# MY POR FOLIO



#### COMMUNICATION

The disciplines that encompass intrapersonal communication, negotiation, and public interaction, as I've learned here, have imparted to me the art of effectively engaging with both myself and others.

#### **ADMINISTRATION**

My work experience in this field has equipped me with the ability to manage tasks, including time management, data handling, leadership skills, and task delegation, all of which I gained from my time here.

#### **DATA ANALYST**

It's a new realm for me, yet I approach it with immense enthusiasm. Step by step, I've delved into the realm of data analysis, culminating in the completion of this portfolio project. Along the way, my communication and administrative skills have proved invaluable.

#### YOGYAKARTA MUHAMMADIYAH UNIVERSITY S-1 COMMUNICATION SCIENCE 2002 - 2007

Communication is undoubtedly a fundamental skill we all employ daily. However, I'm consistently learning to engage effectively with others, particularly in the professional sphere. Each individual is distinct, with varying communication styles, and the challenge intensifies when dealing with diverse cultures and languages. This ongoing journey of learning allows me to tap into my potential and continue to grow.

# ONLINE COURSES - COURSERA GOOGLE DATA ANALYTICS PROFESSIONAL CERTIFICATE MAY - JUN 2003

Enthusiastically captivated by the realm of data analysis, I embarked on a learning journey here. I've acquired a comprehensive understanding, spanning from fundamental data comprehension to processing, visualization, and mastering tools like SQL, Tableau, and R programming. This proficiency has been applied in portfolio projects, poised for practical implementation in professional scenarios.











# PT CAMPINA ICE CREAM INDUSTRY 2011 - 2019

Commencing as an AR and Asset Admin, grappling with sales and freezer asset data, I refined data management competencies (input, collection, physical and system incorporation). Progressing to roles of Admin Supervisor and Warehouse Supervisor, I gained leadership acumen (coordinating, delegating, and supervising).

#### PT ATLANTIC BIRURAYA 2019 - 2023

Taking on the role of Internal Audit provided me with the opportunity to oversee company data in accordance with established policy guidelines.



COMMUNICATION

**LEADERSHIP** 

DATA ANALYSIS

WORK EXPERIENCE

**ADAPTATION** 

introduction



content



closing

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# EKO NUR HIDAYAT CYCLISTIC (SHARE BIKE) PERSONAL PROJECTS

# CHRONOLOGICAL

In 2016, Cyclistic launched a successful bike sharing service. Since then, the program has expanded to include a fleet of 5,824 geotracked, secured bikes across 692 stations throughout Chicago. These bikes can be unlocked from one station and returned to any other station within the system at any time.

Cyclistic sets itself apart by offering various bike options, including reclining bikes, hand tricycles, and cargo bikes, thus making the service more accessible to individuals with disabilities and those who cannot use standard two-wheeled bicycles. While the majority of riders prefer traditional bicycles, approximately 8% of riders utilize the assistive option. Cyclistic users commonly employ their bicycles for leisure activities, although around 30% use them for their daily work commute.

## **OBJECTIVE**

Cyclistic's financial analysis has determined that annual members are significantly more lucrative compared to occasional riders. While maintaining pricing flexibility aids in expanding Cyclistic's customer base, the management firmly believes that the primary driver for future expansion lies in maximizing the count of annual memberships. Rather than devising a marketing campaign aimed solely at acquiring new customers, they discern a remarkable opportunity in converting sporadic riders into committed members.

Cyclistic is already well-positioned in terms of brand recognition among casual cyclists. Instead of relentlessly pursuing new customer acquisition, Cyclistic's management effectively leverages their existing pool of occasional riders, guiding them towards becoming valued annual members, thereby bolstering their prospective revenue streams.

## GUIDELINES

Prior to devising a marketing strategy aimed at transitioning occasional riders into annual members, the marketing analyst team must gain a more profound comprehension of several pivotal aspects. This precision is vital for ensuring the marketing strategy aligns perfectly. These crucial considerations encompass:

- 1. Discerning the Disparities: How do annual members and casual riders distinctively utilize Cyclistic bicycles?
- 2. Unveiling Incentives: What prompts an occasional rider to invest in a Cyclistic annual membership?
- 3. Capitalizing on Digital Channels: How can Cyclistic effectively harness digital platforms to sway sporadic riders towards embracing membership?

To address these inquiries effectively, an exploration of historical Cyclistic bicycle trip data is imperative. This analytical undertaking will unveil discernible patterns and trends that facilitate comprehensive answers to these pivotal questions.

# METHOD & AUDIENCE



**METHOD** 

**Customer Segmentation** 



## **AUDIENCE**

- marketing director
- Marketing analysis team
- Cyclistic executive team















## **DATA PROCESSING STAGES**

## **ASK**

The initial phase of the data analysis process involves the formulation of questions or hypotheses that will be addressed through the analytical endeavor.

### **PREPARATION**

This phase entails the collection of pertinent data to address the previously formulated inquiries. This encompasses the purification of data by rectifying absent or erroneous values, amalgamating information from diverse origins, and reshaping the data into a structure conducive to subsequent analysis.

## **PROCESS**

This phase involves the application of fitting analytical methodologies to the duly primed data. This encompasses the utilization of statistical algorithms, machine learning, and other pertinent techniques to unveil patterns or trends latent within the dataset.

## DATA PROCESSING STAGES

## **ANALYSIS**

Evaluate the outcomes of the preceding procedure.

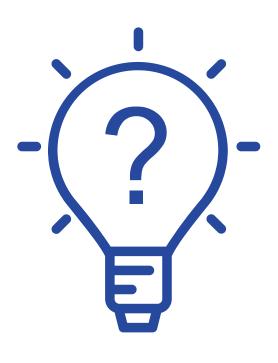
Discern crucial patterns, trends, anomalies, or
revelations that arise from the dataset.



## **VISUALIZATION**

The outcomes derived from the conducted analysis can be visually represented using graphs, diagrams, or maps. This visual representation aids in comprehending and effectively conveying the revelations to stakeholders. Disseminating these findings via presentations or reports facilitates the comprehension of the analysis results by others.





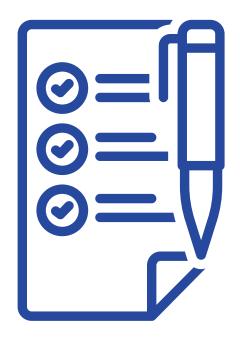


With a well-defined business objective of converting casual riders into annual members, there are several critical aspects that we need to accurately comprehend, considering the available data and real-world conditions.

The responses to these questions will lay the groundwork for the hypotheses we intend to delve into during the subsequent phases of analysis. A few of these inquiries are as follows:

- 1. What is the transactional trend exhibited by casual riders within the historical data at hand?
- 2. How does the usage duration and bicycle type differ between casual riders and annual members?
- 3. Is it plausible to segment casual riders to achieve optimal outcomes that align with our target? If so, what are the key factors driving this segmentation?

These pivotal questions provide the bedrock for our exploration in the forthcoming analysis process.



# **PREPARATION**

During this phase, I ascertain the accuracy, validity, and cleanliness of the data earmarked for analysis. Several key considerations include:

- \*\*Data Origin:\*\* This dataset originates from within the company, thereby ensuring a strong foundation of data integrity.
   Accessibility is facilitated through downloading, and organization is implemented by aggregating data on a monthly basis.
- \*\*Licensing, Privacy, and Security:\*\* In the subsequent stages of analysis, stringent measures will be implemented to safeguard user privacy, ensuring that sensitive data such as user IDs remain undisclosed.

In the forthcoming analytical endeavors, my focus will be directed toward dissecting certain factors for insights, namely: "rideable\_type," "started\_at," "ended\_at," and "member\_casual."

#### PREPARATION STEPS



```
SELECT
ride_id,
rideable_type,
started_at,
ended_at,
format_date ('%B', started_at) as
month_info,
format_date ('%A',started_at) as
day_names,
start_station_name,
end_station_name, member_casual,
if(member_casual is not null, 1,
null) as count_of_trans,
FROM ecko2520.sb_2023.2302
where start_station_name is not null
and end_station_name is not null
```

I will be focusing on specific factors in the upcoming analysis to extract meaningful insights, which include "rideable\_type," "started\_at," "ended\_at," and "member\_casual." In this phase, I will employ SQL as the tool to efficiently organize the data. The process unfolds as follows:

- 1. \*\*Data Pruning:\*\* Exclude unnecessary data components that do not contribute to the analysis objectives.
- 2. \*\*Null Value Review:\*\* Thoroughly examine null values within the dataset and subsequently eliminate them.
- 3. \*\*Introducing New Variables:\*\* I intend to introduce novel variables, namely "month\_info" (displaying the month name in a new column) and "day\_names" (showcasing the day name in another new column).

Additionally, I will create a "count\_of\_trans" column, populated with the value 1. This serves the dual purpose of calculating the total number of transactions and validating the presence of nulls within the "member\_casual" column.



# **PROCESS**

The data has been meticulously cleansed, with superfluous columns eliminated and the necessary ones purged of null values.

Moving forward, the ensuing steps are outlined as follows:

- 1. We shall compute the time difference between "ended\_at" and "started\_at," yielding a fresh column designated as "ride\_length" (duration of usage).
- 2. Leveraging the supplementary "day\_names" column, we will tally transactions per day, engendering a novel column titled "day\_count"
- 3. Applying the same approach to "start\_station\_name" and "end\_station\_name," we will gauge it through the creation of fresh columns named "start\_sn\_count" and "end\_sn\_count."
- 4. All the calculations from points 1 to 3 shall be amalgamated anew through an inner join operation.

### **PROCESS STEPS**



## POINT 1

**SELECT** 

started\_at, ended\_at,
(ended\_at - started\_at) as ride\_length,
FROM ecko2520.sb\_2023.new2301

## POINT 2

SELECT

day\_names,

count(\*) as day\_count,

FROM ecko2520.sb\_2023.new2301

group by day\_names

## POINT 3

SELECT

start\_station\_name,
count(\*) as start\_sn\_count,
FROM ecko2520.sb\_2023.new2301
group by start\_station\_name;

## POINT 3

SELECT

end\_station\_name, count(\*) as end\_sn\_count,
FROM ecko2520.sb\_2023.new2301
group by end\_station\_name;

## POINT 4

```
SELECT
e.ride_id,
e.rideable_type,
e.started_at,
e.ended_at, ride_length,
e.month_info, e.day_names,
day_count,
```

e.start\_station\_name,
start\_sn\_count,
e.end\_station\_name,
end\_sn\_count,

e.member\_casual,
e.count of trans

FROM ecko2520 .sb\_2023.new2301 e inner join ecko2520.sb\_2023.rl01 r using(started\_at) inner join ecko2520.sb\_2023.dc01 d using (day\_names) inner join ecko2520.sb\_2023.ssnc01 s1 using (start\_station\_name) inner join ecko2520.sb \_2023.esnc01 s2 using (end\_station\_name);

### **PROCESS STEPS**

## POINT 1



**SELECT\*** 

FROM `ecko2520.sb\_2023.cmp2301` union all

ullion al.

select\*

from `ecko2520.sb\_2023.cmp2302`

union all

select\*

from `ecko2520.sb\_2023.cmp2303`

union all

select\*

from `ecko2520.sb\_2023.cmp2304`

## POINT 2



# EXCEL FORMULAS

```
=IF(AND(G2>=TIME(0;9;50);02="casual")
;"cas_bronze";IF(AND(G2<=TIME(0;19;50);02="casual")
;"cas_silver";IF(AND(G2>TIME(0;19;50))
;02="casual");"cas_gold";"member")))
```

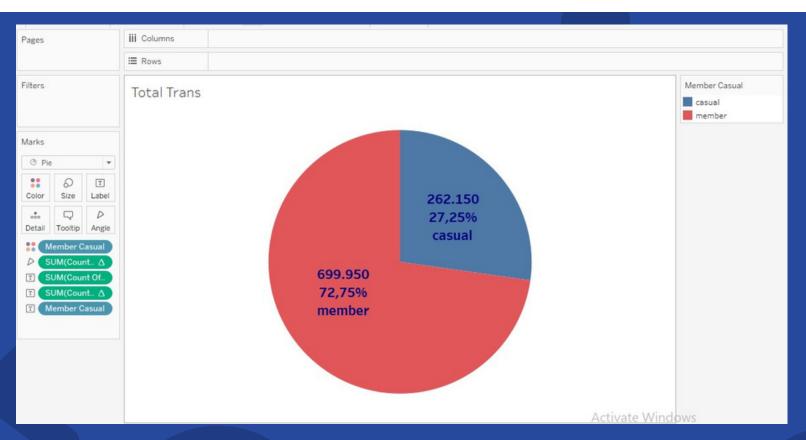
All steps within the procedural phases are executed across the entirety of data for each month (in this analysis, data spanning four months, from January to April 2023, is employed).

Subsequently, the following actions will be taken:

- 1. The four discrete datasets (per month) are amalgamated into a singular comprehensive dataset through the utilization of SQL (specifically, bigquery) employing the "union all" operation.
- 2. The resultant comprehensive dataset encapsulating historical Cyclistic data is subsequently exported to an Excel format (CSV). This exportation aims to facilitate customer segmentation based on data within the "ride\_length" column (average usage of casual customers) and the "member\_casual" column.



Derived from the meticulously orchestrated data journey encompassing the stages of inquiry, preparation, and processing, several insightful revelations emanate from the Cyclistic data. These insights are outlined as follows:



Cyclistic's biggest transactions come from members (annual members. Meanwhile, casual transactions (random drivers) only make up 27.25% of the total cyclistic transactions.



Derived from the meticulously orchestrated data journey encompassing the stages of inquiry, preparation, and processing, several insightful revelations emanate from the Cyclistic data. These insights are outlined as follows:



However, even though casual transactions were only 27.25% (previous data) of total transactions, casual transactions (random drivers) showed an upward trend from month to month until in April the increase in casual transactions reached more than 50%.



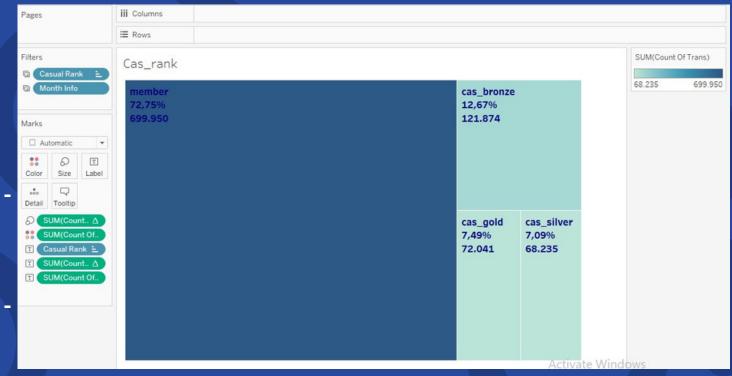
Derived from the meticulously orchestrated data journey encompassing the stages of inquiry, preparation, and processing, several insightful revelations emanate from the Cyclistic data. These insights are outlined as follows:

To be more specific, I segmented customers based on length of use, which previously I calculated the average length of use of casual customers (00:19:50), then I categorized them into 3, namely:

1. Gold (usage above average - above 00:19:50)

2. Silver (used between 00:09:50 - 00:19:50)

3. Bronze (used between 00:00:01 - 00:09:50)





From the data that we have processed starting from the process of asking, preparation to the processing stage, there are some insights that we can get from cyclistic data, as follows:

This data is transaction data for the type of bicycle usage between casual\_gold vs members where users of classic bikes (manual pedaled bicycles) are the highest, then docked bikes (pedaled bicycles for the disabled) only casual customers who make docked bike transactions for members there are no transactions at all very.

then the last one is an electric bike transaction.





If a series of analysis processes are visualized, the dashboard will look like this. or you can see directly the dashboard visualization is clearer in the public tableau <u>here.</u>



# RECOMMENDATION

Derived from the outcomes of the conducted data analysis, I present the ensuing recommendations in relation to the business objectives outlined by Cyclistic management. Following the segmentation based on the average usage duration, three distinct casual customer categories have been identified: Casual Gold, Casual Silver, and Casual Bronze.

1. Our strategic emphasis centers on the conversion of casual customers to members within the Casual Gold category. This approach hinges on the presumption that customers exhibiting above-average usage durations are more likely to find the transition to annual membership more cost-effective and appealing, compared to remaining as casual customers. This concerted effort towards casual gold conversion is anticipated to augment the member count by 7.49% of the total transactions, thereby contributing to overall growth.

# RECOMMENDATION

2. The utilization of the internet as a potent marketing tool is optimized to deliver consistent education and heightened awareness to casual customers, particularly those falling within the Casual Gold segment. The focal point of this educational drive centers on communicating the superior convenience and enhanced amenities awaiting them upon becoming members. A key highlight is the significantly reduced costs associated with bicycle rentals compared to their status as casual customers. However, this strategic endeavor demands effective follow-up in the real world, ensuring seamless transitions from casual to member services. This operational extension could be manifested through the establishment of informative booths, offering enticing giveaways to captivate their interest and encourage information-seeking behavior. Furthermore, the process of shifting from casual to member status can be facilitated. It's imperative that management meticulously selects suitable locations and timings to yield optimal results.

For resource optimization, the choice of timing and location must be intricately aligned with the influx of casual gold customers who frequent these areas. Notably, within the dashboard data, I've ranked the ten most frequented starting and ending stations by casual gold customers, alongside identifying the day marked by the highest volume of transactions from this customer segment.

# RECOMMENDATION

Drawing from the bicycle usage data, the analysis outcomes reveal a noteworthy finding: there exists a subset of casual gold customers who utilize docked bikes, and among them are individuals with disabilities. This insight carries substantial implications, urging management to take cognizance and expedite the provision of tailored services, or perhaps even enhance the existing services, to better accommodate individuals with disabilities who belong to the casual gold membership.

It's worth noting that throughout the research timeframe (spanning four months from January to April 2023), no instances of docked bike utilization were observed among member transactions. This discovery underscores the significance of the specialized provision for disabled customers within the casual gold segment.

The anticipation is that through this service enhancement aimed at addressing the needs of disabled customers, the transition from casual gold to member status can unfold seamlessly and optimally for all casual gold customers, fostering an inclusive and maximally beneficial experience for this specific demographic.

# **SUMMARY**

#### INSIGHT

- Casual transactions are only 27.25% of the total transcyclistic for 4 months (jan - apr 2023).
- Both trans casual and members experienced an upward trend for 4 months from Jan - April 2023, the highest increase was the increase in casual transactions in April reaching more than 50%.
- for 4 months (Jan Apr 2023) docked bike transactions were only found in casual transactions.

#### RECOMMENDATION

- After segmentation, there are 3 types of casual based on the length of time the bicycle has been used, namely Cas\_gold, Cas\_Silver and Cas\_bronze. we will focus on casual conversions to annual members to cas\_gold as much as 7.49%.
- The internet / social media is only used as an educational tool to increase awareness of cas\_gold customers, after which it must be followed up with field actions taking into account the times and places most visited by cas\_gold customers.
- management must start paying attention to services or conveniences for cas\_gold customers who use docked bike types, so that these disabled customers want to switch services from casual to annual members.



# LET'S WORK TOGETHER

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