

Case Study - Data Analyst at

Dummy research data
Virtual Internship
Experience (VIX)

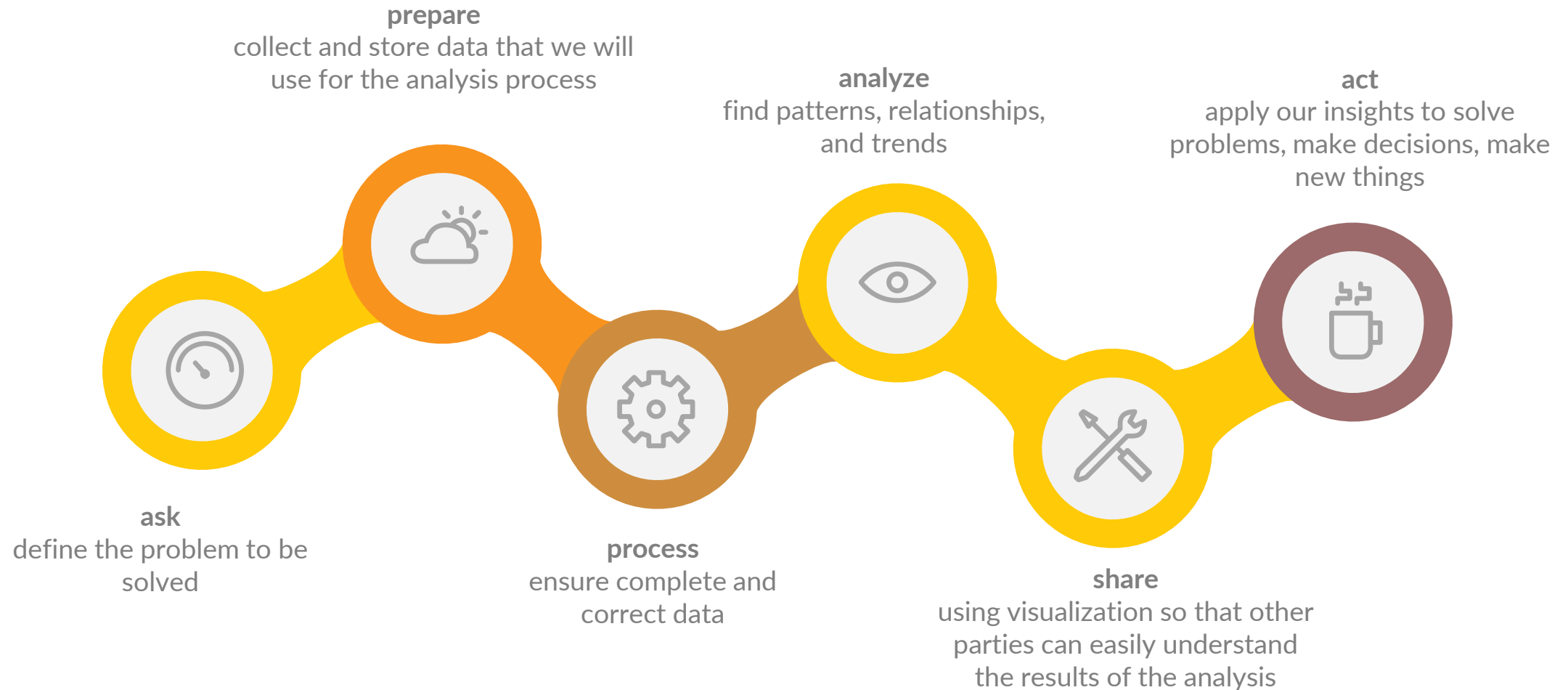


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Last Update: 30 December 2022

Program language



For good analysis results I apply 6 phase data analysis, in study case 1



Study Case 1

The Brief

Analyze the data, find and interpretation into business strategies and planning

Clue :

- 1. You have to create chart that can help you to define a pattern of user*
- 2. Chart may can help you : Boxplot, Heatmaps, Column*
- 3. The data you have is historical transaction from VIX*

Prepare (collect and store data that we will use for the analysis process)

```
-----
Lima data teratas:
-----
   user_id first_contact checkout_date paid_date channel occupation \
0      297   2022-08-07   2022-08-17 2022-08-19 referral      worker
1      197   2022-08-30   2022-09-13 2022-10-01  organic  job_seekers
2      259   2022-08-27   2022-08-29 2022-09-10  inbound  job_seekers
3      207   2022-08-28   2022-09-16 2022-09-24  organic      worker
4      155   2022-08-31   2022-09-06 2022-09-13 referral  fresh_graduate

   city age
0  bandung  33
1  jakarta  23
2  semarang  29
3  semarang  22
4  semarang  22

-----
Cek Jumlah Baris dan Column
-----
DataFrame Shape : (100, 8)
Jumlah baris : 100
Jumlah kolom : 8

-----
Cek nama Column
-----
Index(['user_id', 'first_contact', 'checkout_date', 'paid_date', 'channel',
      'occupation', 'city', 'age'],
      dtype='object')
```

Gambar 1.1

Process (ensure complete and correct data)

```
-----
Detail setiap jumlah null column
-----
user_id      0
first_contact 0
checkout_date 0
paid_date    0
channel      0
occupation   0
city         0
age         0
dtype: int64

-----
Cek tipe data
-----
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 100 entries, 0 to 99
Data columns (total 8 columns):
#   Column          Non-Null Count  Dtype
---  ---
0   user_id         100 non-null   int64
1   first_contact   100 non-null   datetime64[ns]
2   checkout_date   100 non-null   datetime64[ns]
3   paid_date       100 non-null   datetime64[ns]
4   channel         100 non-null   object
5   occupation      100 non-null   object
6   city            100 non-null   object
7   age            100 non-null   int64
dtypes: datetime64[ns](3), int64(2), object(3)
memory usage: 6.4+ KB
None
```

Gambar 1.2

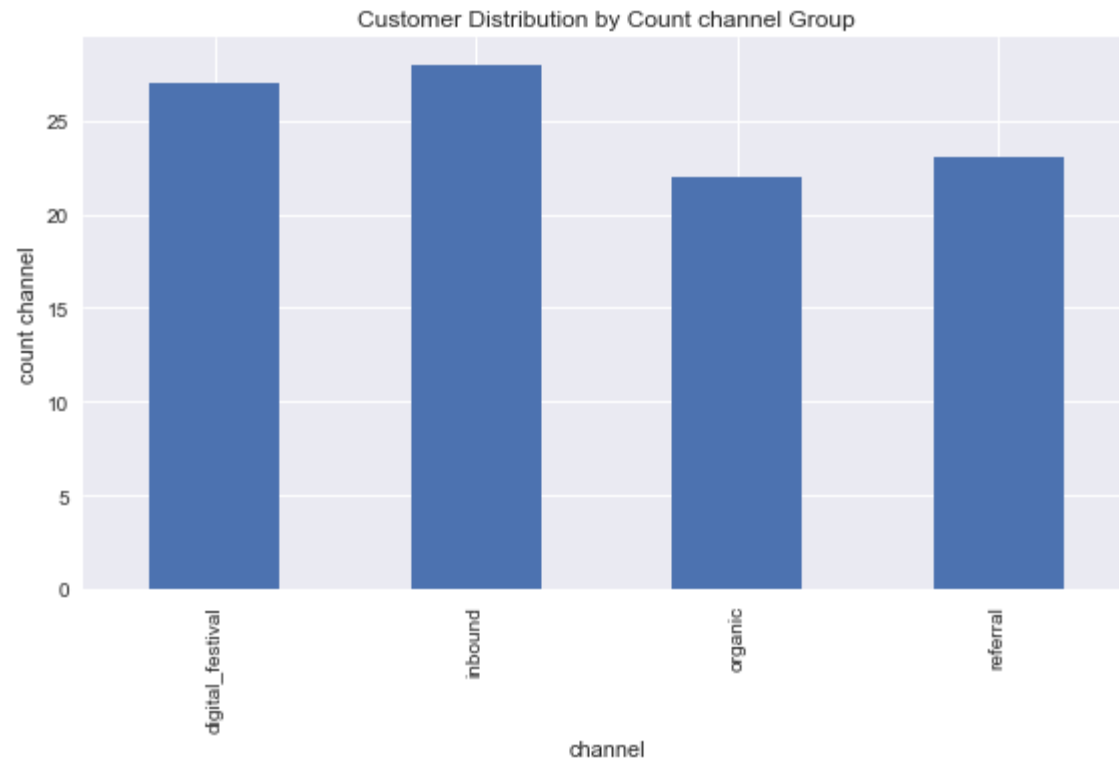
Analyze (find patterns, relationships, and trends)

Well, before we analyze further from the previous stage, we know that the data we are analyzing is transaction history data from the Virtual Internship Experience (VIX).

The dataset consists of 100 rows and 8 columns, the data set also does not have a null value, and the data type is appropriate which indicates the data is ready for analysis

I will analyze the data per column

The distribution of the number of users based on the channel that is followed

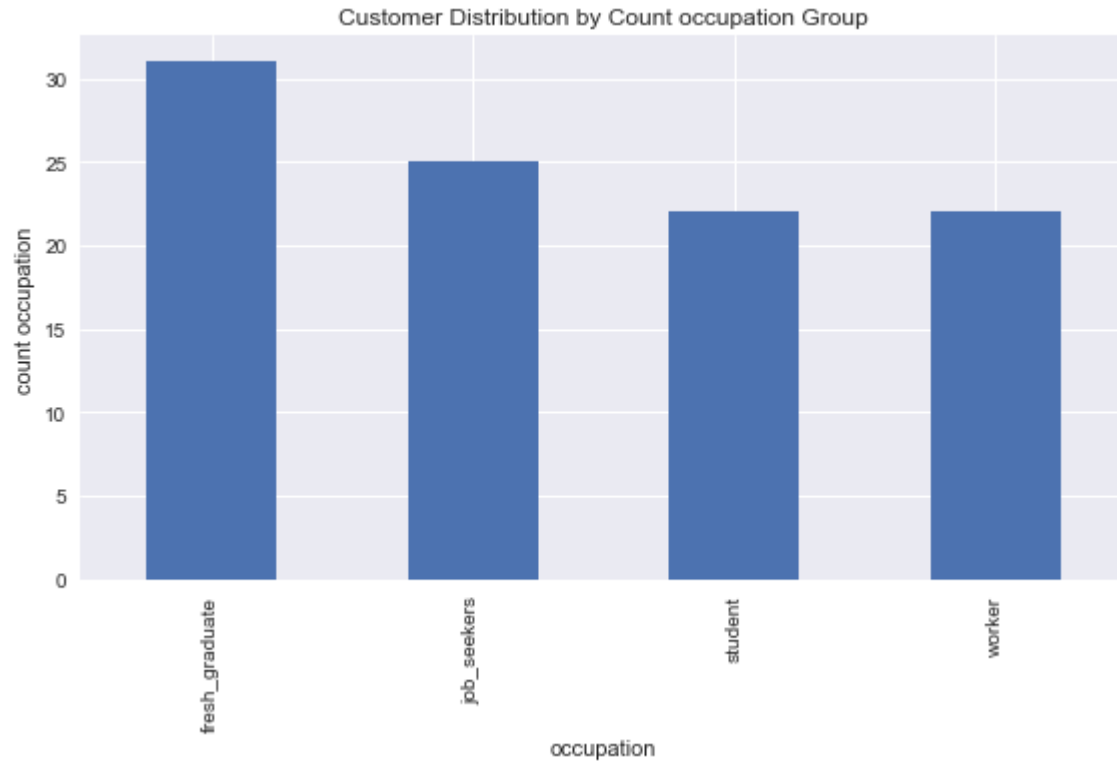


Gambar 1.3

Detail

- From the graph beside, we can see that the difference in the number of users between channels is not too far away. This indicates that the four channels on Rakimin produce new users evenly.
- The number of channels that generate the most users comes from inbound channels and the least comes from organic channels

Number of user distribution based on occupation

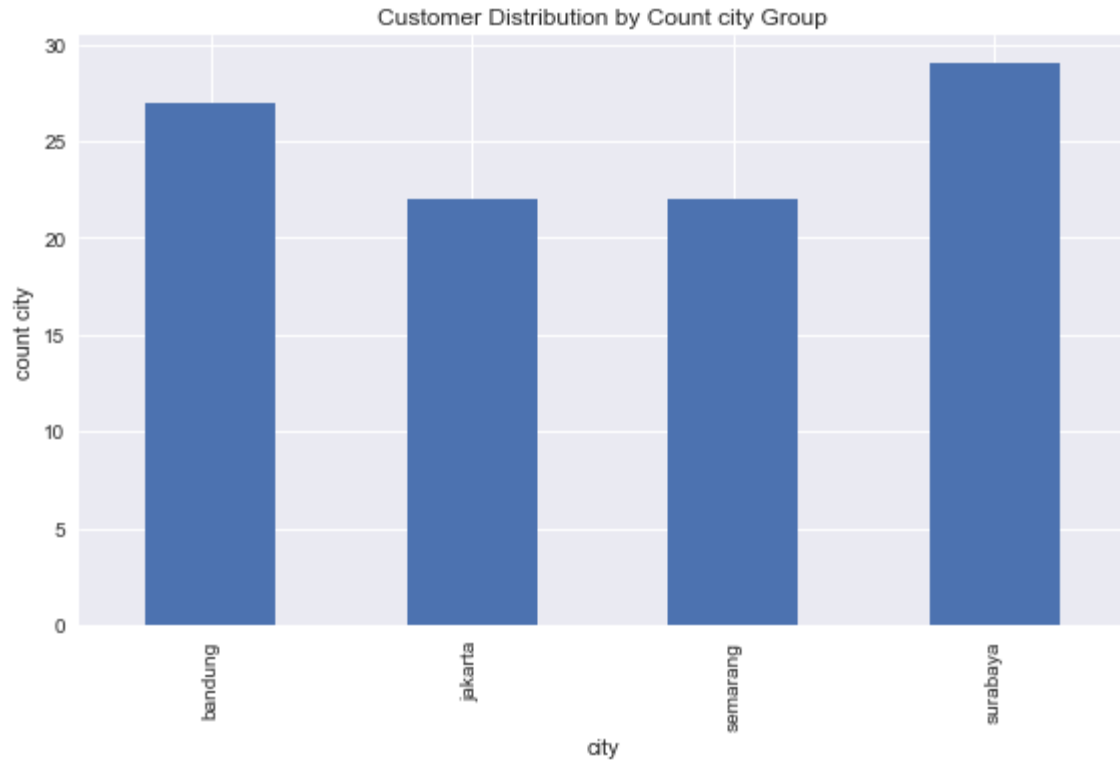


Gambar 1.4

Detail

- From the graph below, we can see that the occupations of the participants in the Virtual Internship Experience (VIX) program come from fresh graduates, job seekers, students, workers.
- We can also see that most of the participants came from fresh graduates
- From the graph below, we can see that the difference in the number of users between occupations is not too far away. This indicates that the participants in the Virtual Internship Experience (VIX) program come from various occupations.

Number of user distribution based on city

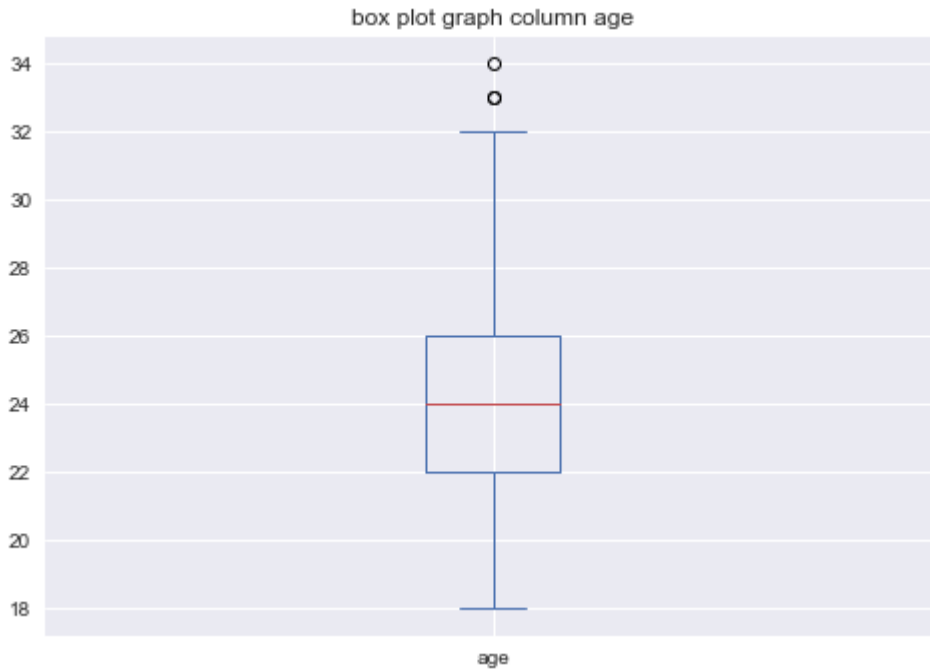


Gambar 1.6

Detail

- From the graph below, we can see that the participants in the Virtual Internship Experience (VIX) program came from the city of Bandung, Jakarta, Semarang, Surabaya.
- We can also see that most of the participants came from Surabaya
- From the graph beside, we can see that the difference in the number of users between cities is not too far

Distribution of user ages

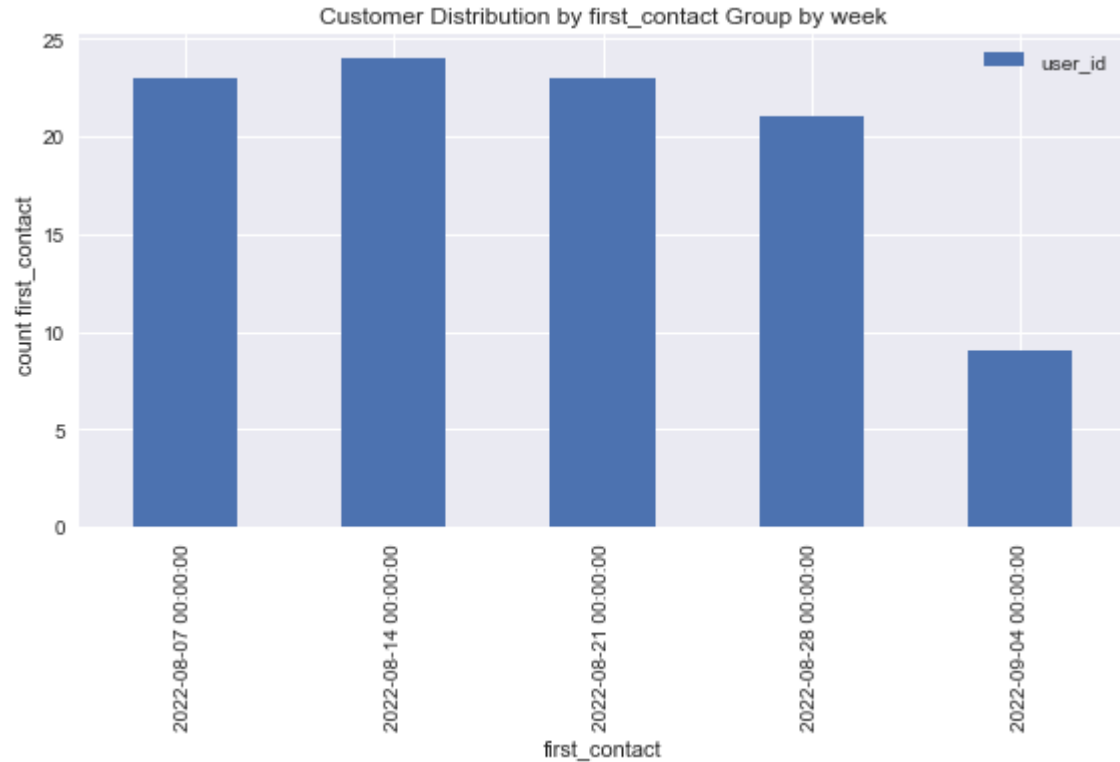


Gambar 1.7

Detail

- From the data in the column age data distribution is positive skew (a positive skewness means that the tail of the distribution is to the right of the highest value). The data is right-slanted (the mean is greater than the median, the median is greater than the mode) the upper part of the whiskers is longer than the underside
- This means that most of the distribution is in low scores. We can see in the graph that most of the user scores are in the age range of 22 to 26 years.
- From the boxplot graph above, we can see that there are outlier values whose value is more than 32. That means that the number of participants who are over 32 years old is very small.

Distribution first_contact



Detail

- From the picture below, we can see that first_contact occurs consistently every week in August 2022.
- This indicates that the number of users who make contact with rakimin in the Virtual Internship Experience program is consistent every week
- But there was a decrease at the end of August and early September due to the incomplete amount of data around those dates

```
-----  
Cek Column first_contact  
-----
```

```
data waktu first_contact pertama pada dataset dimulai pada 2022-08-01 00:00:00  
data waktu first_contact terakhir pada 2022-08-31 00:00:00  
Jadi dapat kita ketahui range waktu terjadinya checkout_date pada dataset adalah sekitar 30 days 00:00:00
```

Gambar 1.8

distribution of difference between first contact and checkout time

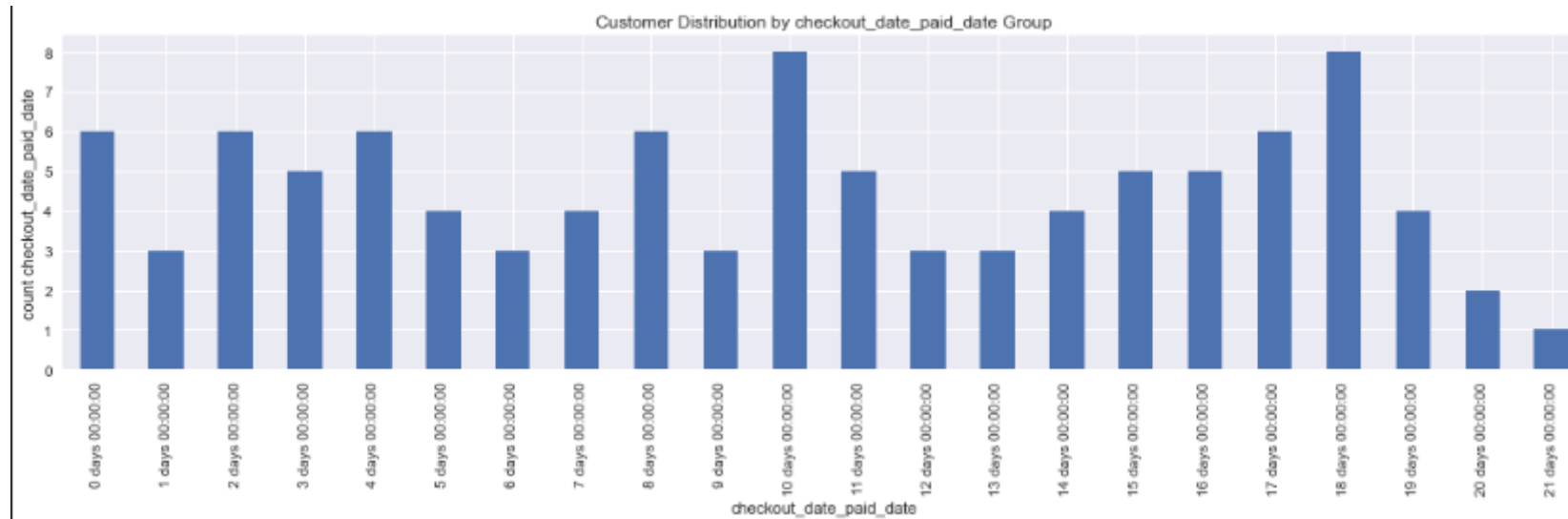


Gambar 1.9

Detail

- From the graph above we can observe the difference in time when first contact occurs with the checkout date for each user, mostly in the range of 1 to 9 days
- From this we can conclude that as many users need less than 10 days to checkout after first contact
- This illustrates that the user takes less than 10 days to make a decision to checkout the Virtual Internship Experience program

distribution of the difference between the checkout date and the paid date



Gambar 2.0

Detail

- From the graph above, we can observe the time difference when the checkout date occurs with the paid date for each user, mostly between 0 to 18 days
- From here we can conclude that most users need approximately 2 weeks to pay after the checkout date occurs

business strategies and planning 1

If we look at the boxplot graph in Figure 1.7 about the distribution of user ages, we can see that the age range of users who register for the Virtual Internship Experience (VIX) program ranges from 22 to 26 years, which age is usually filled by users whose occupation is fresh. graduates and job seekers as shown in Figure 1.4

From this data we can increase marketing and price discounts for the Virtual Internship Experience program for young people aged around 22 to 26 years whose occupation status is a fresh graduate and job seeker. By increasing marketing and discounts for the right segments, it will increase the number of new users to take part in the Virtual Internship Experience program

business strategies and planning 2

If we look at the graph in Figure 1.9 there we can see the distribution of the time difference where most users checkout in the range of about 0 to 9 days after first contact and the rest take up to 3 weeks

Based on the data above we can minimize the difference between the first contact time and the checkout time. The way to do this is to send a reminder email to the user at least $H+1$ after the first contact occurs. By doing this, we will minimize the possibility of users not checking out due to forgetting, which will have a positive impact because we can reduce the possibility of lost revenue due to users forgetting to checkout. This method can also be applied to cases of difference between checkout date and paid date

Study Case 2

The Brief

You conducted research on the Virtual Internship Experience (VIX) of users. Now you must gain insights from your results and provide recommendations to stakeholders.

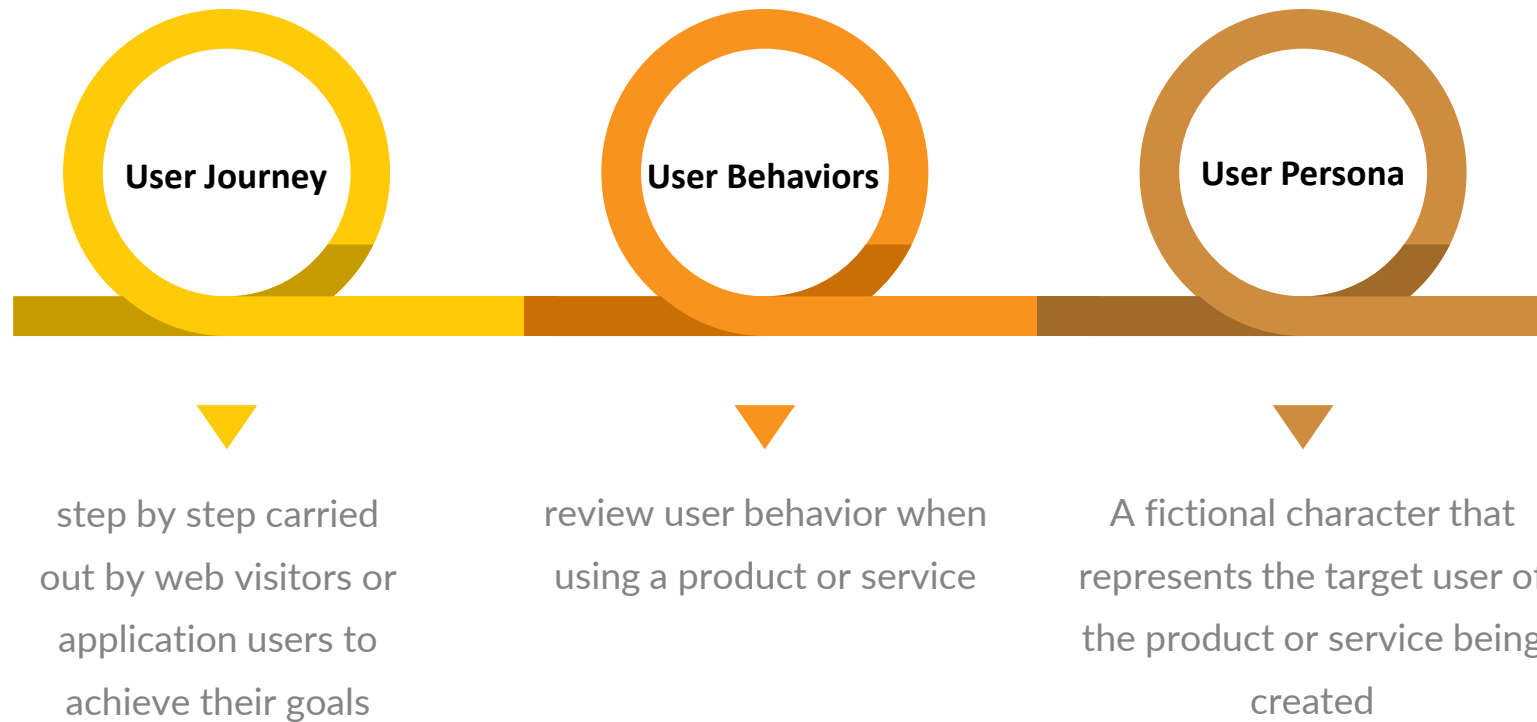
The Task

- 1. Crafting synthesis data*
- 2. Gain insight & recommendations*

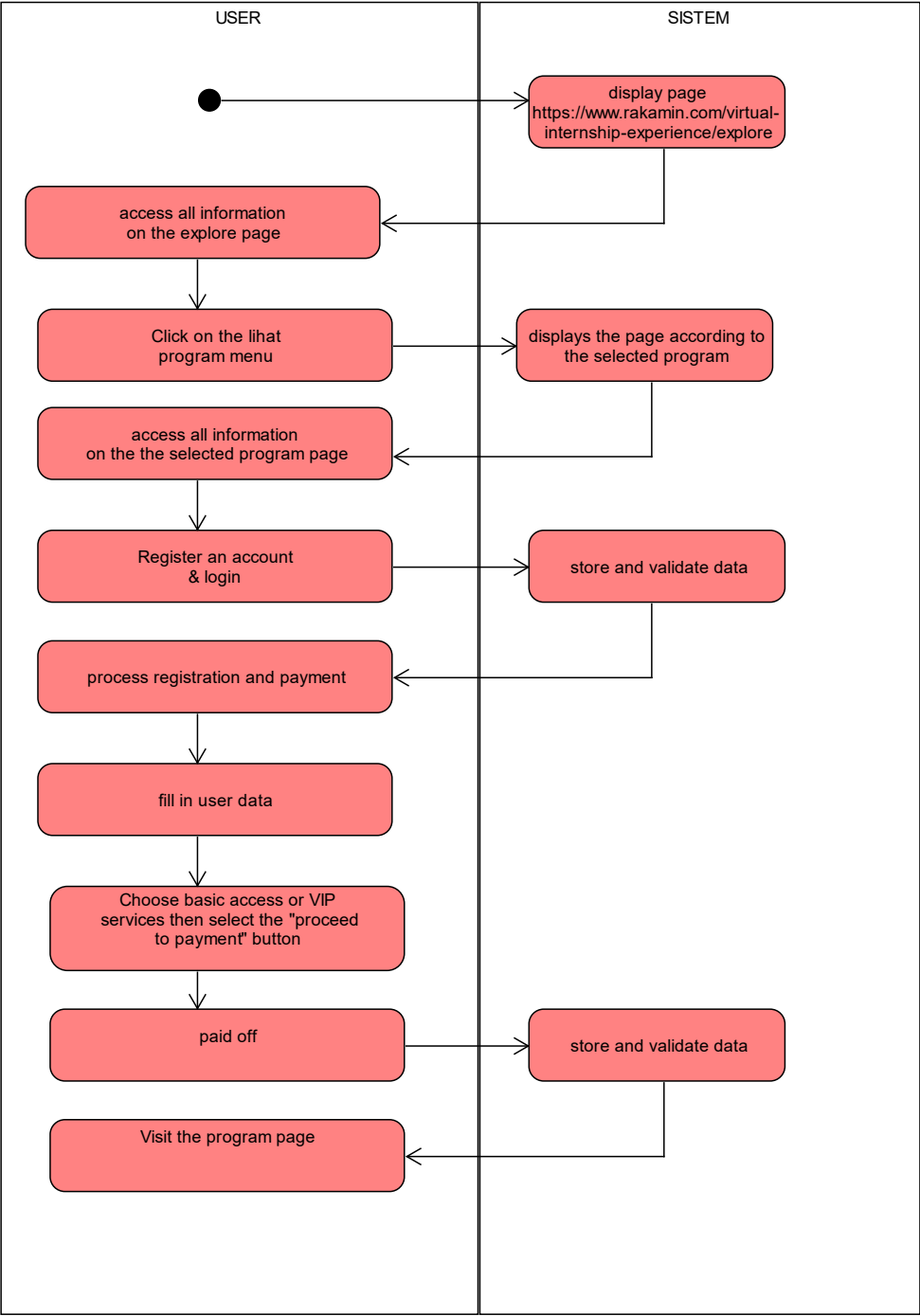
Preparation

Before conducting an analysis of the dataset, here I will research more about the object to be studied by paying attention to objective aspects such as User Journey, User Behaviors, User Persona.

Objective



Objective

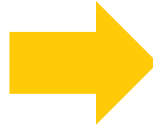


Objective



1. Read the page <https://www.rakamin.com/virtual-internship-experience>
2. Read the page <https://www.rakamin.com/virtual-internship-experience/explore>
3. Contact customer service
4. Explore programs of interest
5. Registration and login
6. Visit rakamin social media such as

Objective



Jobseeker/switch career

➤ Who are they?

They are a term for someone who is looking for a job, or those who are already working but want to change professions

➤ What is their main goal?

Add knowledge and experience to be able to work in the field of interest



Mahasiswa/fresh graduate

➤ Who are they?

Those who are currently in college or have just graduated from

➤ What is their main goal?

Add knowledge and experience to be able to work in the field of interest

The Task

Crafting
synthesis data



Gain insight &
recommendations

Crafting synthesis data



Data synthesis is the process of taking raw data and organizing it into a format that is easy to understand and analyze

The following is the Data synthesis step :

1. perform data normalization
2. Make visualization

1. Perform data normalization

No	Pekerjaan atau kegiatan saat ini	program lain rakimin yang pernah diikuti	sumber informasi vip access	motivasi mengikuti program vip	kapan beli vip akses	pernah mengikuti basic access
1	Internship	Belum	web	pengalaman & sertifikat magang	Pada saat mendaftar	Belum
2	Pegawai swasta	Belum	instagram	Ilmu & mentor	Pada saat mendaftar	Belum
3	Internship	Digital Festifal/ Rakamin Trial Class	web	Ilmu	setelah enrollment	Belum
4	Jobseeker	VIX (Batch sebelumnya)	instagram	motivasi & Ilmu	setelah enrollment	Sudah
5	kerja	Belum	instagram	Ilmu	setelah enrollment	Belum
6	Jobseeker	VIX (Batch sebelumnya)	email promotion	portofolio & mentor	setelah enrollment	Sudah
7	mahasiswa	VIX (Batch sebelumnya)	web	mentor & sertifikat	Pada saat mendaftar	Sudah
8	Fresh graduate	VIX (Batch sebelumnya)	web	pengalaman	Pada saat mendaftar	Belum
9	Freelancer	Digital Festifal/ Rakamin Trial Class	instagram & twitter	Ilmu	Pada saat mendaftar	Belum
10	mahasiswa	Belum	instagram	Ilmu	Pada saat mendaftar	Belum

Study Case 2

next

No	kenapa pindah ke vip	kenapa pilih vip daripada basic	hambatan upgrade ke vip	cara mempermudah pembelian vip	ekspektasi vip dibanding realita
1	0	benefit	tidak ada	sederhanakan ui	kurang
2	0	mentor	benefit & fasilitas	benefit ditambah	kurang
3	0	benefit & materi	benefit & materi	0	sesuai
4	akses mudah	bisa mengikuti program lain	tidak ada dana	tambah opsi pembayaran	sesuai
5	0	dapat study case	trial basic dulu	tambah opsi 1 vip untuk semua kelas	0
6	keterima & konsultasi	sesi konsultasi	tidak ada	baik	kurang
7	sertifikat	benefit & sertifikat	tidak ada	baik	sesuai
8	0	benefit & sertifikat	tidak ada	sederhanakan ui & tambah opsi pembayaran	sesuai
9	0	peluang hire	benefit	baik	kurang
10	0	benefit	0	baik	sesuai

2. Make visualization with “Word cloud”

The bigger the font size, the more the frequency in the dataset



Gain insight



1. 60% of customers are those who already have a job
2. High customer retention, this is evidenced by 60% of participants being old customers who returned to the program and 40% were new customers
3. advertising through social media and the web brings in 90% of customers
4. 60% of customers immediately buy VIP access when registering
5. The benefits of VIP access are a major factor in customer choice
6. 40% of customers are satisfied with the VIP access purchasing mechanism
7. 50% of customers are satisfied with the VIP access facilities provided

Recommendations



1. Simplify the mechanism for purchasing VIP access by increasing payment methods and simplifying the web UI
2. improve the virtual internship experience by increasing interaction between companies related to customers so that customer satisfaction increases
3. provide attractive offers to fresh graduates or students to increase the purchase of VIP access

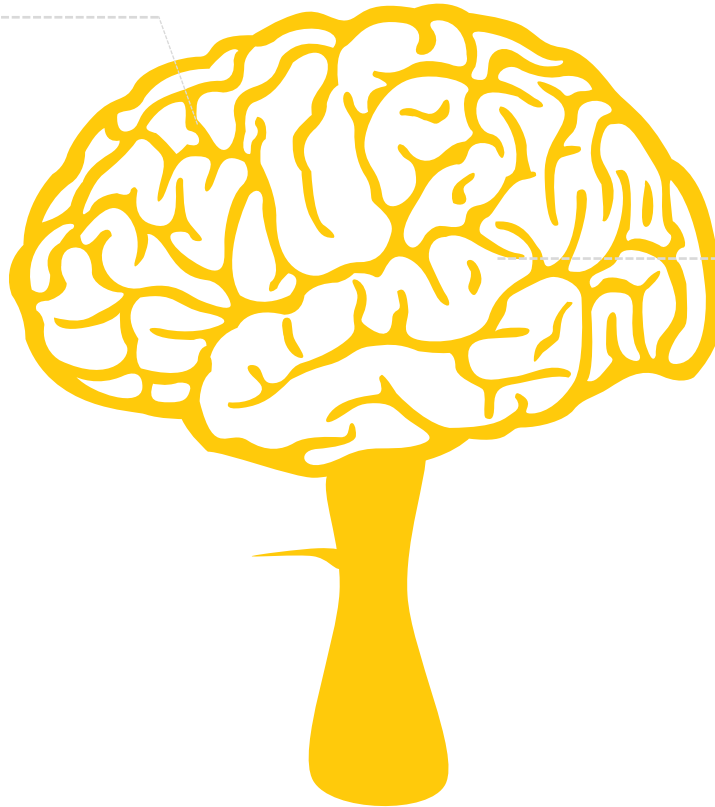
Study Case 3

The Task

- 1. Find the opportunity from study case 1 and 2, and make a simple mapping planning for scale the VIX business*
- 2. Create mitigation from your planning, if it does not work*

The Task

Create mitigation
from your
planning, if it
does not work



Find the
opportunity from
study case 1 and
2, and make a
simple mapping
planning for scale
the VIX business

Make a simple mapping planning for scale the VIX business



Here I am creating a simple mapping planning for scale the VIX business using the SWOT analysis method which helps me in developing a business strategy. With the right SWOT analysis, I can build or develop my business even better in the future. Besides that, I can find out how the virtual internship program's business position is in the market, and how to overcome business problems that hit in the future. This SWOT method is based on the results of the analysis in study case 1 and study case 2

STRENGTHSH



1. Rakimin has a lot of virtual internal programs, namely more than 5,000 vacancies
2. The benefits that participants get are quite a lot, namely getting an Apprentice Completion Certificate and Official Competence from the Company, 4x Live Mentoring Sessions from Experts, Company VIP Talent Pool, Receive learning materials and study cases
3. Rakimin actively opens internal virtual programs every month
4. The number of apprentices is thousands every month
5. Has a free virtual internship option

WEAKNESSES



1. The lack of direct interaction between users and apprentice companies thereby reducing customer satisfaction
2. Internship activities are still more inclined to online courses
3. The web UI which according to some people is still not good and needs to be improved
4. There are still not many payment methods
5. The time between first_contact, checkout_date, and paid_date is still relatively long

OPPORTUNITIES



1. The number of apprentices who register is consistent every week
2. The clear target market is fresh graduates and jobseekers who wish to seek work experience
3. New users don't come from just one channel, but several channels
4. Due to the increasing number of jobs in the technology sector, more and more people are taking part in internships in order to gain work experience in the technology sector
5. Users come from various regions in Indonesia

THREATS



1. Such businesses already have loyal customers
2. There are many virtual internship programs starting, so the competition is getting tougher
3. The benefits of virtual internships are increasingly felt by users to be less due to competition with virtual internship programs from other platforms

Make a simple mapping planning for scale the VIX business



1. Increase interaction between users and apprentice companies in order to improve the apprenticeship experience of the participants
2. Improve the UI of the learning platform to make it more accessible and improve the internship experience of the participants
3. Increase marketing and attractive promos for fresh graduate users and jobseekers
4. Increase the benefits that apprentices get so they can compete with competitors
5. Add channels so you can reach more new users
6. Improve payment methods and send reminders to users to reduce the time between first_contact, checkout_date, and paid_date
7. Expand apprenticeship programs not only in the technology sector but also other fields in order to reach more users with diverse needs

Create mitigation from your planning, if it does not work



1. To reduce the possibility of failure in "Make a simple mapping planning for scale the VIX business" we must conduct trials or trial tests, especially for matters relating to UI improvements and adding apprenticeship programs in other fields, for example by conducting user surveys and conducting AB testing.
2. Add promotion methods and increase promos if the target number of new users has not been reached
3. If the target of new users has not been reached, observe the strengths of competitors and weaknesses of competitors that can be exploited to increase the number of new users
4. Ask for feedback from virtual apprentice program participants for service improvement

A yellow horizontal line spans the width of the slide, with a small yellow dot at each end, positioned behind the word 'Finish'.

Finish

THANKS FOR WATCHING



About

My name is Huan Wendy Ariono, I am Fresh Graduate of Informatics Engineering at University Muhammadiyah Surakarta. Currently I focus on data analysis. I am also active in adding new knowledge in the field of data by attending courses, workshops, reading articles and writing articles related to data in the medium.

My experience in data field is being able to use python, R, SQL, excel, googlesheet and tableau as well as other tools to analyze data and get valuable input to solve problems. I got these skills through lectures, independent projects and taking courses related to data.



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