**Project Report**

We have created all the tables in the database with proper constraints. The DDL statements are provided with the SQL file. Below is the Model of our database.

Diagram

Description automatically generated

We have created 5 business reports from our database, and they are listed below. Analysing these reports will help the company understand their transactions and take critical business decisions to maximize the net profit.

**Report 1 - Total earnings per each bike type**

select a.bike\_type, count(d.trip\_id) as Number\_of\_trips,sum(d.bill\_amount) as Total\_earnings

from pricing a left outer join bike b on a.bike\_type\_id=b.bike\_type\_id left outer join trip\_details c on b.bike\_id=c.bike\_id left outer join payment\_details d on c.trip\_id=d.trip\_id

group by a.bike\_type;

Graphical user interface

Description automatically generated with low confidence

* In above result, Total\_Earnings are measured in USD.

**Solutions:**

* This report generates the distinct bike types, the total number of trips each bike type has been used for and the total earnings by the particular bike type for all the trips.
* Using this report the company can easily identify which type of bike is being widely used by the customers and which type of bike is has the highest earnings. Based on this analysis, the company can target the bike type which is generating the highest earnings. The company can in turn use this data to buy those bikes in order to increase their profit.
* This data can also be used to make the decision of selling few of the bikes which have the least capital gaining to reduce costs.

**Report 2 – Total travel time of each bike**

select a.bike\_id, sum(b.trip\_duration) as Total\_Time\_travelled

from bike a left outer join trip\_details b on a.bike\_id=b.bike\_id group by a.bike\_id

order by 2;

Table

Description automatically generated with medium confidence

In the above result, Total\_travel\_time is measures in minutes.

**Solutions:**

* This report gives the data of the usage of each bike. This report can be used to analyse the usage limit of the individual bikes by looking at the total time travelled.
* It can be used to identify the bikes which have the highest and the lowest usage by the customers.
* Using this result the company can track the bike usage and decide as to when an individual bike needs servicing or when it must be replaced in order to avoid any malfunctioning of the bikes for the customers by keeping the quality standards up to the mark for customer retention.

**Report 3 – Season traffic**

select

case when to\_char(start\_time,'MM') in ('03','04','05') Then count(trip\_id) end

from trip\_details;

select \* from

(select 'Total Number of trip' as "Season" from Dual),

(select count(trip\_id) as "Spring"

from trip\_details

where to\_char(start\_time,'MM') in ('03','04','05') and to\_char(end\_time,'MM') in ('03','04','05')),

(select count(trip\_id) as "Summer"

from trip\_details

where to\_char(start\_time,'MM') in ('06','07','08') and to\_char(end\_time,'MM') in ('06','07','08')),

(select count(trip\_id) as "Fall"

from trip\_details

where to\_char(start\_time,'MM') in ('09','10','11') and to\_char(end\_time,'MM') in ('09','10','11')),

(select count(trip\_id) as "Winter"

from trip\_details

where to\_char(start\_time,'MM') in ('12','01','02') and to\_char(end\_time,'MM') in ('12','01','02'))

;

Table

Description automatically generated

**Solutions:**

* This report provides the number of trips booked per each season.
* Based on this report the company can analyse the usage traffic of their bikes in each season.
* This data can be helpful in making the right operational changes which could be reducing the number of bikes being serviced for the season which has the lowest traffic. These decisions will be helpful in reducing overall cost for the company.

**Report 4 - Gender based usage**

select a.gender,

case when a.gender='male' then count(b.trip\_id)

when a.gender='female' then count(b.trip\_id)

when a.gender='others' then count(b.trip\_id) end "Trip Count",

case when a.gender='male' then sum(b.trip\_duration)

when a.gender='female' then sum(b.trip\_duration)

when a.gender='others' then sum(b.trip\_duration) end "Total time used",

max(trip\_duration),min(trip\_duration)

from customer\_details a join trip\_details b on a.customer\_id=b.customer\_id

group by a.gender;

Table

Description automatically generated with medium confidence

In the above result, the duration variables are measured in minutes.

**Solutions:**

* This report shows the bike service usage classified based on the gender. It also captures the maximum and minimum duration of all the trips taken by the particular gender.
* By analysing this report, the company can offer gender specific promotional offers to target the gender which is using their services more. This will lead to the increase in the revenue for the company.
* Additionally, the company can also strategize on targeting the gender which is currently not using their services a lot. They can frame their approach to capture this segment accordingly which will increase their market share.

**Report 5 - Trip report**

select a.trip\_id,a.customer\_id,b.customer\_name,b.cust\_dob,b.phone\_number,b.gender,b.email,a.bike\_id,e.bike\_brand,e.bike\_size,f.bike\_type,a.start\_station\_id,c.station\_name "Start\_station\_name",

a.end\_station\_id,g.station\_name "End\_station\_name",a.trip\_duration,d.transaction\_id,d.payment\_type,d.date\_transaction,d.bill\_amount

from trip\_details a left outer join customer\_details b on a.customer\_id=b.customer\_id

left outer join station\_details c on a.start\_station\_id=c.station\_id

left outer join station\_details g on a.end\_station\_id=g.station\_id

left outer join payment\_details d on a.trip\_id=d.trip\_id

left outer join bike e on a.bike\_id = e.bike\_id

left outer join pricing f on e.bike\_type\_id=f.bike\_type\_id

order by d.date\_transaction;

Graphical user interface, text, application

Description automatically generated

Graphical user interface, table

Description automatically generated

**Solutions:**

* This report is a general business purpose report. It captures the entire detail of every trip recorded in the company’s database.
* This report can be used for the auditing purposes as it captures the data of every trip taken.
* This data can be referred as historical data to address any future queries of the customer service department.