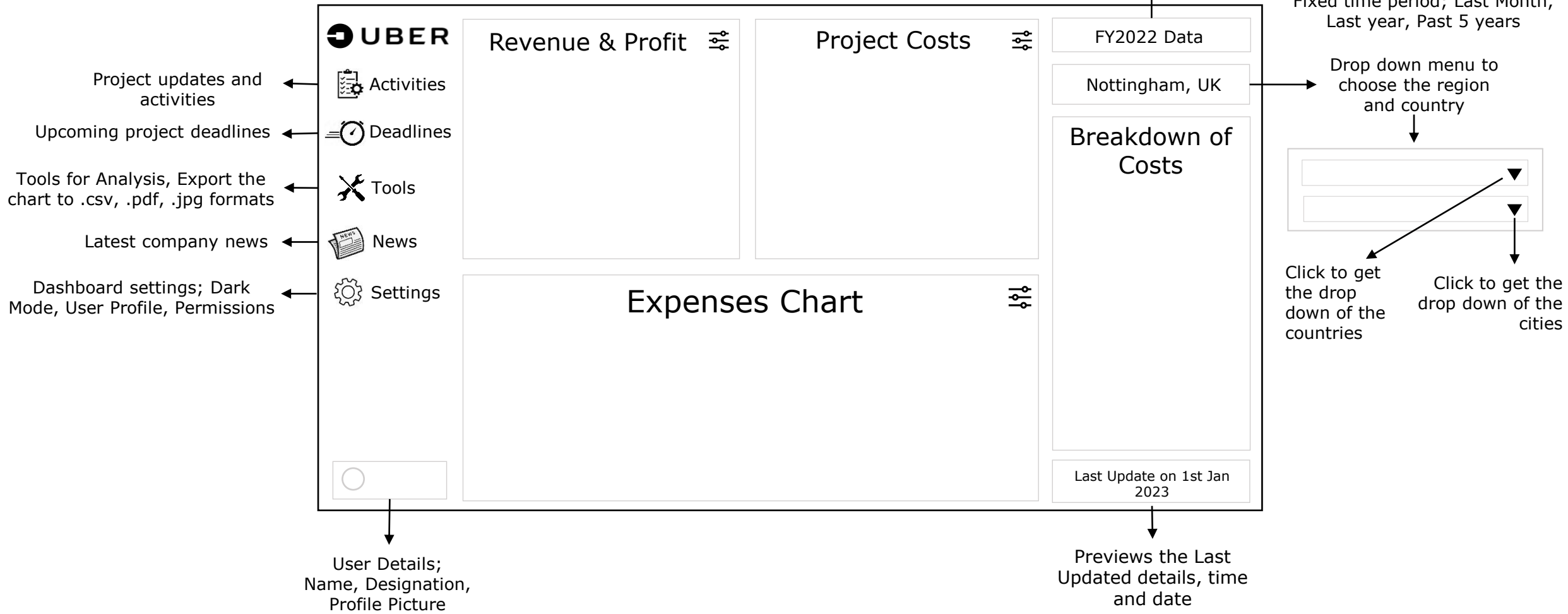
- Net income: The income remaining after subtracting all expenses, including income taxes.  
Net Income = Gross income – Expenses
- Cost Performance Index: Determines the rate of actual cost of work done to estimated rate.  
Cost Performance Index = Budget allocated to project ÷ Actual spent on project

### 1.3 Metric Dimensions

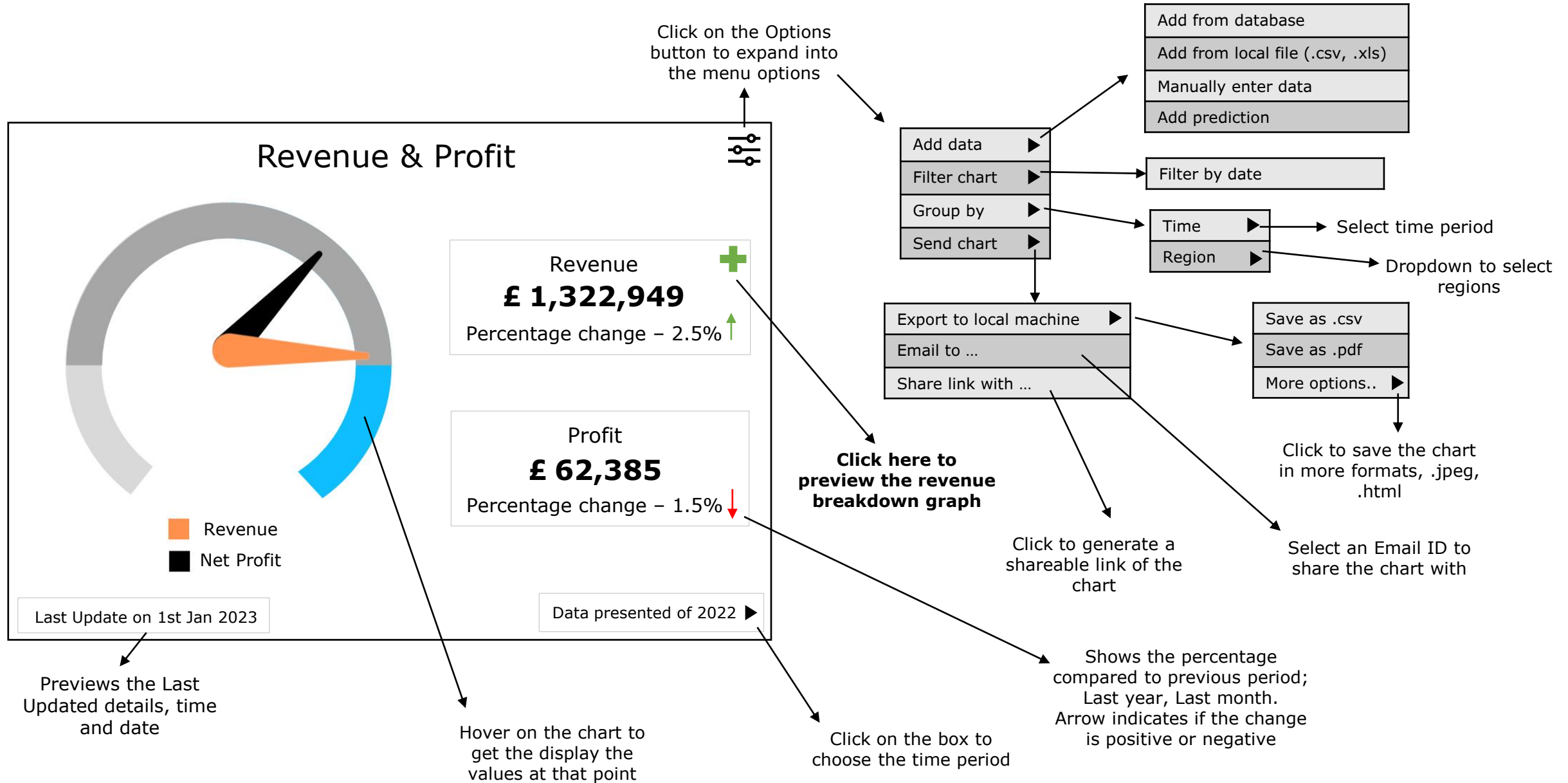
<b>Metric</b>	<b>Filter Option</b>	<b>Group By</b>	<b>Prediction</b>	<b>Data Source</b>
Revenue and Profit	- Date	- Date - Region	Available	- Company Database - Financial Reports
Project Cost	- Date - Money - Type of project	- Date - Region - Type of project	Available	- Company Database - Project Reports
Revenue Breakdown	- Date - Money	- Date - Region	Available	- Company Database - Financial reports
Expenses	- Date - Money - Type of expenses	- Date - Money - Type of expenses	Available	- Company Database - Financial reports
Breakdown of Costs	- Date - Money - Type of cost	- Date - Money - Type of costs	Available	- Financial reports

The wireframe and dashboard diagrams are shown on the subsequent pages.

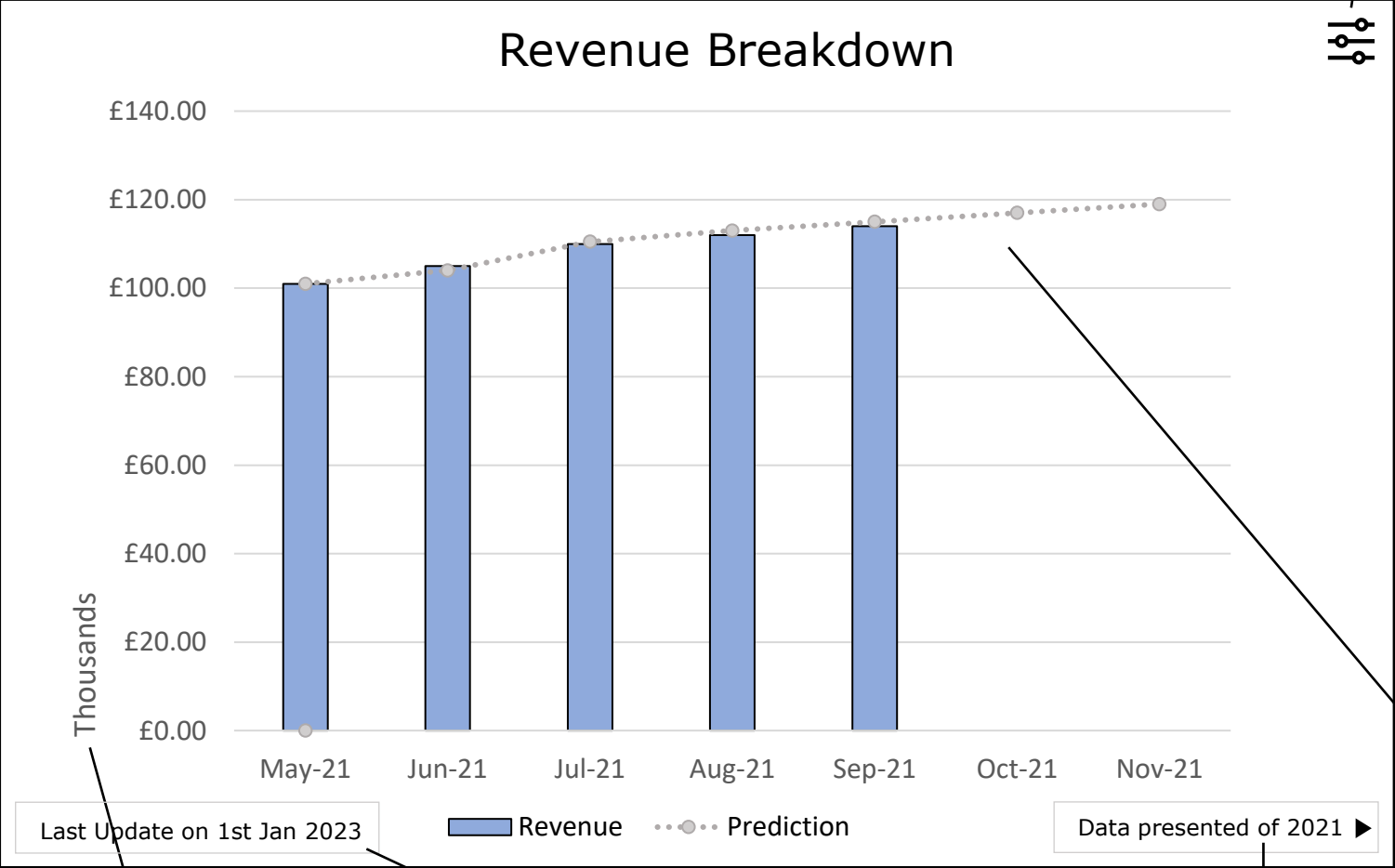
# Wireframe for Financial Dashboard – Main Screen



# Revenue and Profit Dashboard



# Revenue Breakdown Dashboard



Last Update on 1st Jan 2023

Click on it to change magnitude; hundred, thousands, millions

Revenue Prediction

Previews the Last Updated details, time and date

Data presented of 2021

Click on the box to choose the time period

Click on the Options button to expand into the menu options

- Add from database
- Add from local file (.csv, .xls)
- Manually enter data
- Remove prediction
- Breakdown chart by...

Click on the options button to display chart by different elements; region, month, year

- Add data
- Filter chart
- Group by
- Send chart

- Filter by date
- Filter by amount

- Time
- Region

Select time period  
Dropdown to select regions

- Export to local machine
- Email to ...
- Share link with ...

- Save as .csv
- Save as .pdf
- More options..

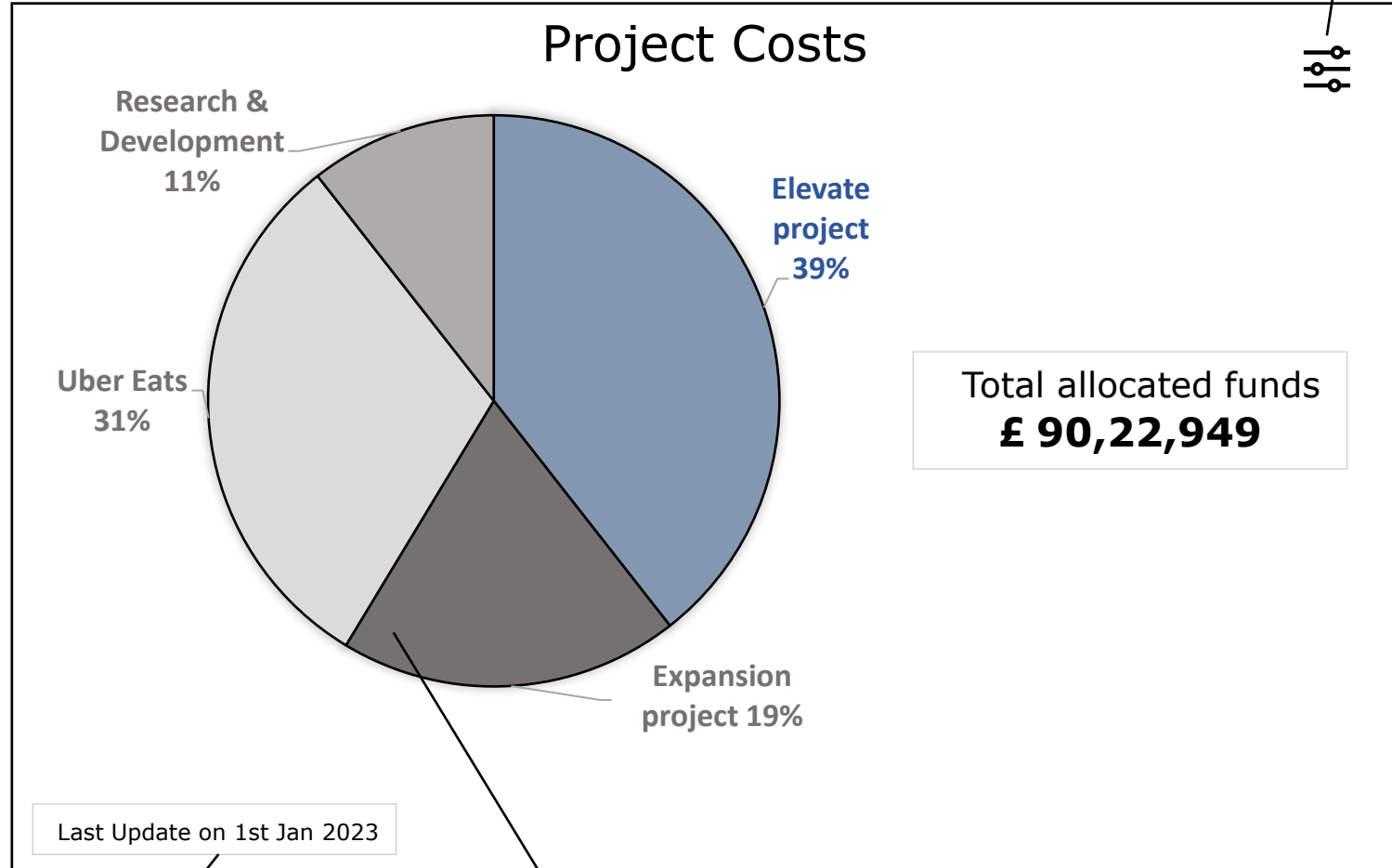
Click to generate a shareable link of the chart

Click to save the chart in more formats, .jpeg, .html

Select an Email ID to share the chart with

Hover on the chart to get the display of the monetary values at that point

# Project Cost Dashboard



Previews the Last Updated details, time and date

Hover on the chart to get the display of the monetary values at that point

Click on the Options button to expand into the menu options

- Add from database
- Add from local file (.csv, .xls)
- Manually enter data
- Add/Remove projects data

Click on the options button to add or remove projects to chart

- Add data
- Filter chart
- Group by
- Send chart

- Filter by date
- Filter by amount
- Filter by type of project

- Time
- Region
- Type of project

Select time period

Dropdown to select regions

- Export to local machine
- Email to ...
- Share link with ...

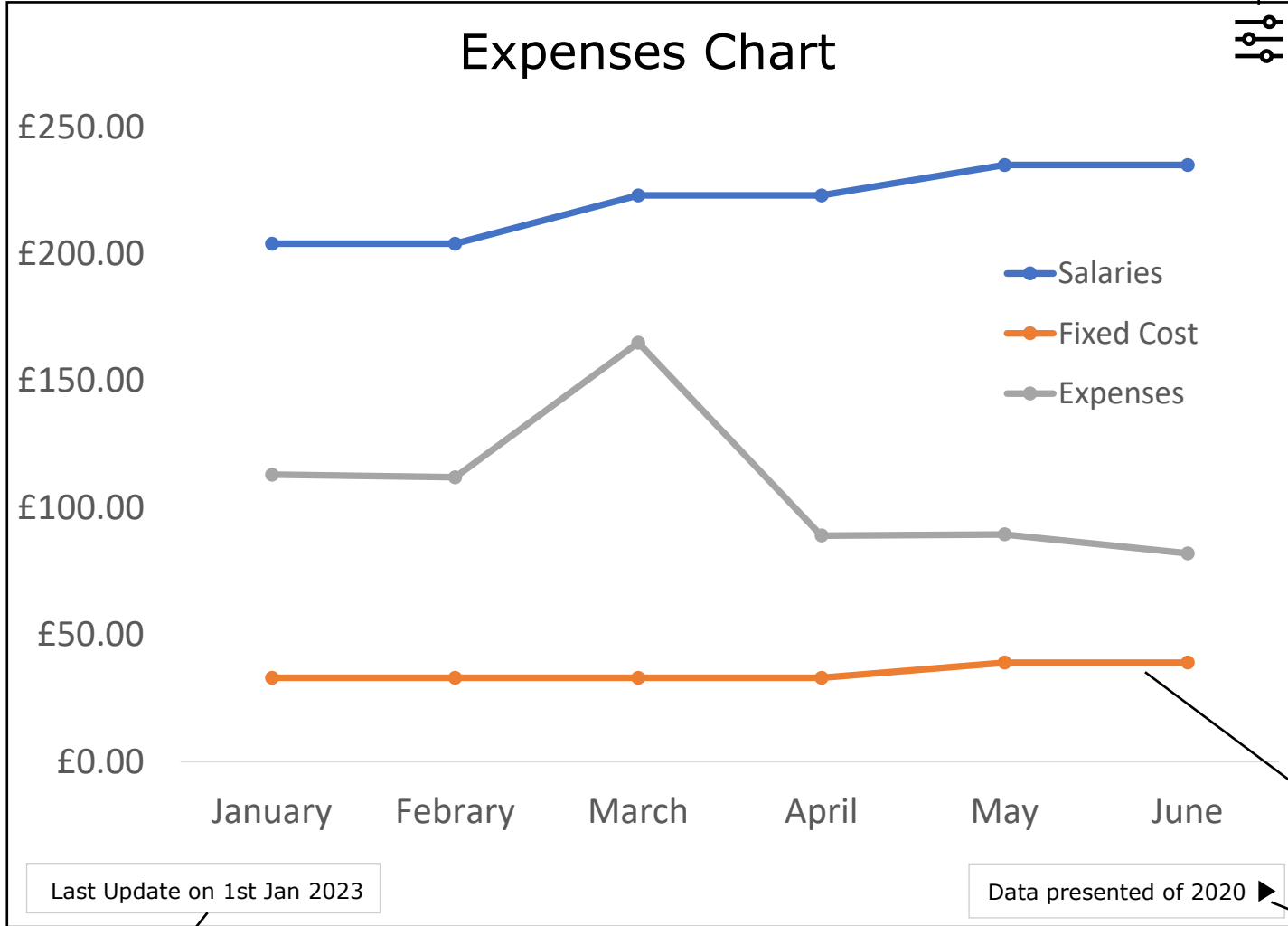
- Save as .csv
- Save as .pdf
- More options..

Click to generate a shareable link of the chart

Click to save the chart in more formats, .jpeg, .html

Select an Email ID to share the chart with

# Expenses Dashboard



Click on the Options button to expand into the menu options

- Add from database
- Add from local file (.csv, .xls)
- Manually enter data
- Add prediction
- Add chart elements

Click to add different chart elements; Profits, Taxes, Internal expenses

- Add data
- Filter chart
- Group by
- Send chart

- Filter by date
- Filter by amount
- Filter by type of expenses

- Time
- Region
- Type of expense

Select time period  
Dropdown to select regions

- Export to local machine
- Email to ...
- Share link with ...

- Save as .csv
- Save as .pdf
- More options..

Click to generate a shareable link of the chart

Click to save the chart in more formats, .jpeg, .html

Select an Email ID to share the chart with

Hover on the chart to get the display of the values at that point

Click on the box to choose the time period

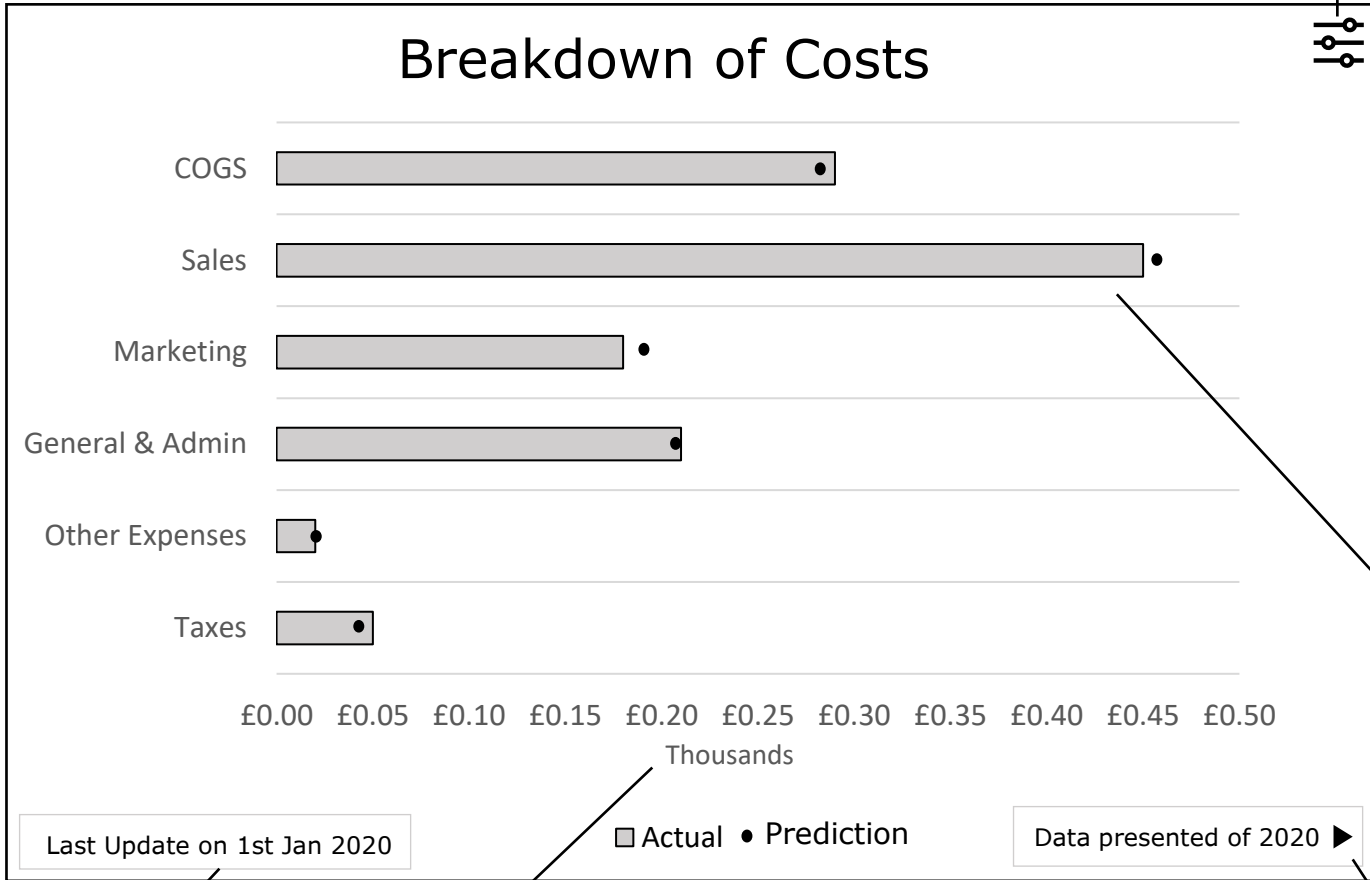
Last Update on 1st Jan 2023

Previews the Last Updated details, time and date

Data presented of 2020



# Breakdown of Costs Dashboard



Click on the Options button to expand into the menu options

- Add from database
- Add from local file (.csv, .xls)
- Manually enter data
- Remove prediction
- Add chart elements

Click to add different chart elements

- Add data
- Filter chart
- Group by
- Send chart

- Filter by date
- Filter by amount
- Filter by type of cost

- Time
- Region
- Type of cost

Select time period

Dropdown to select regions

- Export to local machine
- Email to ...
- Share link with ...

- Save as .csv
- Save as .pdf
- More options..

Click to generate a shareable link of the chart

Click to save the chart in more formats, .jpeg, .html

Hover on the chart to get the display of the values at that point

Select an Email ID to share the chart with

Previews the Last Updated details, time and date

Click on it to change magnitude; hundred, thousands, millions

Click on the box to choose the time period

## 2. Chief People Officer

The Chief People Officer (CPO), Nikki Krishnamurthy oversees and improves the work environment, employee experience, and HR operations within Uber. The DIS provides an extensive real-time view of HR metrics for strategizing and implementing necessary policies, balancing employee relations and engagement, tracking talent acquisition, with deep rooted diversity and inclusion attempts.

The DIS provides centralised HR data, enabling the CPO to access functioning throughout the company. This enables the CPO to recognise vital trends and areas that need attending to. With this, the CPO can organise processes and opportunities that bring overall improvement and target achievement.

### 2.1 Dashboard Specifications and Drill Down Paths

- The main screen displays three dashboards and a menu bar which allows the user to navigate through news updates, project updates, settings etc. It also consists live data of female and male employees working in a select area.
- The screen can be filtered on basis of region and time which will be implemented on all the dashboards, individual implementation only for the time period is possible
- Additionally, the screen contains user information, tools to analyse and export charts in various formats, and recent details.
- Individual dashboards display a breakdown of employees in terms of seniority, employee satisfaction based on surveys conducted, complaints filed, or feedbacks collected.
- Data is displayed when the mouse is hovered over the chart.

### 2.2 Metric Derivation

The CPO has requested for following metrics to be implemented in the DIS:

- Diversity and Inclusion: Indicator of diversity and inclusion within the organisation. This helps maintain a balance of employees in terms of gender, race, and seniority.
- Employee retention rate: Percentage of employees that remain with the company over a certain period.  
Employee retention rate =  $(\text{Employees at the end of set period} \div \text{Employees at the start of set period}) \times 100$  (DeBara, 2021)
- Employee satisfaction: This measures the degree to which employees are satisfied with their roles and the company overall. Greater the employee satisfaction, higher is the retention and productivity.  
Employee Satisfaction =  $(\text{sum of all employees' scores} \div \text{maximum possible score}) \times 100$
- Revenue per employee: Approximate measure of revenue generated per employee.  
Revenue per employee =  $\text{Revenue generated} \div \text{Number of Employees}$

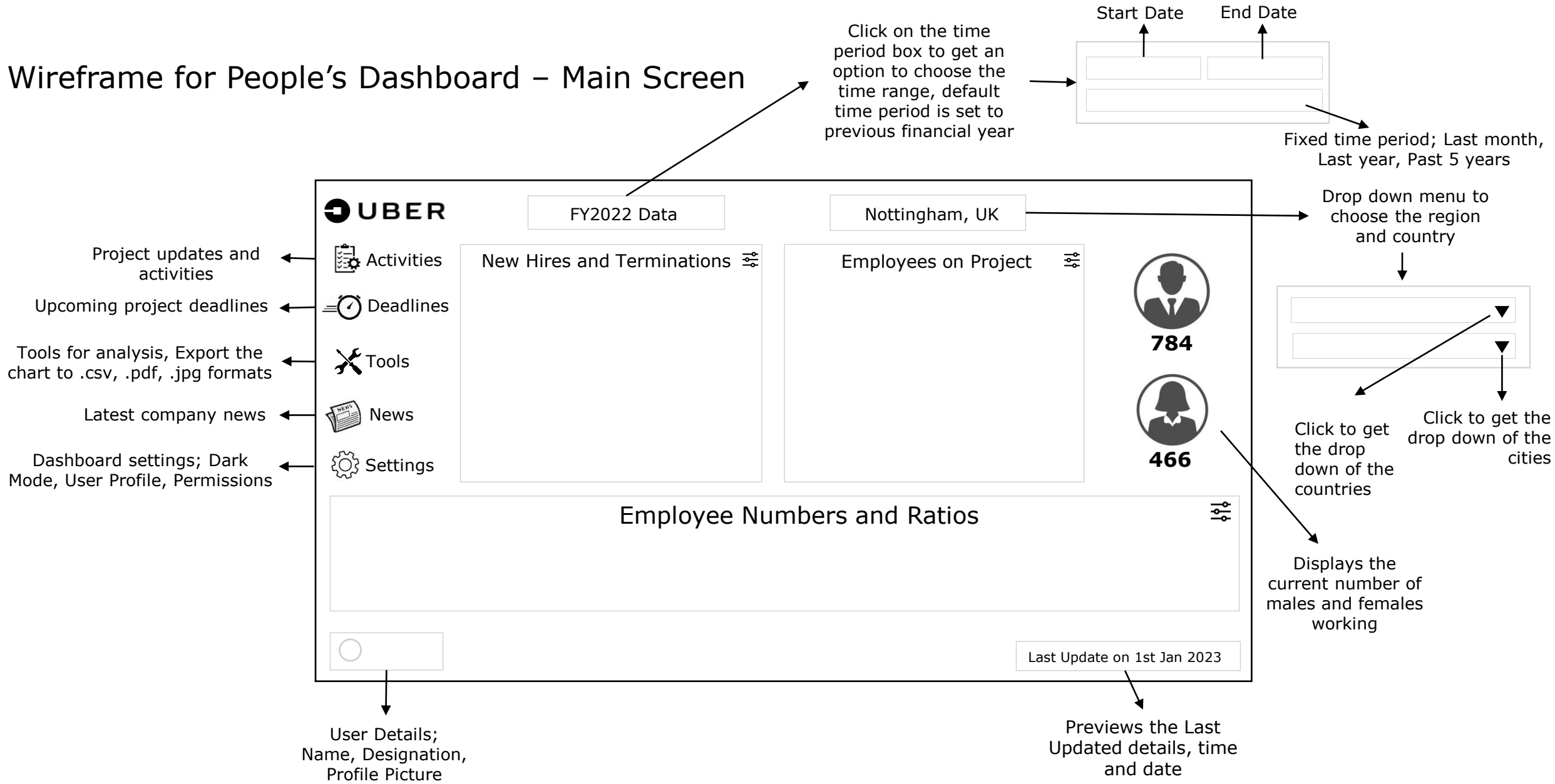
- Employee engagement: Degree to which the employees feel connected to their work and the company. The measure is determined through surveys.  
Employee engagement = (Total score of employees ÷ Maximum possible score) x100

### 2.3 Metric Dimensions

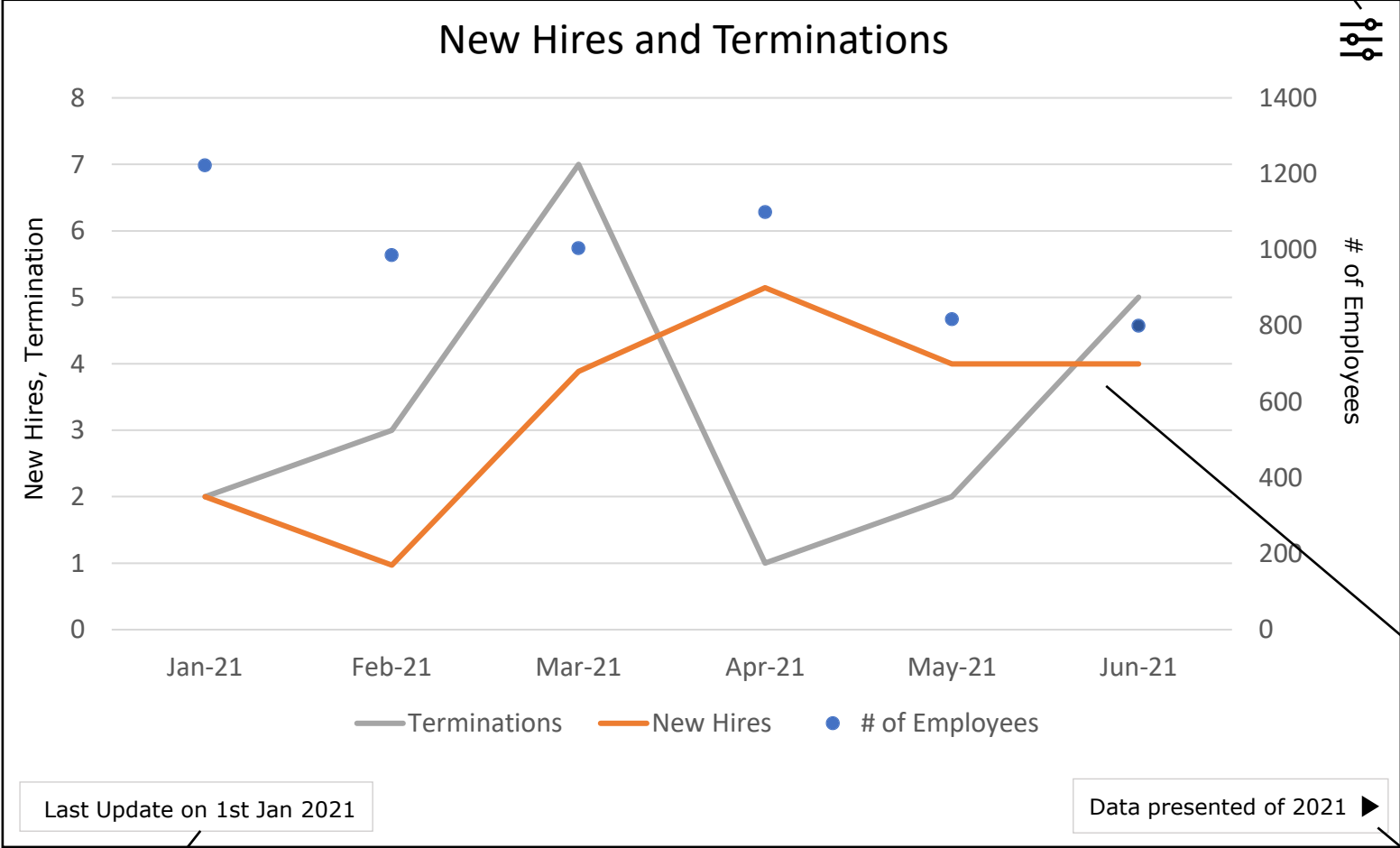
<b>Metric</b>	<b>Filter Option</b>	<b>Group By</b>	<b>Prediction</b>	<b>Data Source</b>
Diversity and Inclusion	- Date - Region	- Date - Region	Not Available	- Company Database - HR Reports
Employee Retention Rate	- Date - Region - Type of employee	- Date - Region - Type of employee	Not Available	- Company Database - HR Reports
Employee Satisfaction	- Date - Money - Project	- Date - Region - Project	Not Available	- Company Database - Project Reports
Revenue per Employee	- Date - Region	- Date - Region	Available	- Company Database - Financial Reports
Employee Engagement	- Date - Money - Project	- Date - Money - Project	Available	- Company Database - Project Reports

The wireframe and dashboard diagrams are shown on the subsequent pages.

# Wireframe for People's Dashboard – Main Screen



# Employees Hires and Termination Dashboard



Click on the Options button to expand into the menu options

- Add data
- Filter chart
- Group by
- Send chart

- Add from database
- Add from local file (.csv, .xls)
- Manually enter data

- Filter by date
- Filter by Region
- Filter by type of employee

- Time
- Region

Select time period

Dropdown to select regions

- Export to local machine
- Email to ...
- Share link with ...

- Save as .csv
- Save as .pdf
- More options..

Click to save the chart in more formats, .jpeg, .html

Click to generate a shareable link of the chart

Select an Email ID to share the chart with

Hover on the chart to get the display of the values at that point

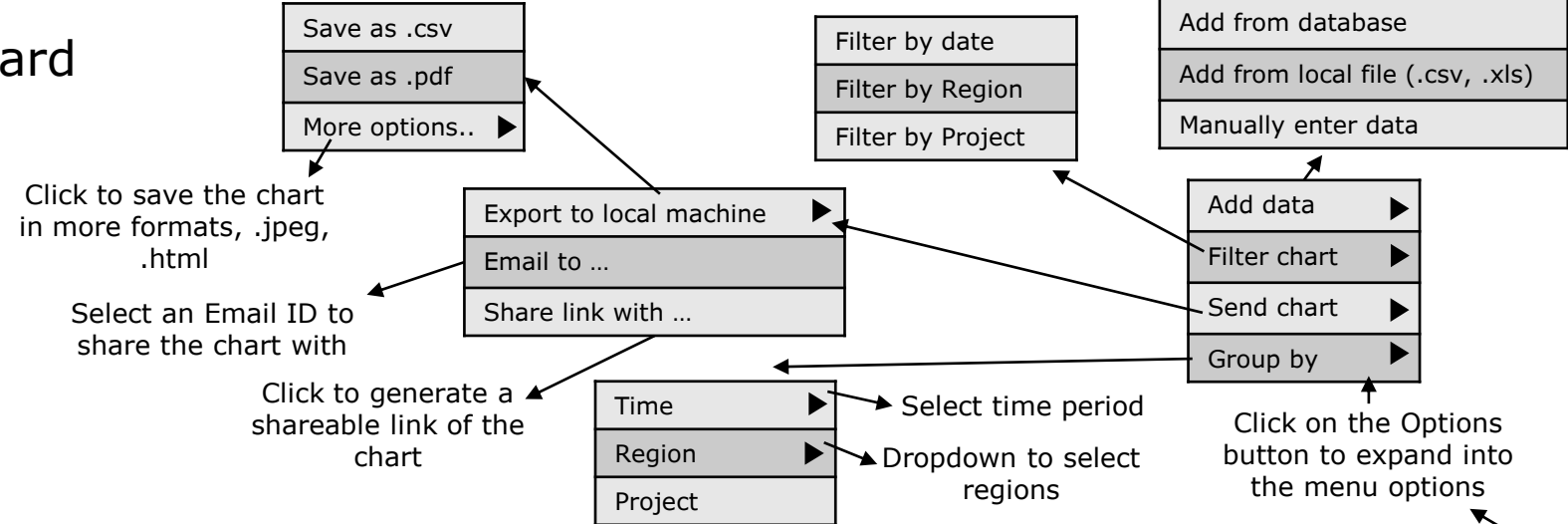
Last Update on 1st Jan 2021

Previews the Last Updated details, time and date

Data presented of 2021

Click on the box to choose the time period

# Employee Numbers And Ratios Dashboard



# of Employees

**1.25K**

# New Hires

**40** (Last month)

# Employee Quits

**23** (Last month)

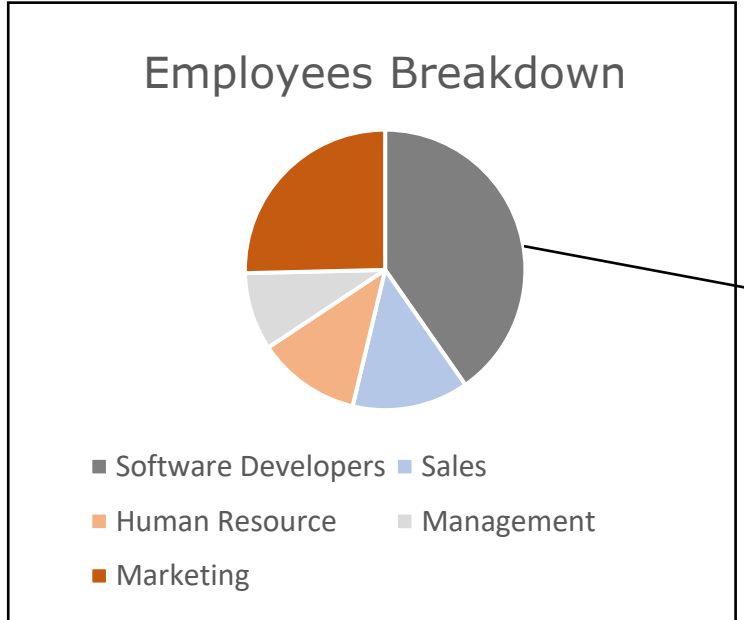
Women Employee Ratio

**37.3%**

Employee Satisfaction Ratio

**73.7%**

Click here to preview the breakdown of employees

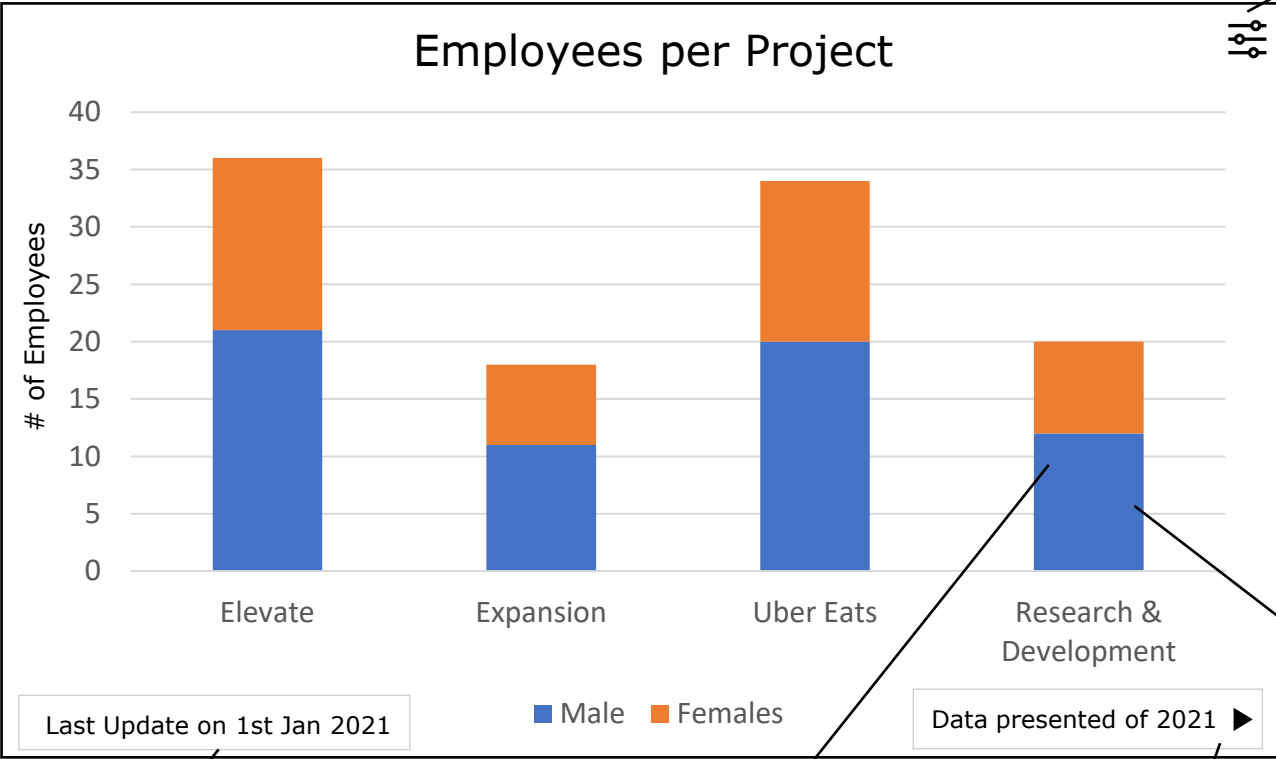


Click here to preview the breakdown of employees by seniority; trainee, fresher, mid-experience, experience > 5 years

Click here to preview the steps taken to find employee satisfaction ratio; surveys, suggestion requests, complaints

# Employee per Project Dashboard

## Employees per Project



Previews the Last Updated details, time and date

Hover on the chart to get the display of the values at that point

Click on the box to choose the time period

Click on the Options button to expand into the menu options

- Add data
- Filter chart
- Group by
- Send chart

- Add from database
- Add from local file (.csv, .xls)
- Manually enter data
- Add/Remove projects data

Click on the options button to add or remove projects to chart

- Filter by date
- Filter by amount
- Filter by type of project

- Export to local machine
- Email to ...
- Share link with ...

Click to generate a shareable link of the chart

Select an Email ID to share the chart with

- Save as .csv
- Save as .pdf
- More options..

Click to save the chart in more formats, .jpeg, .html

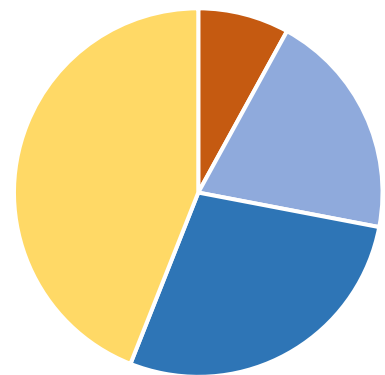
- Time
- Region
- Project

Select time period

Dropdown to select regions

**Click here to preview the breakdown of seniority of employees**

## Seniority Breakdown



- Trainees
- Freshers
- Experience > 3 years
- Experience > 5 years

### 3. Marketing and Public Affairs Head

The Marketing and Public Affairs Head, Jill Hazelbaker is tasked with overlooking the entire marketing strategy. This encompasses recognising the evolving market trends and opportunities, promotion of the company and its products, analysing and reporting trends that aid decision making for the company.

The aforesaid dashboard will aid Jill to monitor the effects of all marketing tools as employed by the company, thus facilitating strategizing with the sales team regarding the best course of action, keeping in mind the competitors as well as the customer base.

#### 3.1 Dashboard Specifications and Drill Down Paths

- The main screen displays five dashboards and a menu bar which guides the user to access news updates, project updates, settings etc.
- The screen can be filtered on basis of region and time which will be implemented on all the dashboards, individual implementation only for the time period is possible
- Additionally, the screen contains user information, tools to analyse and export charts in various formats, and recent details.
- Data can be filtered based on time and count on individual dashboards. Data is also displayed when the mouse is hovered over the chart.

#### 3.2 Metric Derivation

The marketing teams and the managers can access dashboards for the following metrics:

- Customer Count: A count of the total people using Uber's products and utilising their services over a certain time.
- Sales Revenue: Revenue generated by the sales and services of Uber over a time period.
- Customer Acquisition Cost: The amount spent to gain each new customer.  
$$\text{Customer Acquisition Cost} = \frac{\text{Total investment in sales and marketing}}{\text{No. of customers acquired}}$$
 (Ihrig, 2020)
- Customer Attrition Rate: Measure of customers lost over a period.  
$$\text{Customer Attrition Rate} = \frac{\text{Number of lost customers during specific time}}{\text{Total customers at the beginning of specific time}}$$
 (William, 2023)
- Social Media Reach: An indicator of the efficacy of marketing and campaigns.
- Engagement rate: Indicator of the quality of social media content, independent of the number of followers an account has.  
$$\text{Engagement rate} = \frac{\text{Sum of all interactions with the account (shares, comments, reactions, etc.)}}{\text{Total number of followers on the platform}}$$
 (Sehl, Tien, 2022)

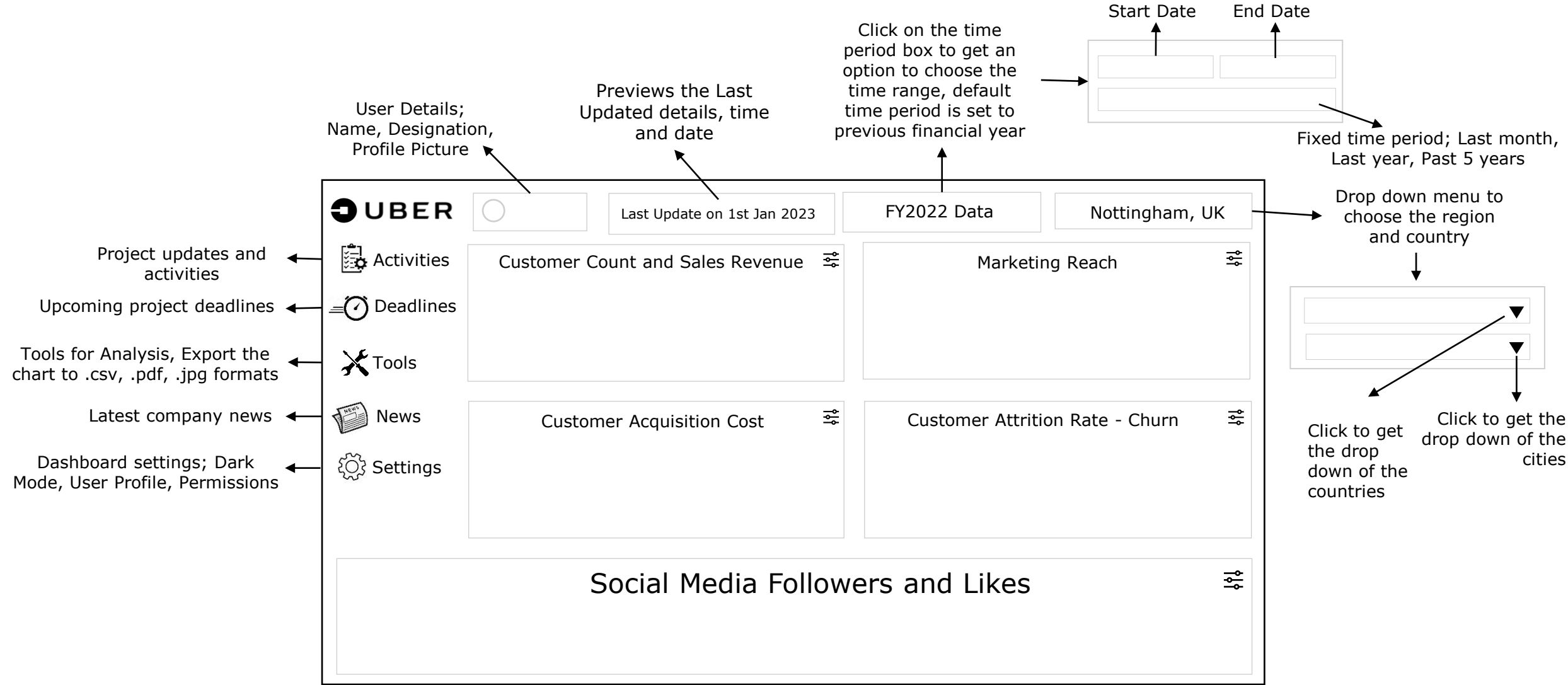


### 3.3 Metric Dimensions

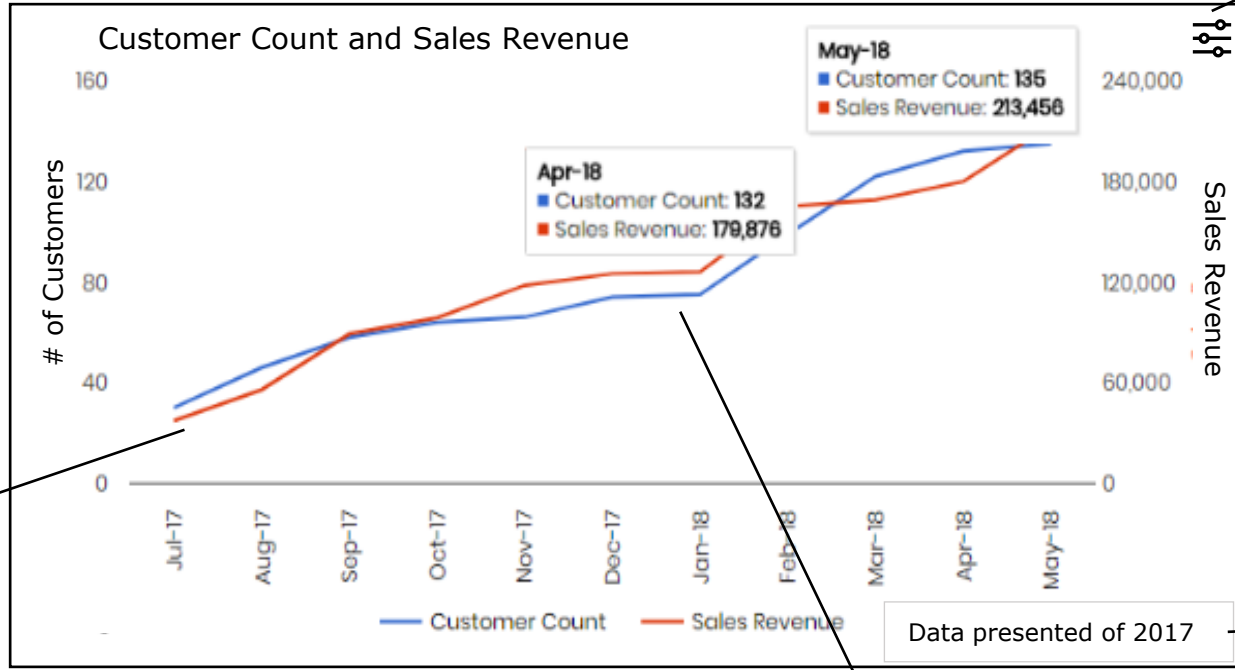
<b>Metric</b>	<b>Filter Option</b>	<b>Predictions</b>	<b>Data Source</b>
Customer Count	- Date - Count - Region	Not Available	- Company Database - Marketing Reports
Sales Revenue	- Date - Count - Region	Not Available	- Company Database - Marketing Reports
Customer Acquisition Cost	Not Available	Available	- Company Database - Marketing Reports
Customer Attrition Rate	Not Available	Available	- Company Database - Marketing Reports
Social Media Reach	Not Available	Available	- Company Database - Marketing Reports
Engagement Rate	Not Available	Available	- Company Database - Marketing Reports

The wireframe and dashboard diagrams are shown on the subsequent pages.

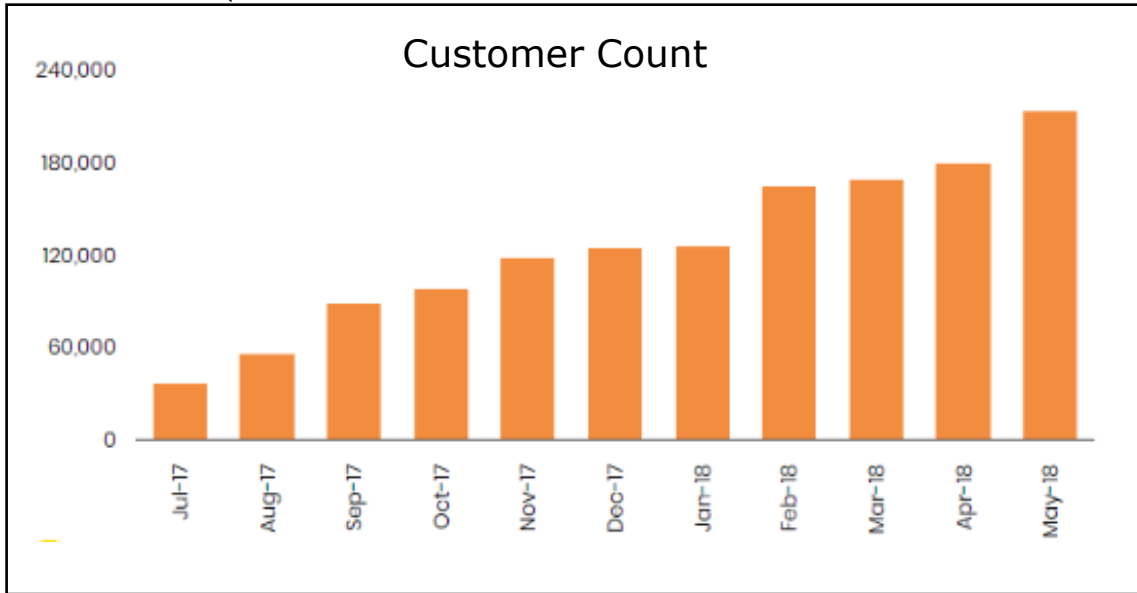
# Wireframe for Marketing Dashboard – Main Screen



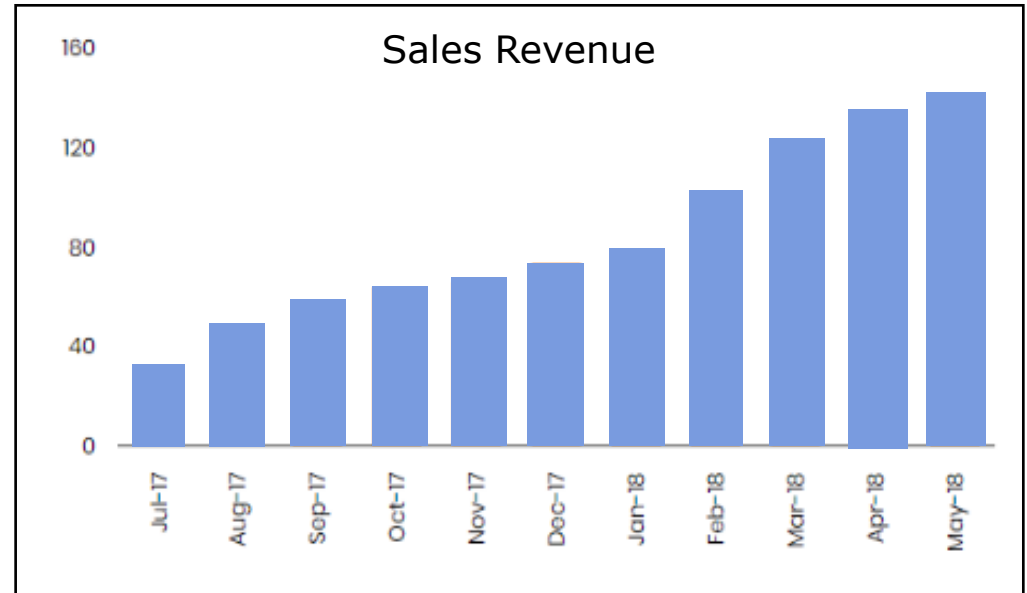
# Customer Count and Sales Revenue Dashboard



Click to preview the customer count



Click to preview the sales revenue



Click on the Options button to expand into the menu options

- Add from database
- Add from local file (.csv, .xls)
- Manually enter data

- Add data
- Filter chart
- Send chart

- Filter by date
- Filter by count

- Export to local machine
- Email to ...
- Share link with ...

- Save as .csv
- Save as .pdf
- More options..

Click to generate a shareable link of the chart

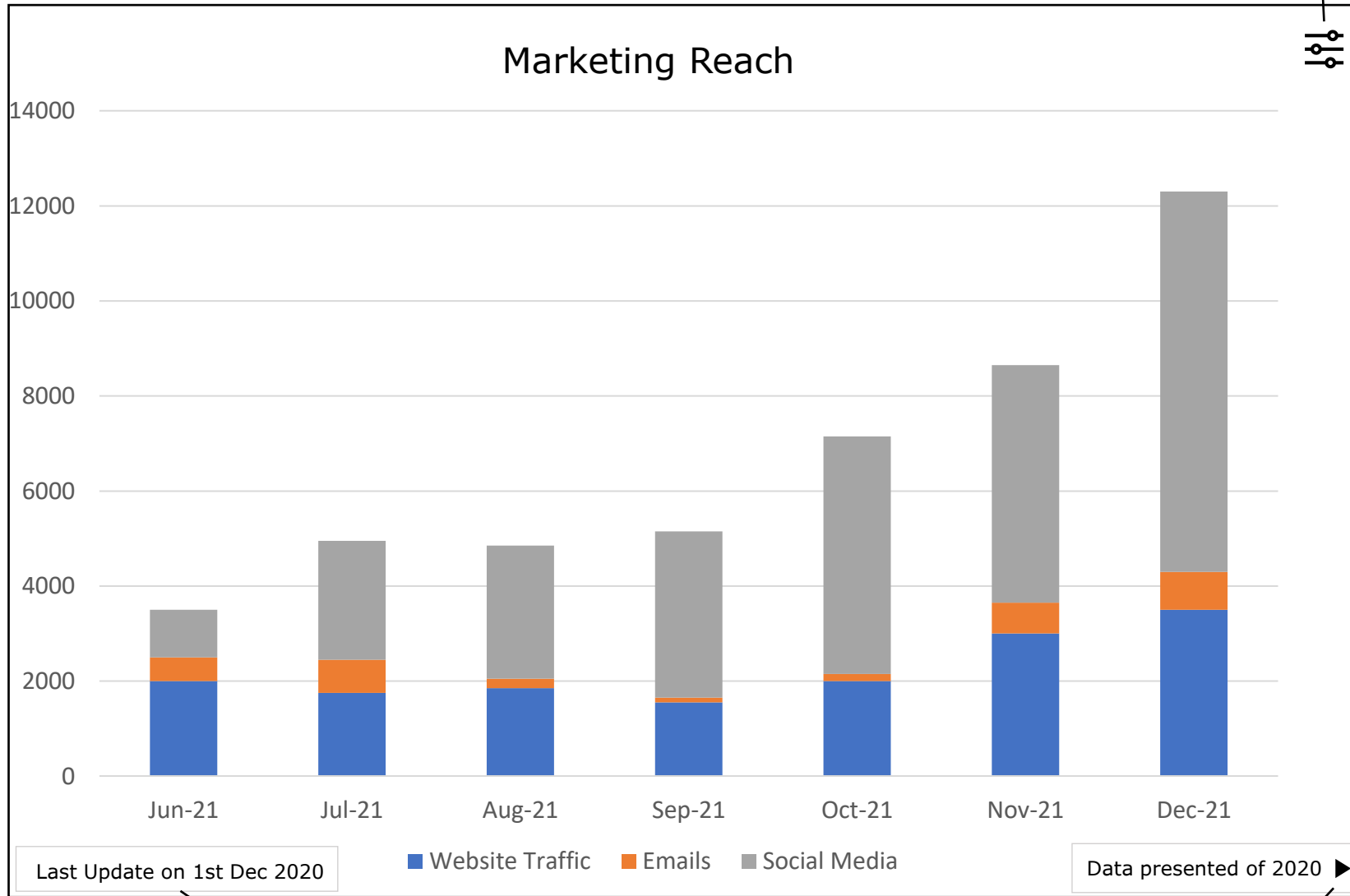
Click to save the chart in more formats, .jpeg, .html

Click on the box to choose the time period

Select an Email ID to share the chart with

Data presented of 2017

# Marketing Reach Dashboard



Previews the Last Updated details, time and date

Click on the box to choose the time period

Click on the Options button to expand into the menu options



- Add from database
- Add from local file (.csv, .xls)
- Manually enter data
- Add chart elements

Click to add different chart elements

- Add data
- Filter chart
- Send chart

- Filter by date
- Filter by type of reach

- Export to local machine
- Email to ...
- Share link with ...

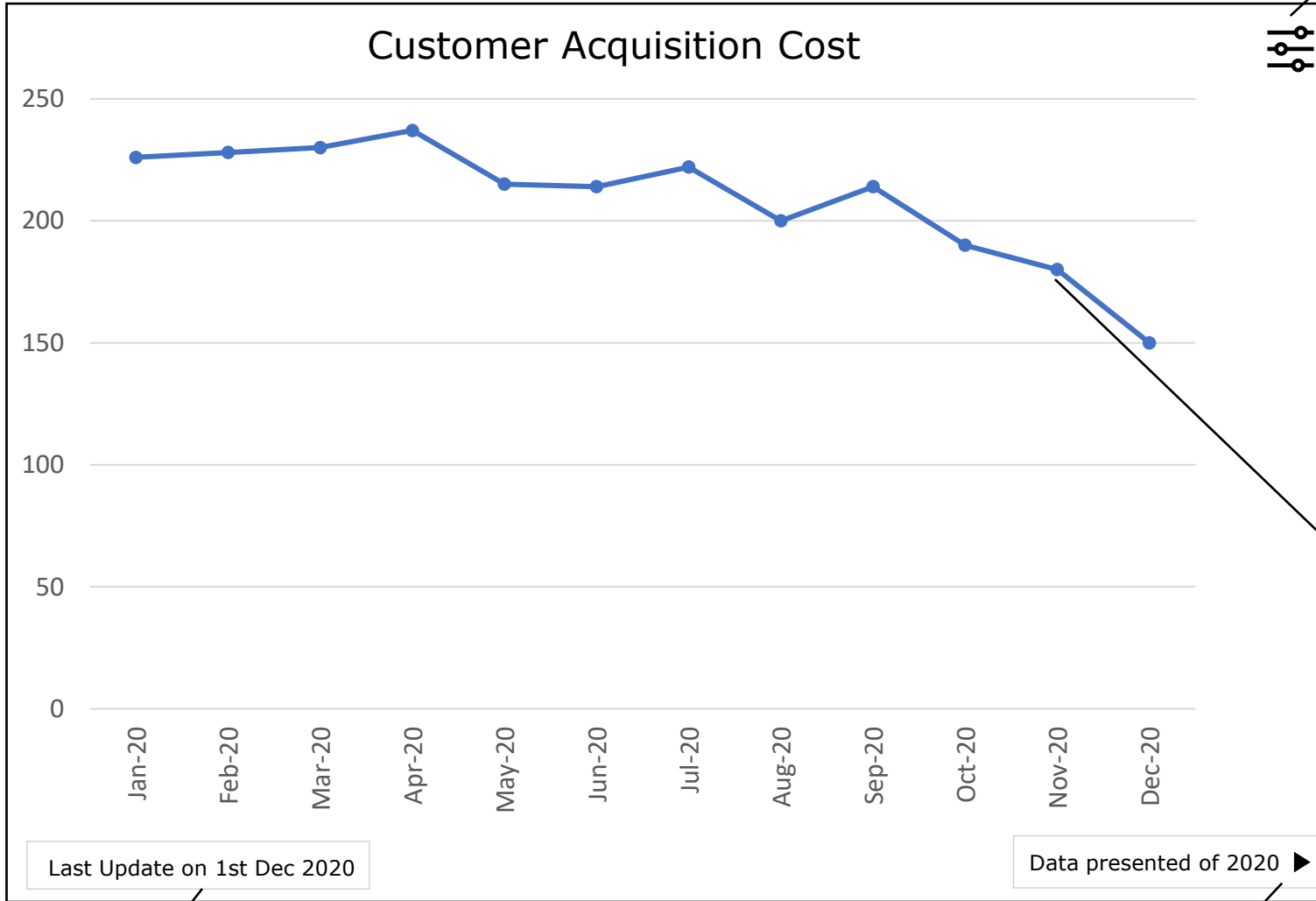
- Save as .csv
- Save as .pdf
- More options..

Click to generate a shareable link of the chart

Select an Email ID to share the chart with

Click to save the chart in more formats, .jpeg, .html

# Customer Acquisition Cost Dashboard



Last Update on 1st Dec 2020

Previews the Last Updated details, time and date

Data presented of 2020 ▶

Click on the box to choose the time period

Click on the Options button to expand into the menu options

- Add data ▶
- Send chart ▶

- Add from database
- Add from local file (.csv, .xls)
- Manually enter data
- Add prediction

- Export to local machine ▶
- Email to ...
- Share link with ...

- Save as .csv
- Save as .pdf
- More options.. ▶

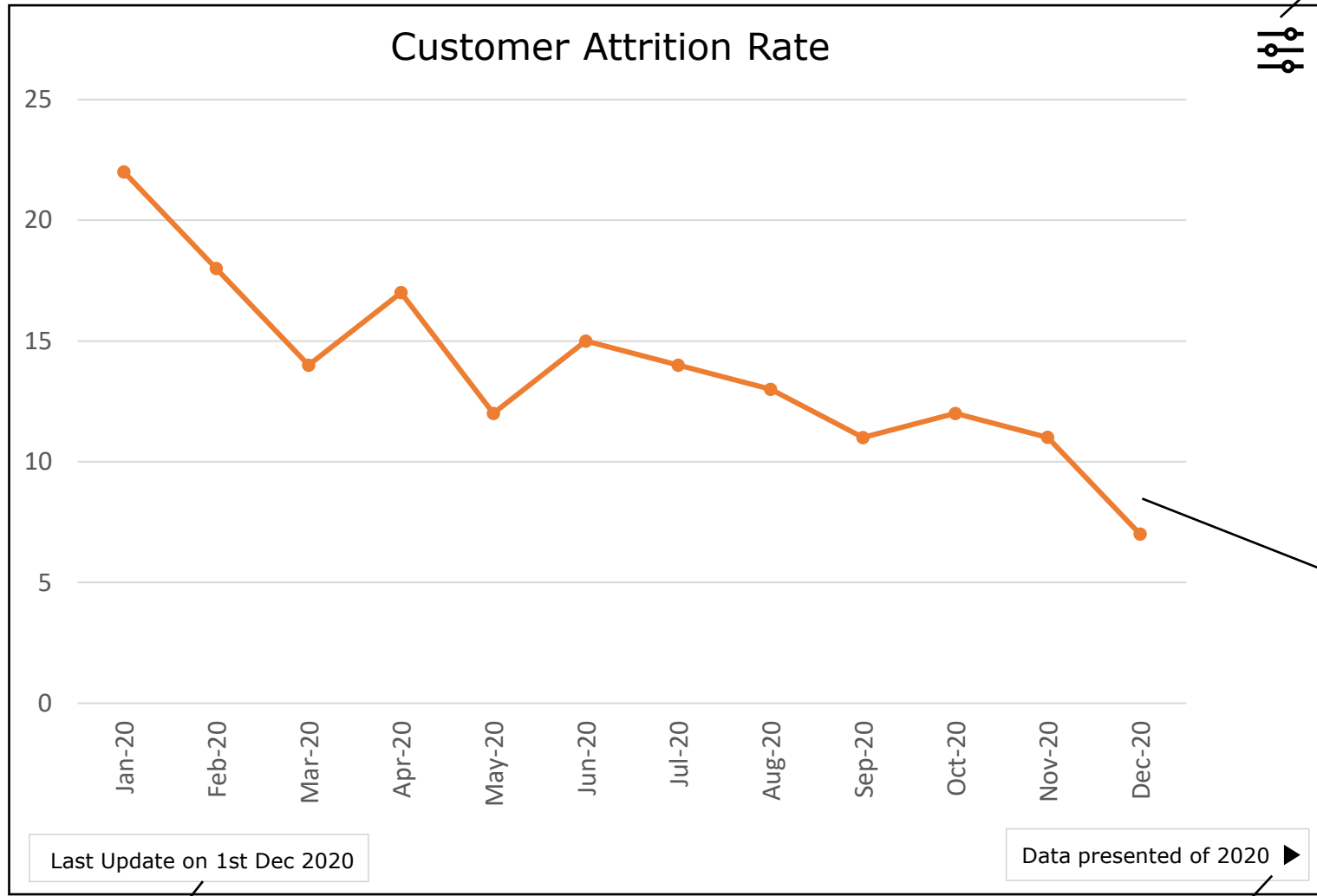
Click to generate a shareable link of the chart

Click to save the chart in more formats, .jpeg, .html

Click on the chart at any month to get the monthly data

Select an Email ID to share the chart with

# Customer Attrition Rate – Churn Dashboard



Last Update on 1st Dec 2020

Previews the Last Updated details, time and date

Data presented of 2020 ▶

Click on the box to choose the time period

Click on the Options button to expand into the menu options

- Add data ▶
- Send chart ▶

- Add from database
- Add from local file (.csv, .xls)
- Manually enter data
- Add prediction

- Export to local machine ▶
- Email to ...
- Share link with ...

- Save as .csv
- Save as .pdf
- More options.. ▶

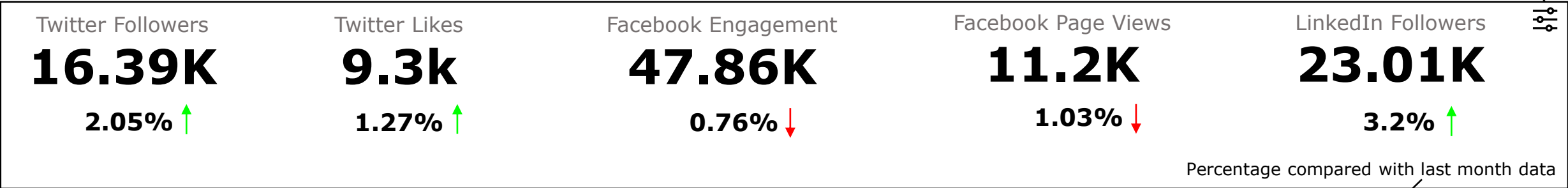
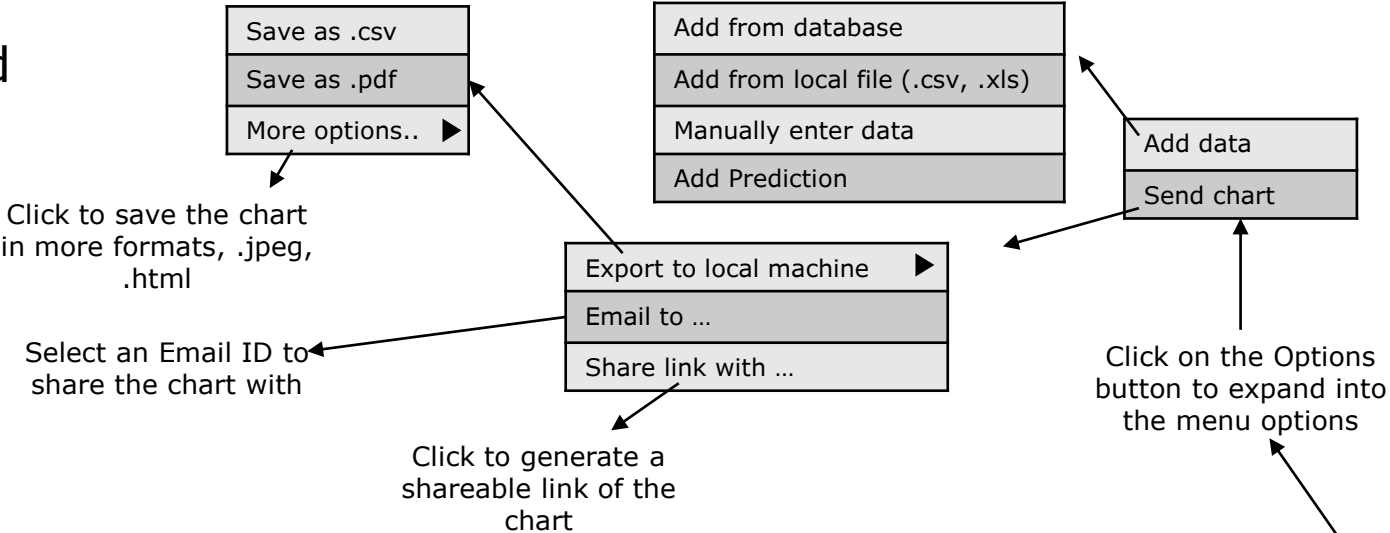
Click to generate a shareable link of the chart

Click to save the chart in more formats, .jpeg, .html

Select an Email ID to share the chart with

Click on the chart at any month to get the monthly data

# Social Media Followers and Likes Dashboard



Click here to change the comparison; last week, last month, last 6 months

## **Span of Analysis**

### **1. Descriptive Analysis**

The DIS makes use of descriptive analysis on all the dashboards to summarise and visualise the vital financial, HR and marketing metrics as well as to assess the performance of the organisation. This includes data on revenue, expenses, profits, cash flow, employee hires and terminations, employee satisfaction, customer acquisition cost and customer attrition rate. The primary role of the DIS is to provide a succinct rundown of Uber, allowing stakeholders to quickly identify trends and patterns in the data.

For example, the finance stakeholder can get a quick breakdown of all the expenses incurred with just few clicks on the DIS.

### **2. Diagnostic Analysis**

To identify the factors that influence the performance of Uber, the DIS provides tools of diagnostic analysis such as regression analysis, variance analysis, correlation analysis of all involved dashboards. This includes identifying the root cause of any issue, such as decrease in revenue and customers, lower employee satisfaction or decreasing marketing reach, and immediately recognising areas of improvement.

For example, the marketing chief can find out when the social media reach was the least and what caused it to avoid it repeating in the future.

### **3. Predictive Analysis**

The DIS provides tools to predict future performance based on historical financial data through statistical and machine learning techniques. This can include forecasting revenue, expenses, profits, customer satisfaction, employee rate, customer acquisition cost, customer attrition rate and other metrics. This analysis involves using statistical and machine learning techniques. The DIS included predictive models that are trained on historical data and then used to make predictions about future performance

For example, predictive analysis can be used to predict future demand for products or services, or to forecast changes in market conditions.

The fact that the DIS can forecast long term outcomes can be utilised during decision making and strategizing so as to manage the business, such as pricing strategy, resource allocation and marketing strategy.

### **4. Prescriptive Analysis**

The DIS, through its advanced analytics, not only predicts future trends but also prescribes the best course of action that may be taken to optimise the growth of the company. Based on its predictions and insights, prescriptive analysis provides a specific set of recommendations to the company. It also lays down how these outcomes may be achieved by the company. To achieve this, the DIS utilises optimisation algorithms like linear, mixed integer, and constraint programming.



This can be visualised in the dashboard with interactive features, allowing users to test different scenarios and see the potential outcomes.

For example, using all historical data, a predictive model can be built that can forecast the demand for a new product at varying price points. The prescriptive analysis then recommends an appropriate price point that maximises the profit taking all variables of production, competition etc into consideration.

This can be envisioned on the dashboard by users testing out varying scenarios using interactive features, to see the potential outcomes thus aiding decision making.

## **Conclusion**

The DIS will undoubtedly prove to be a powerful tool to enhance the performance of Uber. As Joe Kaeser (Joe, 2018) rightly said, "Data is the 21st Century oil". By utilising Uber's trove of historical data, the dashboards can be populated on which descriptive analysis of will provide a thorough overview of the company's performance while diagnostic analysis will recognise factors influencing the performance. Predictive analysis will forecast future performance of the company using historical data and prescriptive analysis will furnish the company with recommendations that are deemed to profit the company and its performance.

Once approved by the board, the DIS will add business values and enable Uber to take minimal risk decisions and measures that are needed for optimal performance of the company. With expansion of metrics and departments that can be incorporated, it would allow Uber to monitor patterns, trends and mitigate risks, thus making the company more profitable and sustainable empowering it achieve the set goals sooner.

## References

- Uber, Public First (n.d.) [The impact of Uber in the UK](#), (Accessed: December 17, 2022).
- Uber, (n.d.) [About us](#), Uber Website (Accessed: December 17, 2022).
- Smith, C. (n.d.) Uber mission and vision statement analysis, Employment Security Commission. Available at: <https://www.ncesc.com/uber-mission-and-vision-statement-analysis/> (Accessed: December 17, 2022).
- Khankasi, A. (2020) Ansoff matrix of uber, Ansoff Matrix. Available at: <https://ansoffs.com/ansoff-matrix-of-uber/> (Accessed: December 18, 2022).
- Valks, B. et al. (2021) "Towards smart campus management: Defining information requirements for decision making through Dashboard Design," Buildings, 11(5), p. 201. Available at: <https://doi.org/10.3390/buildings11050201> (Accessed: December 23, 2022).
- Rivera, D.S. and Shanks, G. (2015) A dashboard to support management of business analytics capabilities, pp. 73-86. Available at: <https://www.tandfonline.com/doi/full/10.1080/12460125.2015.994335> (Accessed: December 23, 2022).
- WOLF, R., 2016. DASHBOARD DESIGN. Strategic Finance, 97(12), pp. 20-27. Available at: <https://www.proquest.com/docview/1795939120/fulltext/D3B5E89B67E64930P/Q/1?accountid=14693> (Accessed: December 25, 2022).
- Perkowska, Z. (2021) The Most Popular Project Management Methodologies, SolDevelo Foundation. Available at: <https://soldevelofoundation.org/the-most-popular-project-management-methodologies-3/> (Accessed: December 26, 2022).
- Uber (n.d.) [Uber's Organizational Structure](#), Organimi website (Accessed: December 28, 2022).
- Bloomenthal, A. (2021) Gross profit margin (GP): Formula for how to calculate and what GP tells you, Investopedia. Investopedia. Available at: [https://www.investopedia.com/terms/g/gross\\_profit\\_margin.asp](https://www.investopedia.com/terms/g/gross_profit_margin.asp) (Accessed: December 31, 2022).
- DeBara, D. (2021) How to calculate employee retention rate, Lattice. Available at: <https://lattice.com/library/how-to-calculate-employee-retention-rate> (Accessed: December 31, 2022).
- Ihrig, B. (2020) CAC Marketing: Customer Acquisition Cost Formula and why it is Vital, Interceptd. Available at: <https://interceptd.com/cac-marketing-customer-acquisition-cost-formula-and-why-it-is-vital/> (Accessed: January 3, 2023).
- William, K. (2023) Customer attrition rate: Steps to calculate & reduce it, SurveySparrow. SurveySparrow. Available at: <https://surveysparrow.com/blog/customer-attrition-rate/> (Accessed: January 10, 2023).

Sehl, K. and Tien, S. (2022) Engagement rate calculator, Social Media Marketing and Management Dashboard. Available at: <https://blog.hootsuite.com/calculate-engagement-rate/> (Accessed: January 10, 2023).

Joe Kaeser. (2018) Data is the 21st century's oil, The Economic Times. Available at: <https://economictimes.indiatimes.com/magazines/panache/data-is-the-21st-century-oil-says-siemens-ceo-joe-kaeser/articleshow/64298125.cms> (Accessed: January 11, 2023).

## **Additional Reading**

Lin, C.-Y. et al. (2018) "5s dashboard design principles for self-service business intelligence tool user," Journal of Big Data Research, 1(1), pp. 5–19. Available at: <https://doi.org/10.14302/issn.2768-0207.jbr-18-2175> (Accessed: December 19, 2022).

Mola, L. et al. (2015) Business Intelligence System design and its consequences for knowledge Sharing, Collaboration, and Decision-Making: ResearchGate. Available at: [https://www.researchgate.net/publication/281389129\\_Business\\_Intelligence\\_System\\_Design\\_and\\_its\\_Consequences\\_for\\_Knowledge\\_Sharing\\_Collaboration\\_and\\_Decision-Making](https://www.researchgate.net/publication/281389129_Business_Intelligence_System_Design_and_its_Consequences_for_Knowledge_Sharing_Collaboration_and_Decision-Making) (Accessed: December 22, 2022).

Bekker, A. (2019) 4 types of data analytics to improve decision-making, Software Development Company - ScienceSoft. ScienceSoft. Available at: <https://www.scnsoft.com/blog/4-types-of-data-analytics> (Accessed: January 11, 2023).