



Customer Analytics Report

Customer Relationship Management (CRM) Analytics

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BACKGROUND CONTEXT

Company/Business overview

RancangBangun123 or RB123 provides end-to-end architectural and construction solutions for residential projects. The company specializes in designing and building high-quality, aesthetically pleasing, and functional structures tailored to meet the specific needs and preferences of its clients. The company main office is located in Bandung, however their working area including clients from Bandung, Jakarta, Depok, Tangerang, and Bekasi.

Business Key/Services

RancangBangun123 operates on a full-service business model that encompasses various stages of living house construction projects, from initial design to final construction and post-construction services. Here are the key aspects of their business:

1. Architectural Design

The company has a team of experienced architects who create custom designs for clients. These designs include detailed blueprints, 3D models, and visualizations to help clients envision their projects.

2. Construction Services

RancangBangun123 offers comprehensive construction services, including site preparation, foundation work, structural construction, finishing, and landscaping. They work with trusted suppliers to ensure high-quality materials and workmanship.

3. Project Management

The company provides project management services to oversee every aspect of the construction process. This includes scheduling, budgeting, procurement, and coordination with various stakeholders to ensure timely and efficient project completion.

4. Renovation and Remodelling

In addition to house construction, RancangBangun123 also specializes in renovation and remodeling projects. They offer services to update and enhance existing structures, including interior redesign, extension, and modernization of house.

5. Consultation and Planning

The company offers consultation services to help clients plan their construction projects effectively. This includes feasibility studies, cost estimation, regulatory compliance (Assisting in obtaining the building establishment license or IMB), and sustainability planning.

Business Operations

RancangBangun123 operates through a well-structured process that ensures smooth and efficient project execution. The key operational steps include:

- **Digital Marketing and Consultation**

RB123 conducting digital marketing by creating contents about architecture and design in their social media (YouTube and Instagram) to attract leads. They will also provide free consultation of architecture and construction tips and cost estimation of construction/renovation project.

- **Meeting Consultation**

Initial meetings with clients to understand their needs, preferences, and budget.

- **Design Phase**

Developing architectural designs and getting client approval through iterative feedback.

- **Pre-Construction Planning**

Detailed project planning, including budgeting, scheduling, and resource allocation.

- **Construction Phase**

Executing the construction plan with regular site inspections and quality control checks.

- **Post-Construction Services**

Final inspections, handover, and any necessary post-construction support or maintenance.

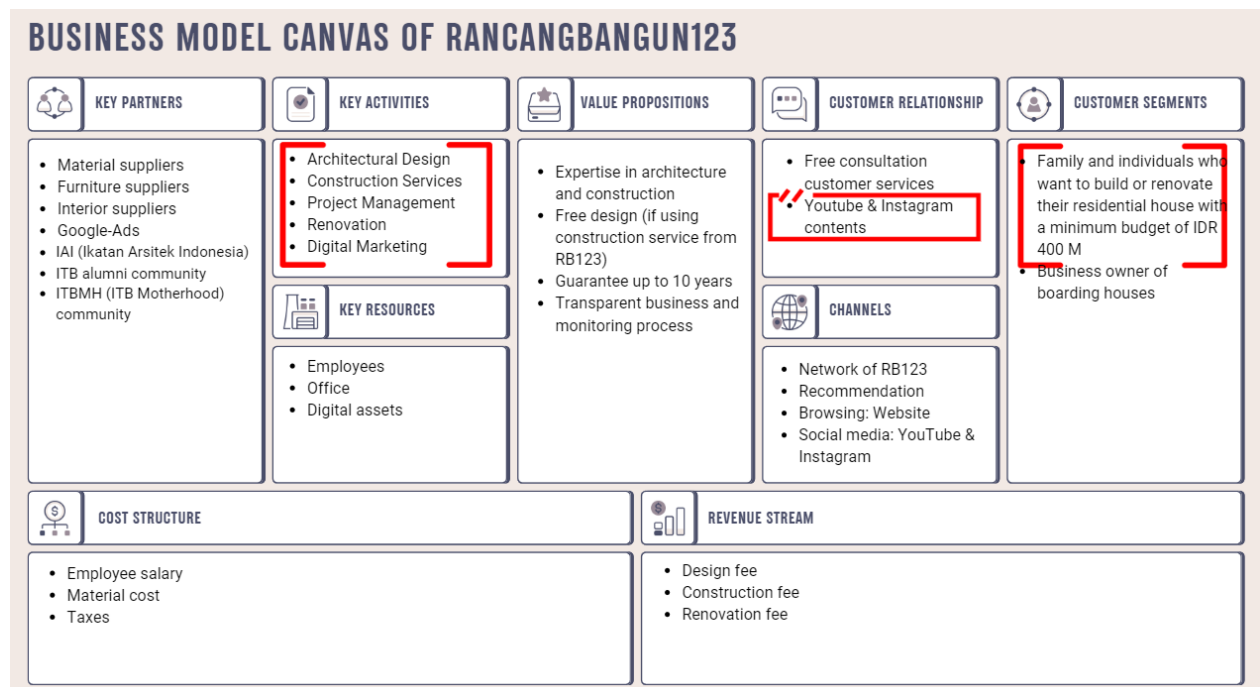


Figure 1. Business model canvas to simplify business understanding of RB123

NB: Red rectangular indicating the highlighting activities

CONTEXT: CRM ANALYTICS

RB123 is applying Customer Relationship Management (CRM) system to manage leads that come from their social media platforms. CRM analytics involves gathering, analysing, and interpreting customer data within a CRM system to make informed business decisions. Leveraging CRM analytics is crucial for extracting meaningful insights from customer interactions and their requirements. These insights can help organizations to improve their relationships with customers, enhance customer satisfaction, and drive business growth. By using a CRM system, RB123 can build their customer journey using pipeline for tracking every progress from initial leads to successful deals (close wins).

Customer Journey of RB123

Customer journey refers to the complete experience that customers go through when interacting with a company, from the initial awareness of the brand to the final purchase and beyond. This journey encompasses all interactions that customer has with the company, both online and offline. Understanding the customer journey will help businesses optimize their marketing strategies, improve customer experiences, and ultimately drive sales and loyalty. The customer journey pipeline in RB123 can be divided into seven stages:

1. Incoming Leads/Non-Leads

These are potential contacts originating from non-customers, such as suppliers (e.g., material suppliers, hosting providers) or other parties looking to collaborate with RB123 (e.g., job seekers).

2. Leads

Potential leads who have contacted RB123 for consultation or product inquiries. These individuals or families might become future customers seeking construction or renovation services from RB123.

3. Qualified Leads

Leads who have shown interest in RB123's services, have been introduced to RB123's values, products, and services, and have completed the construction/renovation form. They have also agreed to the minimum budget for the project.

4. Sudah Survei Impresi

Qualified leads who have conducted a detailed meeting with RB123 stakeholders to communicate their project requirements. This meeting can be offline or online, involving the planning team or manager. If conducted on-site, RB employees will typically survey and measure the area.

5. Delay Tapi Pasti

These leads have completed the detailed meeting and provided their requirements to the RB planning team. They intend to use RB123's services but must delay their project due to various reasons, such as family emergencies, land acquisition issues, or difficulties securing bank loans.

6. Close-Win

Leads who have agreed to RB123's terms and have officially become customers by signing the contract.

7. Close-Lose

Leads who have decided not to proceed with RB123 for their construction/renovation project. Reasons for this could include:

- **Close-lose (lokasi ga sesuai):** Unqualified locations (geographically or areas inaccessible by cars)
- **Close-lose (dibawah minimum budget):** Inability to meet the minimum budget required by RB123.
- **Close-lose (waktu butuh lebih cepet):** Dissatisfaction with RB123's project timeline.
- **Close-lose (harga kita kemahalan):** Disagreement with RB123's construction/planning costs despite meeting the minimum budget.
- **Close-lose (kontrak ga cocok):** Disagreement with the construction contract terms.
- **Close-lose (ga diketahui pasti alasannya):** Cancelling the project without defined reasons.

Pipeline for customer journey of RB123:

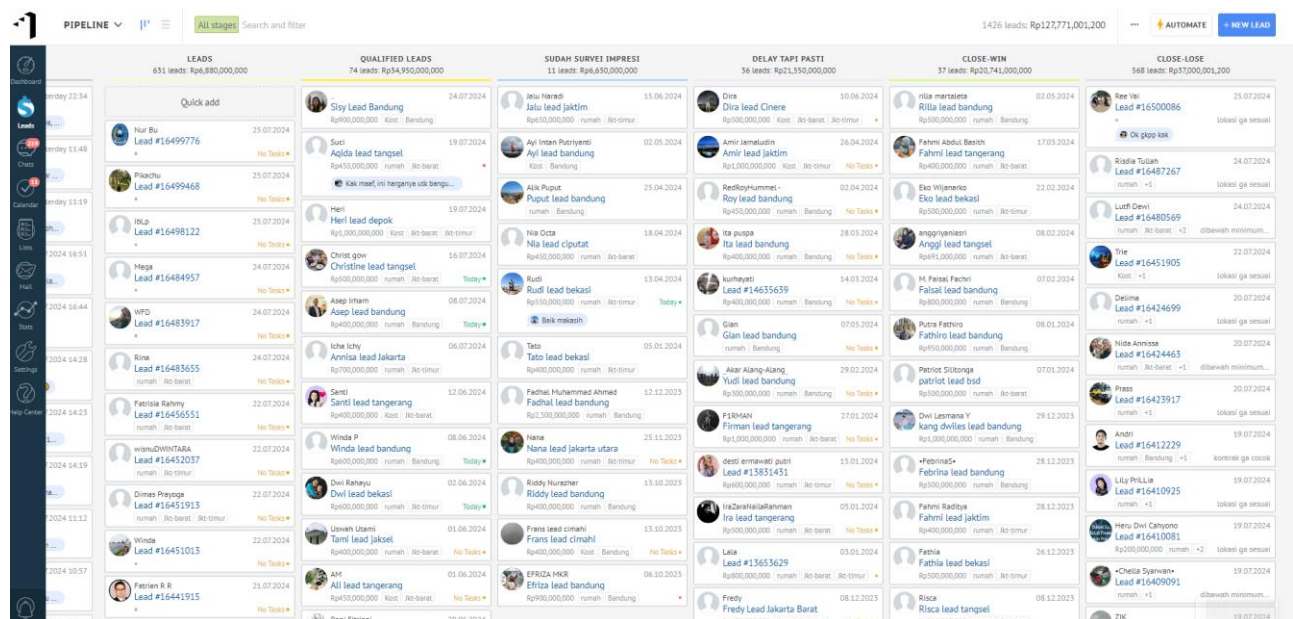


Figure 2. Display of CRM platform (Kommo) that RB123 is currently being used

TASK AND RESPONSIBILITIES

Here are the list of tasks and responsibilities for data analyst in the division of marketing and content creator of RB123.



Figure 3. Task and responsibilities of the Data Analyst

Position

The data analyst position that I am currently working on is in the division of marketing and content creator.

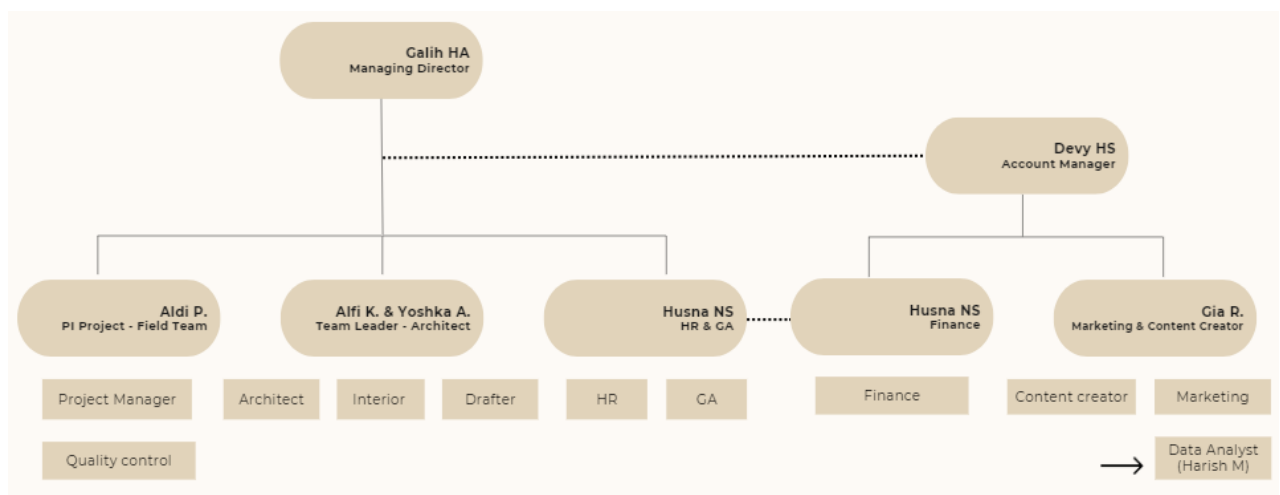


Figure 4. The organization structure of RancangBangun123

Internship Timeline

The internship timeline can be found as follows:

Internship Timeline		July, 2024				August, 2024			
Project	Activities and tasks	W1	W2	W3	W4	W1	W2	W3	W4
Business understanding	Introduction to company & work environment								
	Meeting: Data analysis project goals								
	Discussion: User requirements & stakeholders								
Data Collection Project	Intro: How to work with CRM software								
	Getting access to the company CRM account								
	Discussion: How to conduct data extraction								
	Analyzing 1400+ whatsapp lead								
	Collecting data from CRM to Google sheets								
	Constructing database in Google sheets								
	Discussion: Data collection progress evaluation								
Data Cleaning Project	Data cleaning in Google sheets								
	Data cleaning in jupyter notebook (Python)								
	Meeting: Data cleaning evaluation								
Data Analysis (DA) Project	Analysing using Pivot Table in Google sheets								
DA Project	Project 1: Funnel chart, lead trend & demographic analysis								
	Project 2: Customer journey duration analysis								
	Project 3: Successful/winning lead profile & characteristic								
	Project 4: Unsuccessful/Losing lead analysis & reason behind								
	Meeting: Data analysis evaluation								
Report Preparation	Preparing Internship report								
Slide Preparation	Preparing slides								
Presentation	Internship defense								

Figure 5. Timeline of Internship

PROJECTS



Figure 6. List of projects

There are 5 notable projects that we have worked on and initiated that consist of

1. Data collection project & database construction
2. Data cleaning project in Google sheets and Python
3. Four Data Analysis project:
 - Current lead trend, funnelling, & demographic analysis
 - Customer journey duration analysis
 - Successful/winning lead analysis
 - Lost leads and the reason behind analysis



Figure 7. List of Analysis

Project 1 Data Collection from CRM & Database Construction

Objective: The purpose of this project is to gather and organize valuable lead information. This data serves several purposes such as understanding customer behaviour, improving marketing strategies by addressing the customer behaviour, and tracking the performance of marketing and sales.

Method: The data collection process involved manually reviewing over 1,400 customer and marketing conversations from February 2023 to June 2024 (17 months) in the CRM system. The CRM's export feature provides only limited information, which lacks depth and valuable insights, making it unsuitable as a sole source. Therefore, we decided to combine the exported file with data gathered from manual conversation reviews.

Additionally, many of the conversations within the CRM include unstructured data such as images, audio files, and videos. By integrating both the manual review and exported data, we ensure a more accurate and comprehensive dataset. While integrating data, we conduct data labelling process to identify the category of the input from leads. This process will help to classify or to group the variety of answer into category that will support the further analysis. The collected data from these conversations is then transferred to Google Sheets for further data processing and cleaning

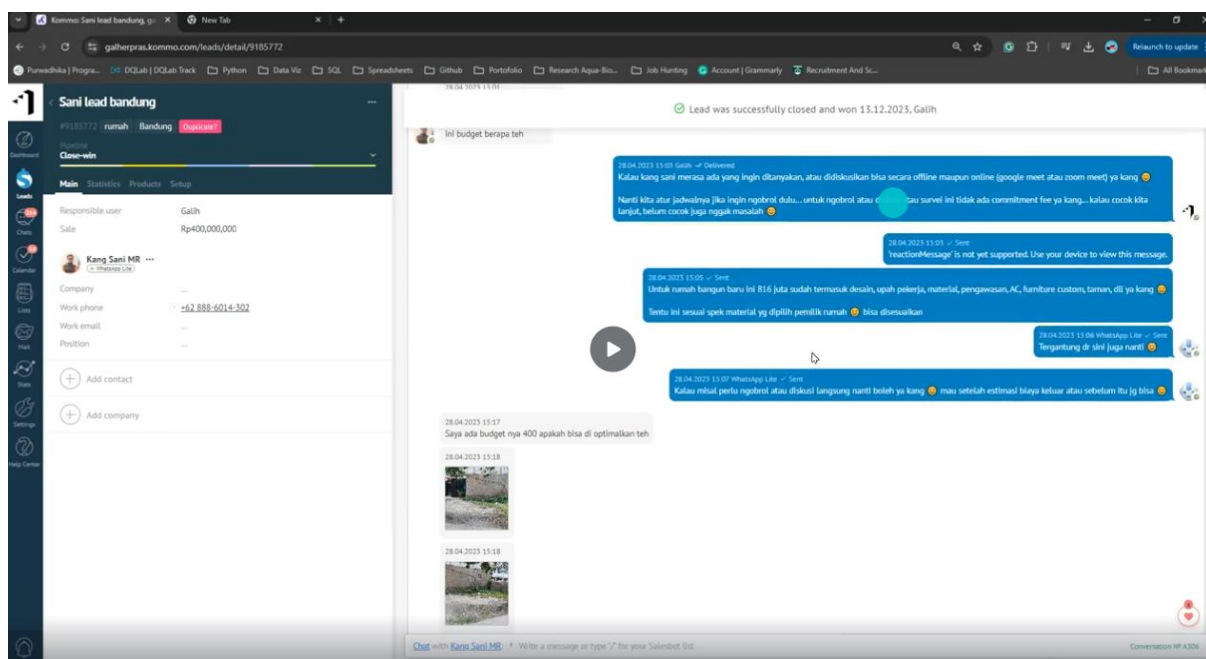


Figure 8. The display of conversation in CRM 'Kommo' that can contain multiple unstructured data

Result: The data of conversation lead between potential customers and marketing team have been recorded in the google sheets. Within 17 months of CRM being operated by RB123, there are 1325 rows, and 54 columns of lead data have been recorded. However, the data still messy and contain missing information as some customers may have not provided answer to the questions from marketing. So, in the next step, we will implement data cleaning process for improving data quality.

ID	Lead title	Lead sale Rp	Tags	Note	Note 2	Note 3	Note 4	Note 5	Lead stage	Pipeline	Fullname	Contact's comp	Contact respons	Lead's company
1	16185319 Lead #16185319	0							Incoming leads	Pipeline	Sarana Putra Metal (Belta/Dilon Marketing)			
2	16185237 Lead #16185237	0							Incoming leads	Pipeline	Tari			
3	16173805 Lead #16173805	0							Incoming leads	Pipeline	Suhendra MS			
4	16172571 Lead #16172571	0							Incoming leads	Pipeline	Nava			
5	16172237 Lead #16172237	0							Incoming leads	Pipeline	Heru (Ayah Aruna& amp Andaru)			
6	16171905 Lead #16171905	0							Incoming leads	Pipeline	ichsan faizal			
7	16171585 Lead #16171585	0							Leads	Pipeline	Ashaa Islamic Bride		Gath	
8	16170559 Lead #16170559	0							Incoming leads	Pipeline	Isalim Umma			
9	16161671 Lead #16161671	0							Incoming leads	Pipeline	Apartment gateway pasteur			
10	16150823 Lead #16150823	0							Incoming leads	Pipeline	Sandy			
11	16150559 Lead #16150559	0							Incoming leads	Pipeline	Heri Purnawansih			
12	16146157 Lead #16146157	0							Incoming leads	Pipeline	Quthi Sharah			
13	16146011 Lead #16146011	0							Incoming leads	Pipeline	1208540988			
14	16145841 Lead #16145841	0							Incoming leads	Pipeline	Teguh Mafandi			
15	16136685 Lead #16136685	0							Incoming leads	Pipeline	Irwan			
16	16126485 Lead #16126485	0							Incoming leads	Pipeline	Yupi- Impero Promosi			
17	16124849 Lead #16124849	0							Incoming leads	Pipeline	Novindya			
18	16113307 Lead #16113307	0							Incoming leads	Pipeline	SDK Studio			
19	16113257 Lead #16113257	0							Incoming leads	Pipeline	Arya Widawan - Aluveen			

Figure 9. The display of exported data from CRM system in the Google sheet

ID	Lead title	Lead sale	Lead stage	Lead step	Fullname	Lokasi	Mark.	Note for channel	work	house type	LT	LB	KT	KM	Fur	Motive	M.
1	16185319 Lead #16185319	0	Incoming leads	Incoming leads	Sarana Putra Metal (Belt	Bandung	Not answ.	Tidak menjawab	Not answering	Not answering							Not a.
2	16185237 Lead #16185237	700000000	Incoming leads	Incoming leads	Tari	Jik-Barat	Not answ.	Tidak menjawab	Not answering	Not answering							Not a.
3	16173805 Lead #16173805, Cikarang	0	Close-lose (boka)	Close-lose	Suhendra MS	Jik-Barat	Not answ.	Tidak menjawab	Not answering	Residential h.							Cons...
4	16172571 Lead #16172571	0	Close-lose (boka)	Close-lose	Nava	Not answering	Not answ.	Tidak menjawab	Not answering	Residential h.							Not a.
5	16172237 Lead #16172237	0	Close-lose (boka)	Close-lose	Heru (Ayah Aruna& amp Andaru)	Not answering	Not answ.	Tidak menjawab	Others	Residential h.							Funct...
6	16171905 Lead #16171905	0	Incoming leads	Incoming leads	ichsan faizal	Not answering	Not answ.	Tidak menjawab	build	Residential h.							Cons...
7	16171585 Lead #16171585	100000000	Close-lose (boka)	Close-lose	Ashaa Islamic Bride	Not answering	Not answ.	Tidak menjawab	renov	Residential h.							Renov...
8	16170559 Lead #16170559	0	Incoming leads	Incoming leads	Isalim Umma	Not answering	Not answ.	Tidak menjawab	renov	Residential h.							Renov...
9	16161671 Lead #16161671	0	Leads	Leads	Apartment gateway past	Bandung	Not answ.	Tidak menjawab	build	Residential h.							Cons...
10	16150823 Lead #16150823	0	Close-lose (boka)	Close-lose	Sandy	Not answering	Not answ.	Tidak menjawab	Others	Residential h.							Funct...
11	16150559 Lead #16150559	0	Leads	Leads	Heri Purnawansih	Bandung	Not answering	Google	renov	Residential h.							Renov...
12	16146157 Lead #16146157	0	Leads	Leads	Quthi Sharah	Not answering	Not answ.	Tidak menjawab	renov	Residential h.							Renov...
13	16146011 Lead #16146011	0	Incoming leads	Incoming leads	1208540988	Not answering	Not answ.	Tidak menjawab	Not answering	Not answering							Not a.
14	16145841 Lead #16145841	0	Leads	Leads	Teguh Mafandi	Not answering	Not answ.	Tidak menjawab	build	Residential h.							Cons...
15	16136685 Lead #16136685, Rancaekek	0	Close-lose (boka)	Close-lose	Irwan	Bandung	Not answ.	Tidak menjawab	build - board	Boarding house							Cons...
16	16126485 Lead #16126485	0	Incoming leads	Incoming leads	Yupi- Impero Promosi	Not answering	Not answ.	Tidak menjawab	Not answering	Residential h.							Not a.
17	16124849 Lead #16124849	0	Incoming leads	Incoming leads	Novindya	Not answering	Not answ.	Tidak menjawab	Not answering	Not answering							Not a.
18	16113307 Lead #16113307	0	Incoming leads	Incoming leads	SDK Studio	Not answering	Not answ.	Tidak menjawab	Not answering	Not answering							Not a.
19	16113257 Lead #16113257	0	Incoming leads	Incoming leads	Arya Widawan - Aluveen	Not answering	Not answ.	Tidak menjawab	Not answering	Not answering							Not a.
20	16112619 Lead #16112619	0	Incoming leads	Incoming leads	Muhammad Ward	Not answering	Not answ.	Tidak menjawab	Not answering	Not answering							Not a.
21	16112075 Lead #16112075	0	Leads	Leads	Reno Latief / Exi Sony	Bandung	social me.	Youtube	build - board	Boarding house							Cons...
22	16112031 Lead #16112031	0	Leads	Leads	Sani Ilimayyah	Not answering	Not answ.	Tidak menjawab	renov	Residential h.							Renov...
23	161093247 Lead #161093247	0	Leads	Leads	Wahabadyana	Bandung	Not answ.	Tidak menjawab	renov	Residential h.							Renov...
24	161092235 Lead #161092235, Semarang	0	Close-lose (boka)	Close-lose	Henra	Unqualified loc...	Not answ.	Tidak menjawab	renov	Residential h.							Renov...
25	161093233 Lead #161093233	0	Leads	Leads	Ummi	Not answering	social me.	Youtube	renov	Residential h.							Renov...
26	161092653 Lead #161092653	0	Incoming leads	Incoming leads	billy	Not answering	Not answ.	Tidak menjawab	Not answering	Not answering							Not a.
27	161092653 Lead #161092653	0	Qualified Leads	Qualified Leads	hardi	Bandung	Not answ.	Tidak menjawab	renov	Residential h.							Renov...
28	161093893 Lead #161093893	0	Leads	Leads	Boeds	Bandung	social me.	Youtube, Instagram	renov	Residential h.							Cons...
29	161093457 Lead #161093457	0	Incoming leads	Incoming leads	ita	Jik-Barat	Not answ.	Tidak menjawab	renov	Residential h.							Cons...
30	1610937047 Lead #1610937047	0	Leads	Leads	Lenny	Jik-Barat	social me.	Youtube	renov - board	Residential h.							Renov...
31	1610922505 Lead #1610922505	0	Qualified Leads	Qualified Leads	Tika Littierzy	Bandung	social me.	Instagram	build	Residential h.							Cons...
32	161092707 Lead #161092707	0	Leads	Leads	diyahadi	Jik-Barat	social me.	Youtube	renov	Residential h.							Renov...
33	161092759 Lead #161092759	0	Incoming leads	Incoming leads	Faby	Not answering	Not answ.	Tidak menjawab	Not answering	Not answering							Not a.
34	161091881 Lead #161091881	0	Incoming leads	Incoming leads	Rahma	Bandung	Not answ.	Tidak menjawab	Others	Residential h.							Others...
35	161091357 Lead #161091357	0	Leads	Leads	AAB	Bandung	Not answ.	Tidak menjawab	build - board	Boarding house							Cons...
36	161091581 Lead #161091581, Sumatera	0	Close-lose (boka)	Close-lose	Gani	Not answering	social me.	Youtube	build	Residential h.							Cons...
37	161091605 Lead #161091605, Surabaya	0	Close-lose (boka)	Close-lose	Lusy S b&gjo	Not answering	Not answ.	Tidak menjawab	build - board	Boarding house							Cons...
38	1610900257 Lead #1610900257	0	Incoming leads	Incoming leads	Faruz	Not answering	Not answ.	Tidak menjawab	Not answering	Not answering							Not a.
39	161090305 Lead #161090305	0	Incoming leads	Incoming leads	Rosa Maria Anita	Not answering	Not answ.	Tidak menjawab	Not answering	Not answering							Not a.
40	161090043 Lead #161090043	0	Incoming leads	Incoming leads	Auel Limanta	Not answering	Not answ.	Tidak menjawab	Not answering	Not answering							Not a.
41	161091251 Lead #161091251	0	Incoming leads	Incoming leads	Merli	Bandung	Not answ.	Tidak menjawab	Unquali only	Residential h.							Cons...
42	161090907 Lead #161090907, Malang	0	Close-lose (boka)	Close-lose	Amos N Gondokusumo	Unqualified loc...	social me.	Youtube	renov	Residential h.							Renov...
43	161090703 Lead #161090703	0	Close-lose (boka)	Close-lose	Dita F	Jik-Barat	Not answ.	Tidak menjawab	renov	Residential h.							Renov...
44	161090725 Lead #161090725	150000000	Close-lose (boka)	Close-lose	Mohamed Arjar	Bandung	Not answ.	Tidak menjawab	build	Residential h.							Cons...
45	161091199 Lead #161091199, Semarang	0	Close-lose (boka)	Close-lose	Hanki Anjaya	Unqualified loc...	social me.	Youtube	build - board	Boarding house							Cons...
46	161090907 Dwi lead tang	800000000	Leads	Leads	Dwi Prasetyo	Jik-Barat	social me.	Youtube	renov	Residential h.							Renov...
47	161094311 Lead #161094311	0	Leads	Leads	Prasetyo Sandha Irtant	Jik-Barat	social me.	Youtube	Unquali only	Residential h.							Cons...

Figure 10. The display of combined exported data and collected CRM data in the Google sheet

Project 2: Data cleaning project in Google sheets and Python

Objective: The purpose of data cleaning is to ensure that the data used in analysis, reporting, decision-making is accurate, consistent, and reliable.

Method: The data cleaning in Google sheets is performed for initial cleaning and this step mainly conducted by identifying error, removing inconsistencies, and duplicates. After initial cleaning, we will conduct more deep data cleaning in Jupyter notebook Python. The data cleaning steps in Python consist of eliminating the unnecessary observation stages, column/feature selection, eliminating the unnecessary columns, reformatting/Modifying new columns, adding more columns, correcting format and data type, handling duplicates, monitoring and handling anomalies, visualizing missing values, Handling missing values.

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1325 entries, 0 to 1324
Data columns (total 54 columns):
#   Column                                Non-Null Count  Dtype
---  -
0   ID                                     1325 non-null   int64
1   Lead title                             1325 non-null   object
2   Lead sale Rp                           1325 non-null   int64
3   Respons. user                           1285 non-null   object
4   Created on                             1325 non-null   object
5   Created by                             2 non-null      object
6   Modified on                             1325 non-null   object
7   Modified by                             1081 non-null   object
8   Closed at                               1325 non-null   object
9   Tags                                    935 non-null    object
10  Note                                    38 non-null     object
11  Note 2                                  1 non-null      float64
12  Note 3                                  1 non-null      float64
13  Note 4                                  0 non-null      float64
14  Note 5                                  0 non-null      float64
15  Lead stage                              1325 non-null   object
16  Pipeline                                1325 non-null   object
17  Fullname                                1318 non-null   object
18  Contact's company                       0 non-null      float64
19  Contact respons. user                   1285 non-null   object
20  Lead's company                           0 non-null      float64
21  Work phone                              1324 non-null   object
22  Work DD phone                           0 non-null      float64
23  Mobile phone                            0 non-null      float64
24  Fax                                      0 non-null      float64
25  Home phone                              0 non-null      float64
26  Other phone                             0 non-null      float64
27  Work email                              0 non-null      float64
28  Personal email                          0 non-null      float64
29  Other email                             0 non-null      float64
30  Position                                0 non-null      float64
31  utm_content                             0 non-null      float64
32  utm_medium                              0 non-null      float64
33  utm_campaign                            0 non-null      float64
34  utm_source                              0 non-null      float64
35  utm_term                                0 non-null      float64
36  utm_referrer                            0 non-null      float64
37  referrer                                0 non-null      float64
38  gclientid                               0 non-null      float64
39  gclid                                   0 non-null      float64
40  fbclid                                  0 non-null      float64
41  Unnamed: 41                             0 non-null      float64
42  Lokasi                                  1325 non-null   object
43  Marketing channel                       1324 non-null   object
44  Note for channel                        1270 non-null   object
45  work                                    1325 non-null   object
46  house type                              1325 non-null   object
47  LT                                       487 non-null    float64
48  LB                                       312 non-null    float64
49  KT                                       309 non-null    float64
50  KM                                       306 non-null    float64
51  Furnish                                 256 non-null    object
52  Motive                                  854 non-null    object
53  Motive_label                            1325 non-null   object
dtypes: float64(30), int64(2), object(22)
memory usage: 559.1+ KB
```

Figure 11. The original 'raw data'

Results: The original ‘raw data’ contains 32 numerical columns (data type: int64 and float64) and 22 categorical columns (data type: object). After cleaning process, the data contains 6 numerical columns (data type: int64 and float64), 11 categorical columns (data type: object), and 3 date time columns (datetime64, period). The columns of ‘LT’, ‘LB’, ‘KT’, and ‘KM’ have more than 60% of missing values. Based on the domain knowledge and the present information, we cannot figure out the way to fill the missing values. We will let them as it is.

```
<class 'pandas.core.frame.DataFrame'>
Index: 1269 entries, 11 to 1322
Data columns (total 20 columns):
#   Column                                Non-Null Count  Dtype
---  ---                                -
0   ID                                    1269 non-null   int64
1   Lead title                           1269 non-null   object
2   Lead sale Rp                         1269 non-null   int64
3   Created on                           1269 non-null   datetime64[ns]
4   Modified on                           1269 non-null   datetime64[ns]
5   Closed at                             1269 non-null   object
6   Lead stage                           1269 non-null   object
7   Operational area                     1269 non-null   object
8   Marketing channel                     1269 non-null   object
9   Marketing channel description         1269 non-null   object
10  house type                           1269 non-null   object
11  LT                                    483 non-null    float64
12  LB                                    312 non-null    float64
13  KT                                    307 non-null    float64
14  KM                                    305 non-null    float64
15  Furniture order                       1269 non-null   object
16  Customer message                      1269 non-null   object
17  Working type                          1269 non-null   object
18  Lead stages                           1269 non-null   object
19  YearMonth                             1269 non-null   period[M]
dtypes: datetime64[ns](2), float64(4), int64(2), object(11), period[M](1)
memory usage: 208.2+ KB
```

Figure 12. The Cleaned ‘raw data’

Project 3 to 6: Data Analysis (CRM Analytics)

Problem Statement:

The use of CRM systems in architecture and construction firms presents unique challenges compared to other tech-and digital industries. One primary issue is the difficulty in tracking and managing leads through the various stages due to the significantly longer customer journey and timelines (ranged from several months to few years). This extended journey is typical since building or renovating a home requires substantial financial investment, necessitating long-term savings for many clients. Consequently, potential clients are highly selective and critical, making it challenging to gain their trust and secure closed deals. Each lead stage demands different handling strategies, and errors in tracking within the CRM system can lead to miscommunication and dissatisfaction, ultimately reducing the chances of converting leads into clients.

Goals of CRM Analytics:

By leveraging CRM analytics, the management and marketing division of RB123 aims to gain a comprehensive understanding of their customer journey and current lead trends. They seek to identify the profiles and origins of successful leads to enhance the number of closed deals. Additionally, they need to analyse the reasons behind lost leads and develop strategies to minimize lead losses and potentially re-engage lost leads.

Data Analysis Objective:

Based on the three goals of CRM data analytics, our analysis is divided into four projects.

Goal 1: Understand Customer Journey and Lead Trends

The management and marketing division of RB123 wants a comprehensive understanding of the customer journey and current lead trends.

Project 1. Lead trend and Demographic Analysis

- Objective: Provide an overview of the customer journey and current lead trends from CRM data.
- Analysis: Create a funnel chart to display the simplified sales process of RB123's customer journey. Show lead progress over time and lead composition.

Project 2. Customer Journey Duration Analysis

- Objective: Summarize the duration of each lead stage in RB123's customer journey.
- Analysis: Calculate the duration of each lead stage to provide insights into how long leads spend in each phase.

Goal 2: Profiles and Origins of Successful Leads

The management and marketing division of RB123 wants to identify the profiles and origins of successful leads to increase the number of closed deals.

Project 3. Successful/Winning Lead Analysis

- Objective: Determine the origins and characteristics of successful leads.
- Analysis: Examine the source of successful leads (marketing channels), the timeline for closing deals, the type of work demanded, house types, and lead locations.

Goal 3: Analyse Unsuccessful Leads and Reasons Behind Lost Leads

The management and marketing division of RB123 wants to analyse the reasons behind lost leads and develop strategies for improvement.

Project 4. Lost Lead Analysis

- Objective: Decompose and breakdown the causes of lost leads.
- Analysis: Identify the reasons for lost leads, including budget constraints and unsuitable locations. Further, provide recommendations to regain lost leads and improve operational strategies.

DATA ANALYSIS RESULTS

Project 1. Lead Trend, Composition, and Demographic Analysis

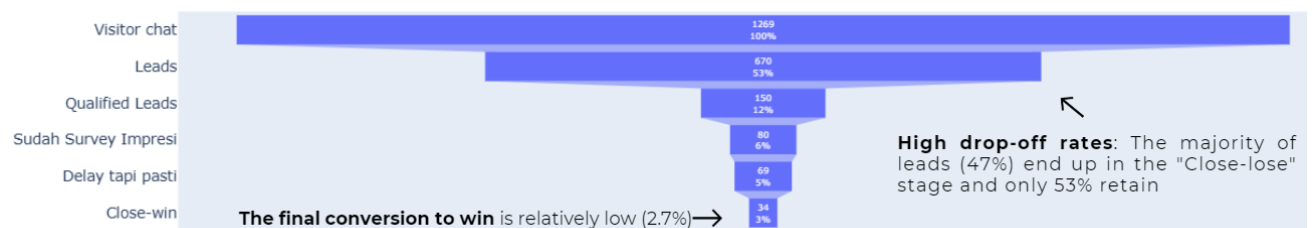
For this first data project, we break down the analysis into several questions that consist of

- What are the current funnelling trends happening in the customer journey of RB123?
- What are the current lead composition and trends?
- Is there any association among variables?

Results:

Funnelling trend

Funnel chart is a type of chart that represents the stages in a sales process or customer journey. Funnel charts are an essential tool for businesses to understand and optimize their sales and marketing processes. It typically consists of a series of segments that illustrate the progressive reduction of number of lead or data points as they pass through each stage. In the context of RB123, a funnel chart can help visualize the customer journey from initial contact to final sale.



Insights from funnel chart

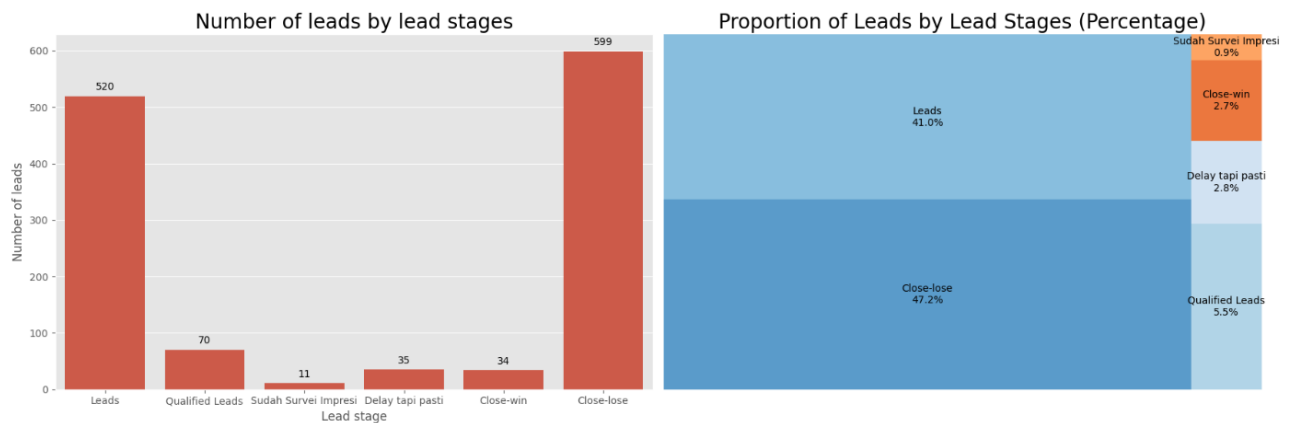
High Drop-off Rates

- By observing funnel chart, we can point out where the highest drop off most likely happens. Based on the RB123 funnel chart above, we can see the highest drop off happened in the early lead stages. Majority of visitors (almost half of the population) have turned into close-lose in the beginning and did not reach the 'Leads' stage.
- Most leads (47%) end up in the "Close-lose" stage and only 53% retain, indicating a high drop-off rate.

Conversion Funnel

- The funnel narrows significantly especially after the "Leads" stage, with only a small fraction progressing to "Qualified Leads" (12%) and even fewer reaching "Sudah Survei Impresi" (6%).
- There is a slight increase in "Delay tapi pasti" (5%), indicating some leads are postponed but still have potential.
- The final conversion to "Close-win" is relatively low (2.6%).

Current leads composition



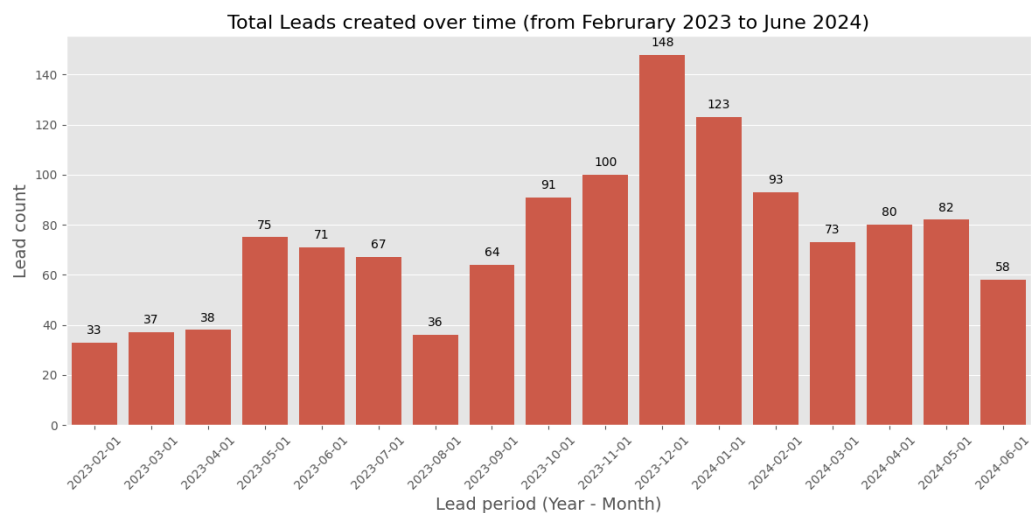
High number of 'lead' stages

- A significant number of leads remain in the initial "Leads" stage (41%), suggesting that many potential clients are not moving forward in the pipeline.

Qualified to Close-Win Ratio

- The ratio of "Qualified Leads" (5.5%) to "Close-win" is roughly 2:1, suggesting that once leads are qualified, there is a good chance of conversion.

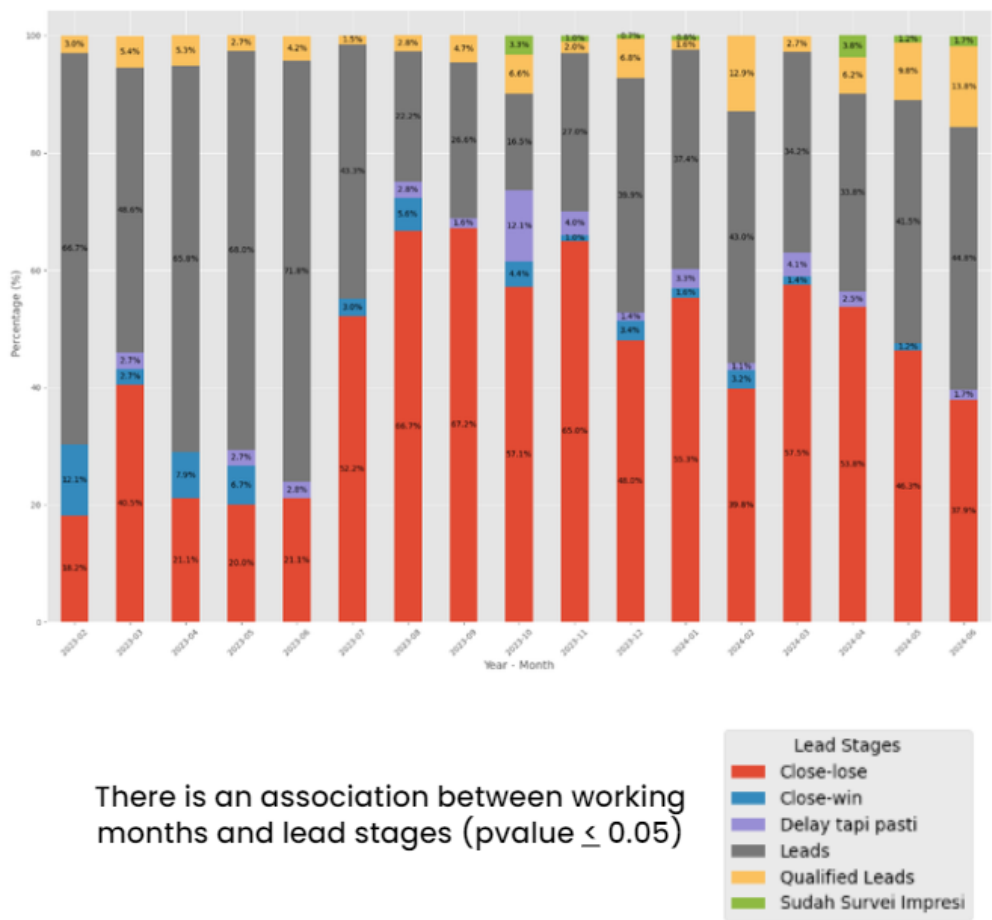
Total leads over time



We can see some interesting pattern based on the bar graph above:

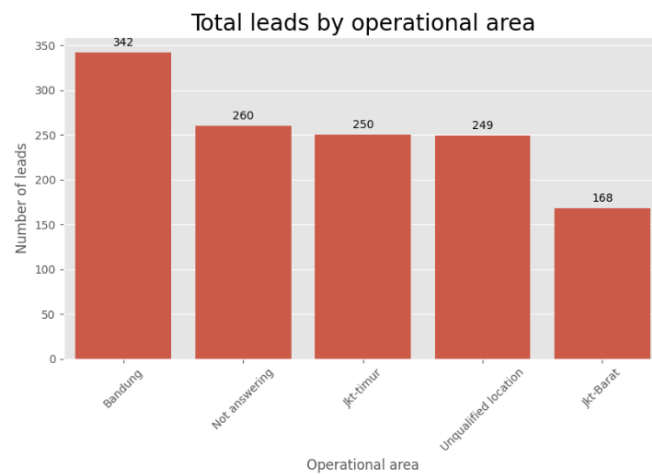
- Growth Periods:** There are notable growth periods in lead count, particularly from September 2023 to January 2024.
- Peak Month:** December 2023 experienced the highest number of leads (148), more likely due to seasonal influences, could be because receiving end-of-year bonuses or could be driven by customers planning for the next year, utilizing remaining annual budgets.

Leads distribution by lead stages overtime

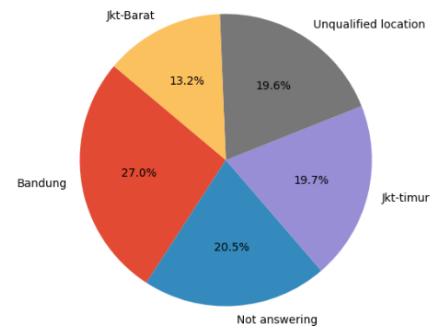


There is an association between working months and lead stages (pvalue ≤ 0.05)

Total leads by operational area

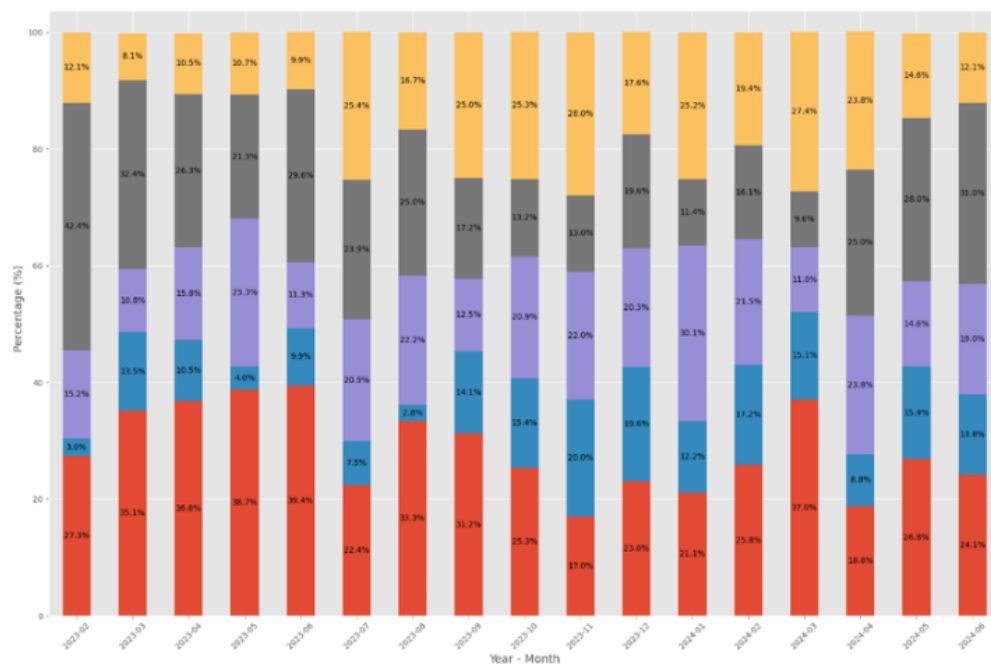


Percentage of leads by operational area



- In the current observation, the highest number of total leads come from Bandung

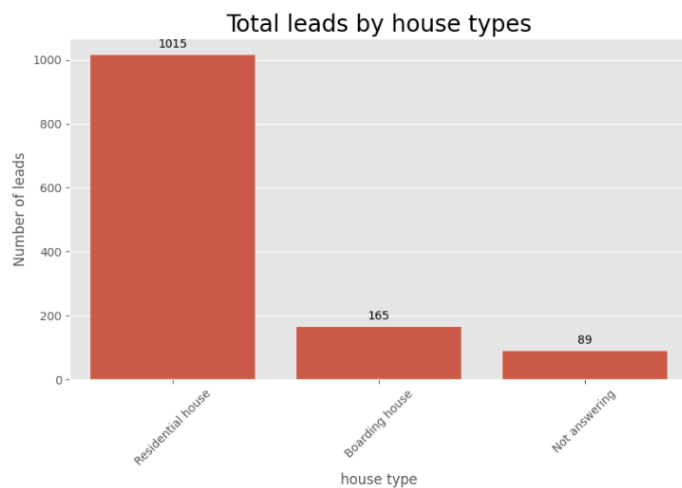
Leads distribution by operational area overtime



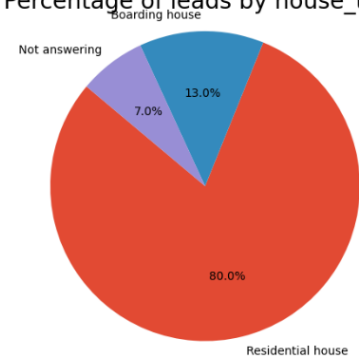
There is an association between working months and operational area (pvalue ≤ 0.05)



Total leads by house type

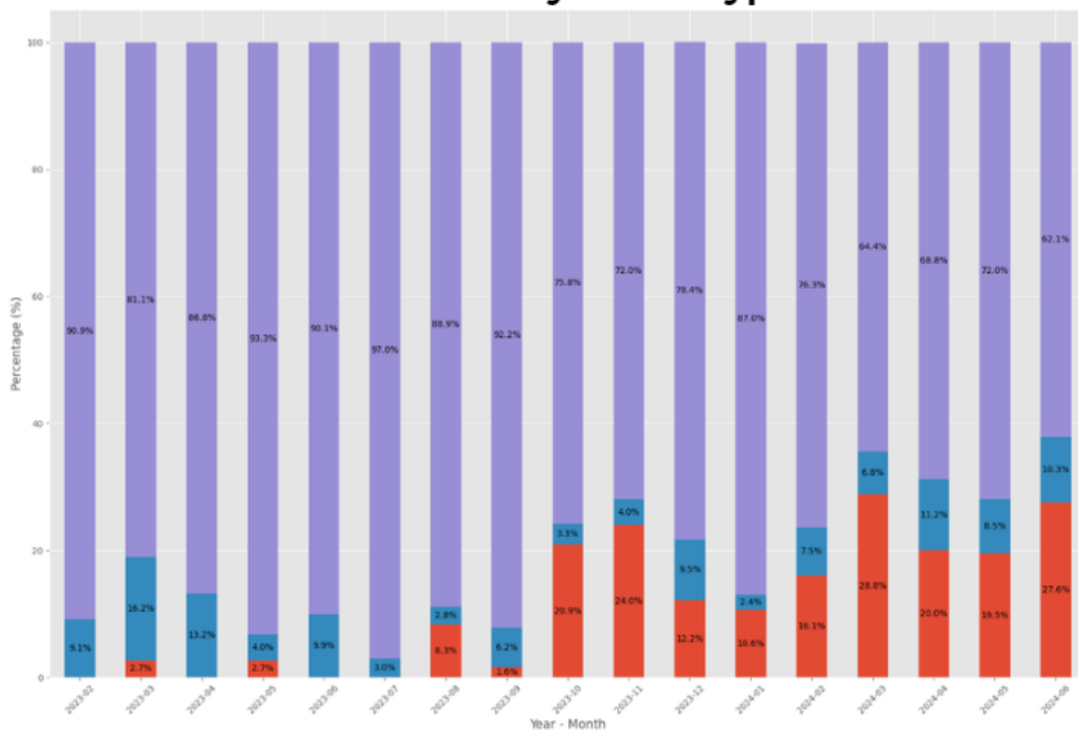


Percentage of leads by house_type



- Most of the time, leads are dominated by people who are asking about the residential house instead of the boarding house. However, since one of RB123's published video (estimated in October 2023) about boarding house went viral (150K views, seen last on August 2024), there are many leads asking about boarding house as well.

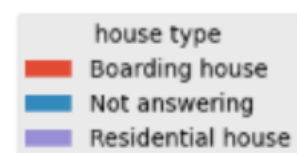
Leads distribution by house type overtime



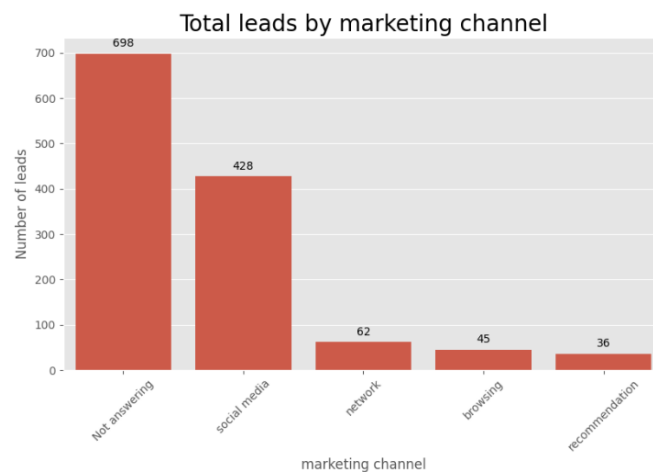
There is an association between working months and house type ($pvalue \leq 0.05$)



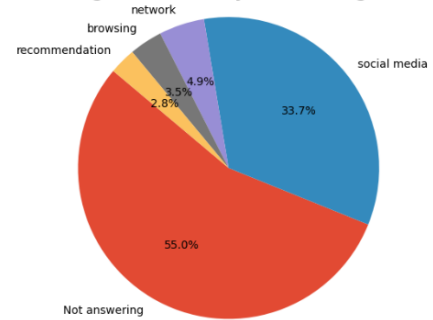
**Viral video content of RB123's
Boarding house design (150 k views)**



Total leads by marketing channel

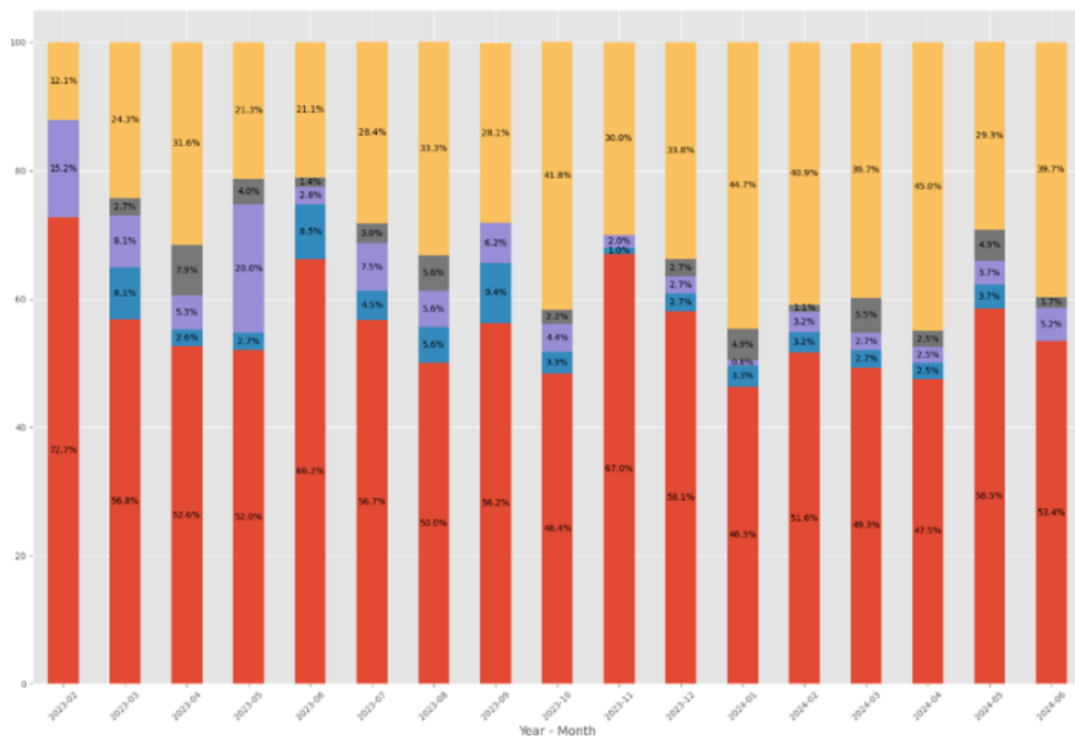


Percentage of leads by marketing channel



- In the current observation, the highest contributor of leads come from social media

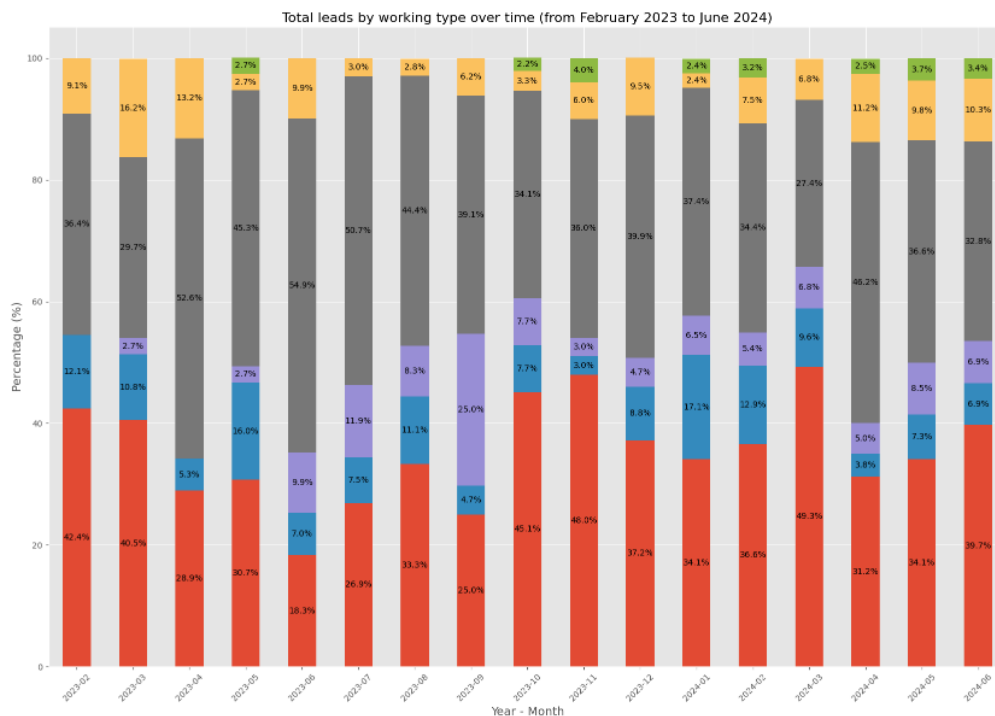
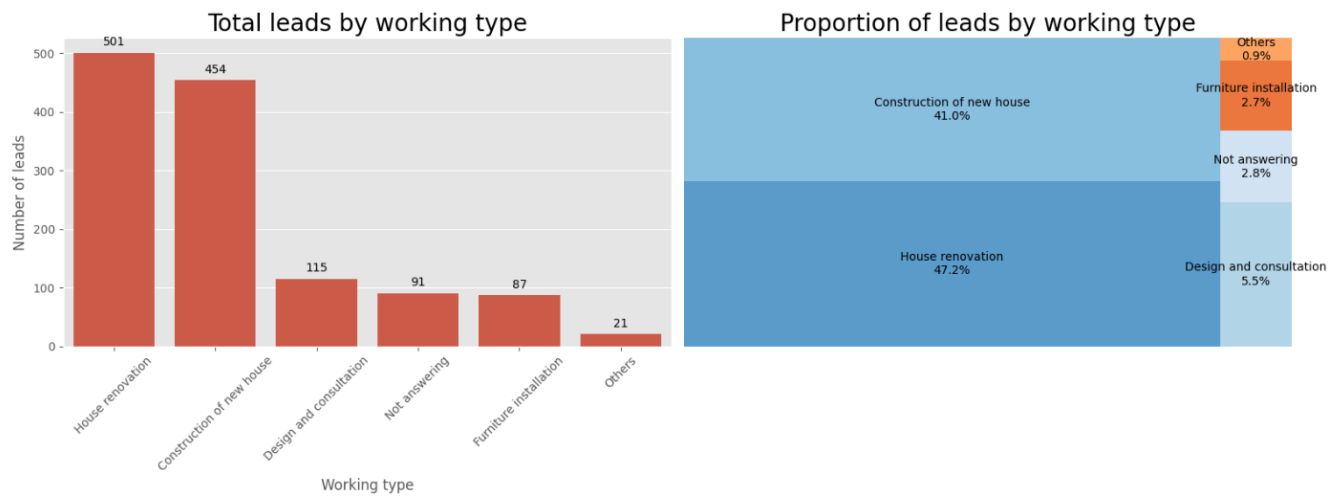
Leads distribution by marketing channel overtime



There is an association between working months and marketing channel (pvalue ≤ 0.05)



Total leads by working type



There is an association between working months and working type (pvalue ≤ 0.05)



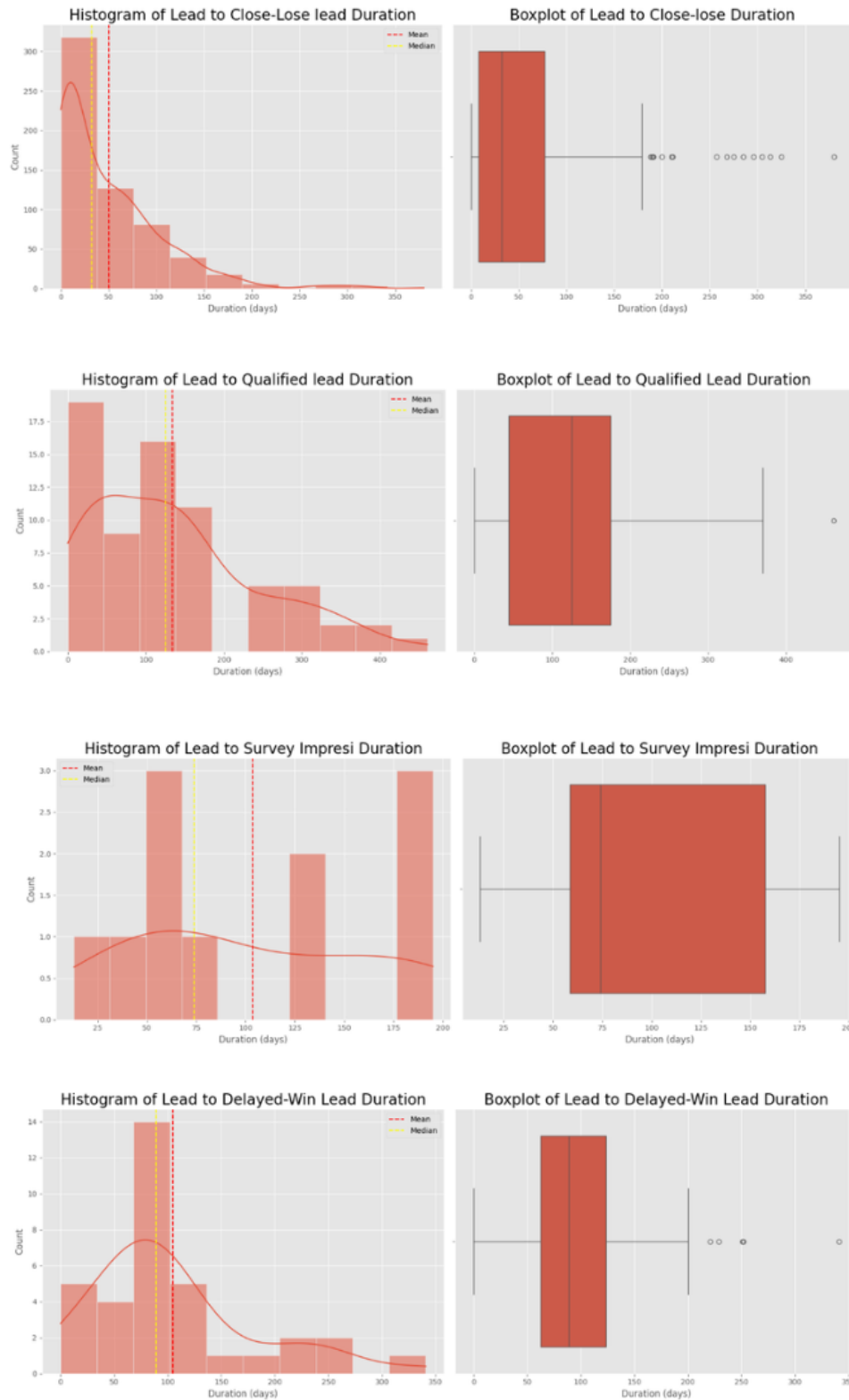
- Most of the time, leads are asking for two categories of working type whether house renovation or construction of new house. Leads also asking for the design service. interestingly, some leads asking for the service that RB123 do not provide such as kitchen set installation (categorized as furniture installation) and rooftop reparation (categorized as other works)

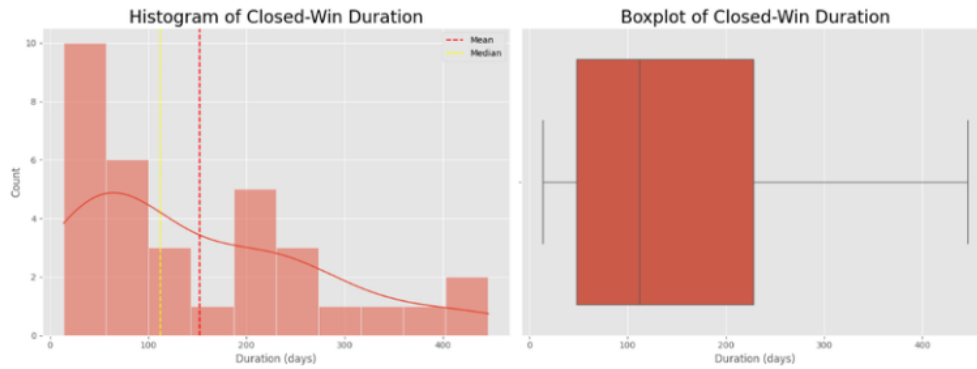
Project 2. Customer Journey Duration Analysis

In this second project, we want to answer a question:

- What is the typical duration of the customer journey? from leads to close win

Results





Median duration (days)	
Lead to Close lose	32.0
Lead to Qualified lead	125.0
Lead to Survey Impresi	74.0
Lead to Delayed-Win	89.0
Lead to Close-Win	112.0

Insight of Overall Customer Journey Duration

Lead to Close-Lose (32 days)

- On average, it takes 32 days for a lead to be marked as "Close-Lose". This is relatively short duration suggests that the process of identifying unqualified leads or those that will not result in a sale is efficient. The company quickly determines which leads are unlikely to convert, allowing the sales team to focus efforts on more promising prospects. This is good as quick identification of non-qualified leads saves time and resources.

Lead to Qualified lead (125 days)

- A long duration to qualification could suggest that the initial stages of educating lead (lead nurturing) are time-consuming. It's probably due to much information need to be given to the leads for educating them of how business process of RB123 is working, including explanation of required minimum budget and the design and business process that different with traditional construction work. Positive aspect of this process, thorough qualification can ensure high-quality leads, leading to better conversion rates. However, long qualification process can lead to lost opportunities and decreased lead interest. It is recommended to simplify the initial information (only the most crucial), to keep leads interest in conversation.

Lead to Survey Impresi (74 days)

- This stage helps in understanding customer needs better and tailoring construction proposals accordingly. This stage is critical for understanding the lead's interest level and requirements. It is recommended to process as soon as possible after lead become qualified lead, because delays in conducting meeting or surveys might result in a loss of customer interest and give competitors an advantage to exploit the situation.

Lead to Delayed-Win (89 days)

- This is the time taken for a lead to be marked as a win but with some delays, possibly due to negotiations, additional requirements, or external factors. Delays in closing can be indication of issues that need addressing. Understanding this reason of delays and customer issues can help in streamlining processes and provide better customer experience. Frequent delays can indicate underlying issues that need resolution to improve customer experience and reduce time to close. It is recommended to follow up these leads periodically and provide more support and flexibility to them if it is possible.

Lead to Close-Win (112 days)

- Successful deals within a median of 112 days reflect a relatively efficient sales process. A shorter time to close typically excellent sales process with clear value propositions and effective customer engagement strategy.

Project 3. Successful/Winning Lead Analysis

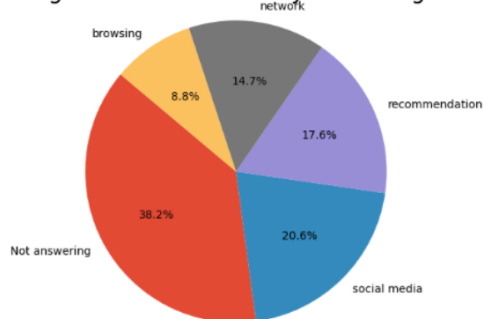
To answer the goal for this analysis, we want to breakdown the analysis into some questions consist of

- What is the source/origin of successful leads?
- Is there any time series or seasonal pattern for closing deals?
- What kind of working type and housing type do successful leads ask RB123?
- What is the current conversion rate of RB123's marketing channel?

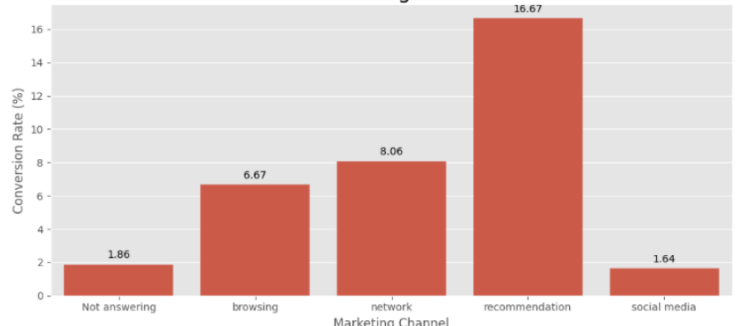
Results:

Successful lead origins by marketing channels

Percentage of close win lead by marketing channel



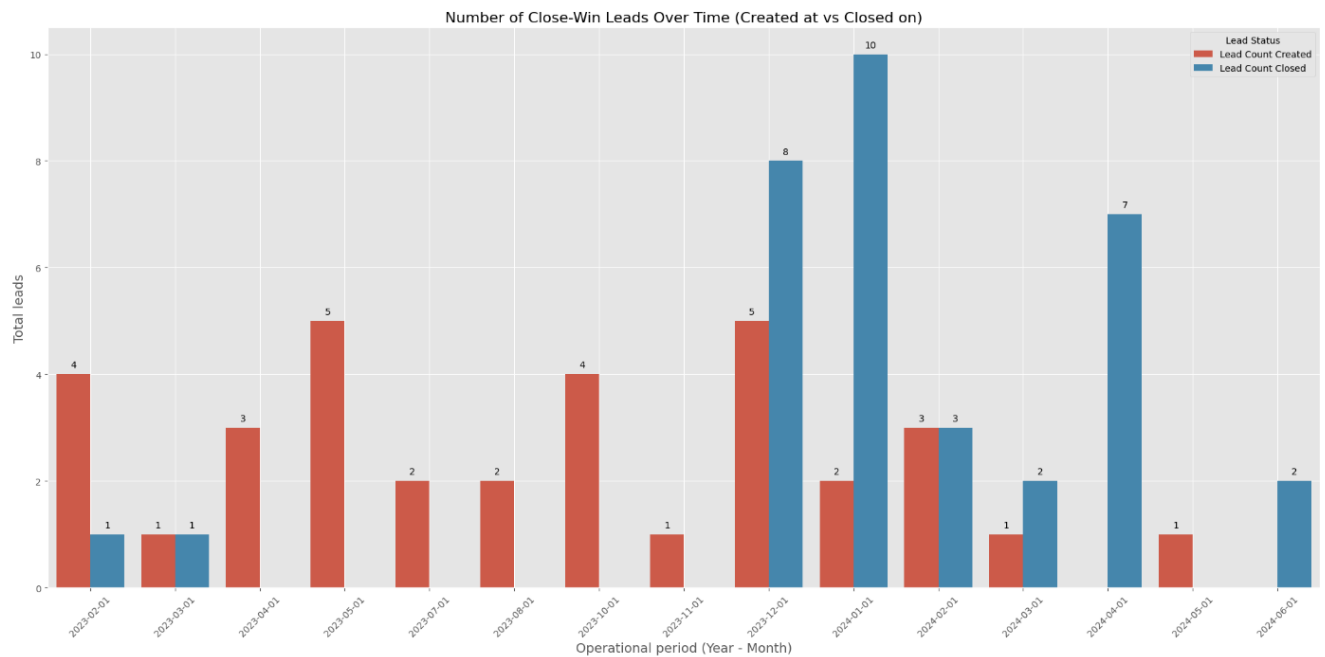
Conversion Rate of Marketing Channels into Close Wins



Recommendation has the highest conversion rate

- In term of quantity or total number of leads, marketing channel of social media and recommendation contribute to the higher number of leads in comparison to other marketing channel.
- The recommendation channel has the highest conversion rate. This suggests that leads coming from personal recommendations are more likely to result in successful project closures. This indicates strong trust and satisfaction from existing customers, leading them to recommend RB123 to others. As the prospective leads see their relatives and friends getting house construction/renovation service from RB123, they can clear their doubt and see the proven construction of RB123 by themselves. Their family/friend's testimony may provide additional points that will eventually earn the lead trust too. Thus, RB123 need to focus their marketing effort through this channel.
- The network channel also shows a relatively high conversion rate. This implies that professional networks or word-of-mouth within professional circles are effective in converting leads to closed wins. The network and community of the CEO and account manager have from the ITB university (e.g., ITB's motherhood community) is one of communities where leads come from. By being active in this community may lead to more opportunity for RB123.

Total successful leads over time



Insights of total successful leads overtime

Based on the previous association test, there is association relationship between the operational working months and lead stages. So, there might be association between close win and working months. According to the graph above, we can point out some key aspects:

Lead Creation Patterns

- **High Activity:** May and December 2023 show the highest lead creation activity with 5 leads each.
- **Moderate Activity:** February, April, and October 2023 also have notable activity with 3-4 leads.
- **Low Activity:** March, July, August, and November 2023, along with January and March 2024, show fewer leads, with 1-2 leads each.

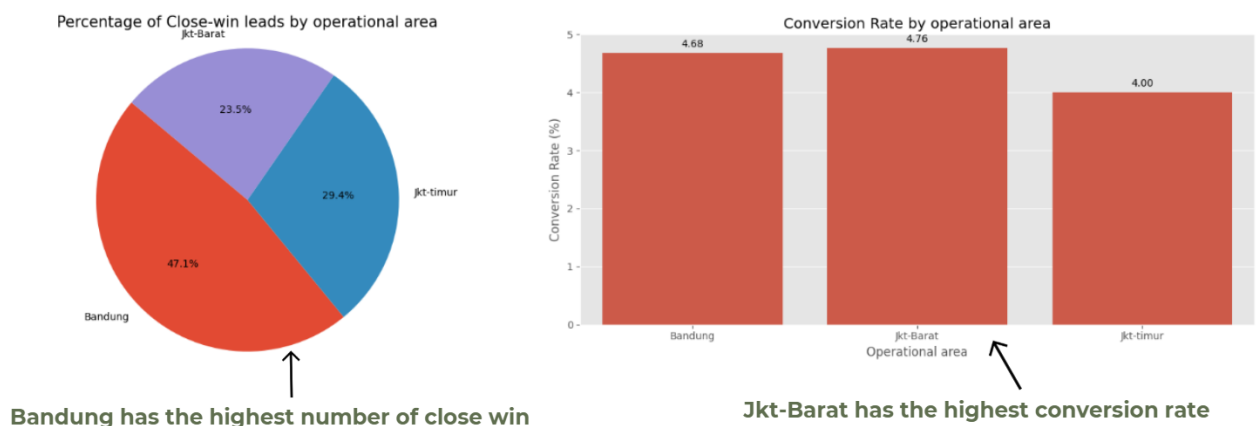
Lead Closure Patterns

- **December 2023:** Highest number of closed leads (8) within a year of 2023, indicating effective follow-up from leads created earlier in the year.
- **January 2024:** Significant number of closed leads (10) within a year of 2024, suggesting a strong conversion period after the new year.
- **February and April 2024:** Moderate closing activity with 3 and 7 closed leads respectively.
- **Other Months:** Minimal closing activity in other months, with some months having no closed leads despite lead creation.

Seasonal Trends:

- **End-of-Year Peak:** High activity in December and January could be influenced by end-of-year bonuses, new year resolutions, and preparation for festive periods.
- **Post-Holiday Activity:** February and April 2024 show increased closures, potentially due to post-holiday follow-ups and readiness to commence projects.
- **More seasonal trend explanation:** The high number of close wins may be linked to cultural seasons, national holidays, and festivals in Indonesia. The noticeable peak in project wins during December and January likely relates to the psychological state of customers, who have completed their annual spending and budget calculations, leaving them with spare funds for significant decisions like committing to house construction or renovation projects with RB123. Additionally, customers may have received annual bonuses from their salaries or businesses, enabling them to afford these projects. The high number of close wins in April 2024 (lead closure) and May (lead created) could be due to the national holidays of Eid al-Fitr and Ramadan. During this time, many people engage in the tradition of "mudik" or visiting their hometowns, which might inspire them to renovate their homes afterward.

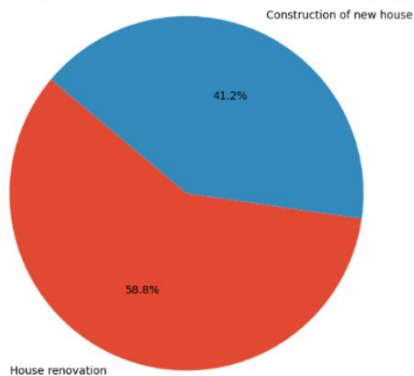
Total successful leads by operational area



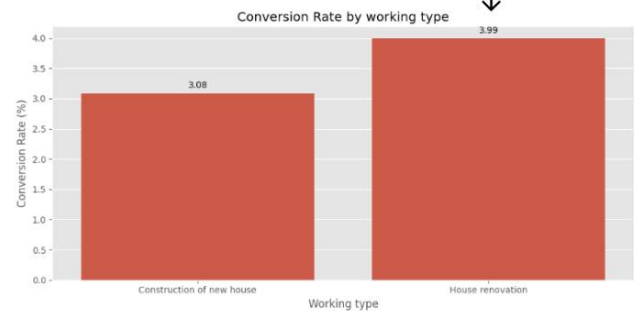
- The highest number of close-win leads originates from the Bandung area. This success can be attributed to RB123's established reputation and numerous completed projects in the region, which build client trust. Moreover, the proximity allows for more frequent client meetings and easier support for obtaining necessary permits, further enhancing client satisfaction.
- It turns out that different operational area has different in conversion rate. The highest conversion rate is in Western Jakarta area (Jkt-Barat). Although most of leads comes to Bandung, but the conversion rate in Bandung slightly lower than Western Jakarta area (Jkt-Barat).

Total successful lead by working type

Percentage of close win lead by working type



House Renovation has a higher conversion rate



House Renovation (Close-Win Projects: 20)

- House renovation projects constitute most close-win projects. This suggests a strong demand for renovation services, potentially driven by homeowners that are looking to upgrade or repair their existing properties rather than building new ones.
- Conversion rate from leads that asking for house renovation are better than the leads who are asking for new house construction working type.

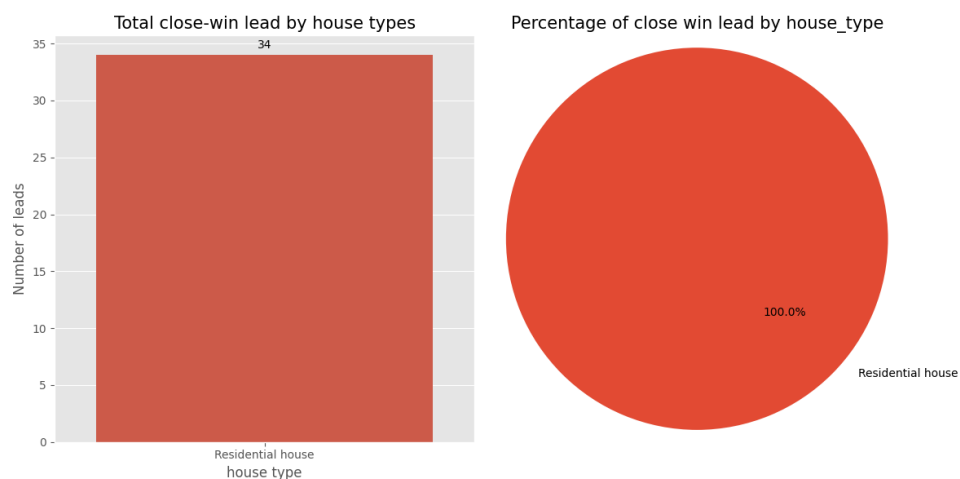
Construction of New House (Close-Win Projects: 14)

- The construction of new houses is also significant, though less than renovations. This indicates a steady interest in new house construction, possibly from first-time homeowners or those looking to build custom homes.

House Construction & architectural Design consultation (Close-Win Projects: 0)

- No close-win projects are recorded for design and consultation. This could imply that these offered services are not effective. This probably due to complexity in setting price for the design as the price for this service is about 6.5% of total construction cost. The fixed price of design of IDR 26 million also not that attracted for customer as it might considered as pricey.

Total successful leads by house type



- In the observed duration, RB123 only can get customers from the residential house type with conversion rate of 3.35%. During the observed duration, RB123 cannot secured customers who want to conduct boarding house project.
- The loss in the project probably due to the mismatch of boarding house specification that customer expect and the design that RB123 can provide. The customers have different expectation when it comes to bedroom size which is far smaller than standard of RB123 who wants to provide comfortable living situation of its bedroom residents.
- RB123 should decide whether to continue pursuing boarding house projects. If they choose to do so, it will be necessary to adjust designs to meet customer expectations, optimize pricing strategies, and actively seek customer feedback to refine offerings. Alternatively, RB123 might consider focusing exclusively on residential houses, where they have demonstrated success, to consolidate their market position.

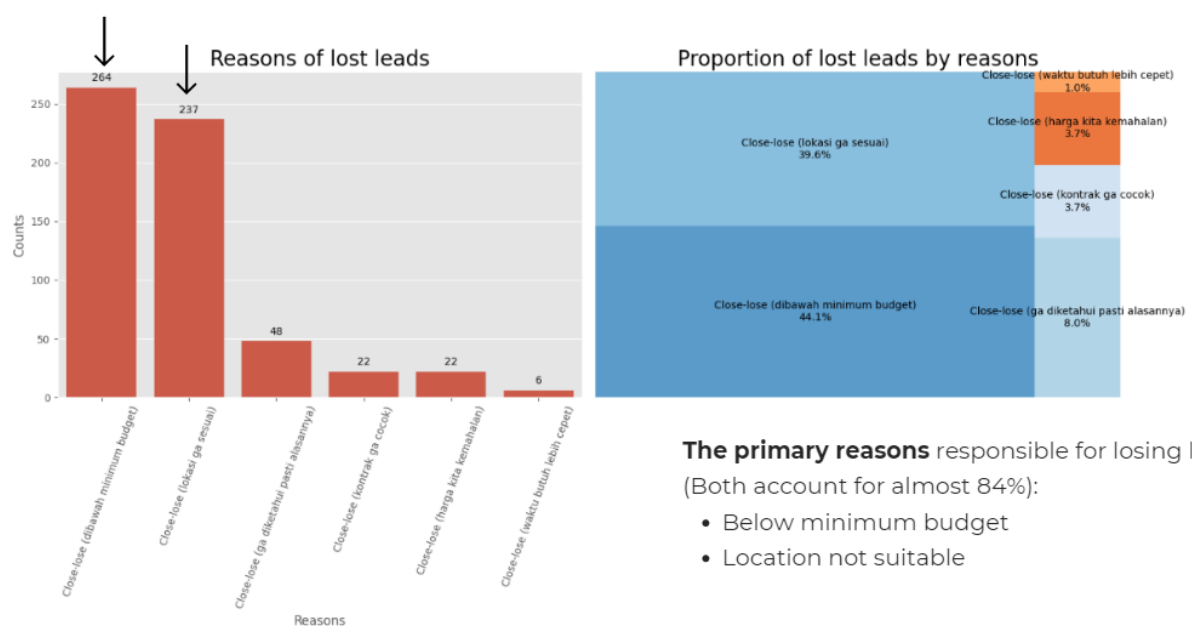
Project 4. Lost Lead Analysis and Reason Behind

The analysis for this project can be broken down to four questions as:

- What are the main reasons of lost leads?
- What is the average project budget of lost leads?
- where is the location of unqualified area located?
- Which area is the most feasible for RB123 operational expansion?

Results:

The main reason of lost leads



The primary reasons responsible for losing leads (Both account for almost 84%):

- Below minimum budget
- Location not suitable

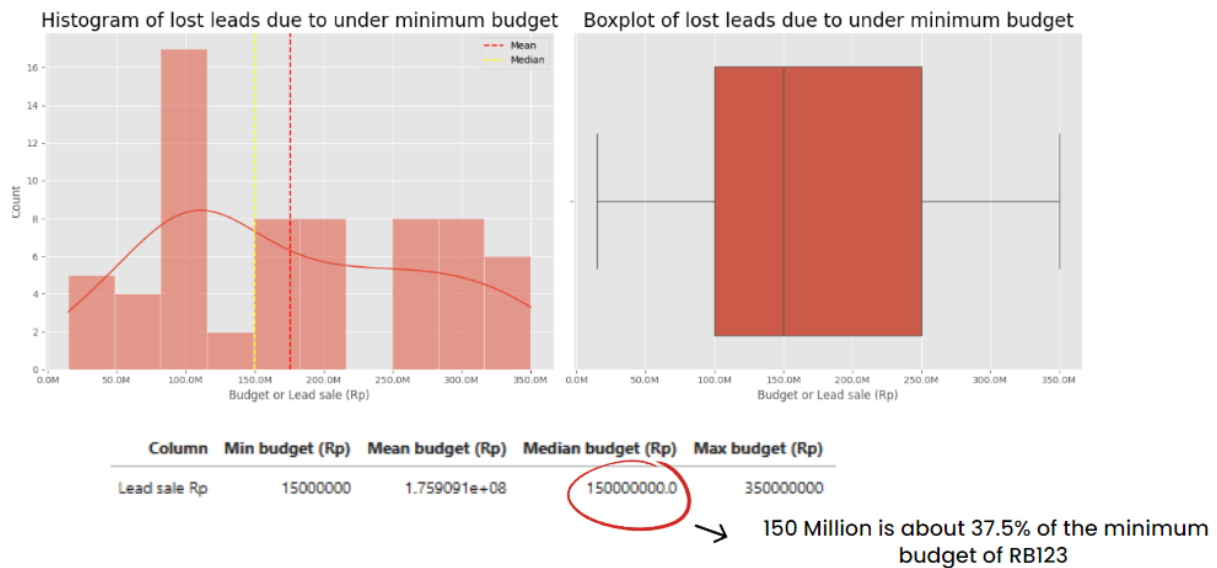
- Main reason that responsible for losing leads are due to minimum budget constraint (44.1%) and unqualified locations (39.6%).
- The minimum budget constrains indicating a mismatch between the company's pricing structure and the financial capacity of many potential clients.
- The second most common reason for losing leads is that the project location is not suitable, suggesting that many potential clients come from outside RB123's current operational areas. This indicates potential demand in regions where RB123 is not yet operating.

Based on the previous explanation, the two reasons of below minimum budget and location not suitable may become priority to address as these two factors responsible for almost 84% of the losing leads. Because of that, the following sections will address these two main issues that consist of

1. Budget calculation of the lost lead
2. Locating the area of the lost leads

The average budget of lost leads

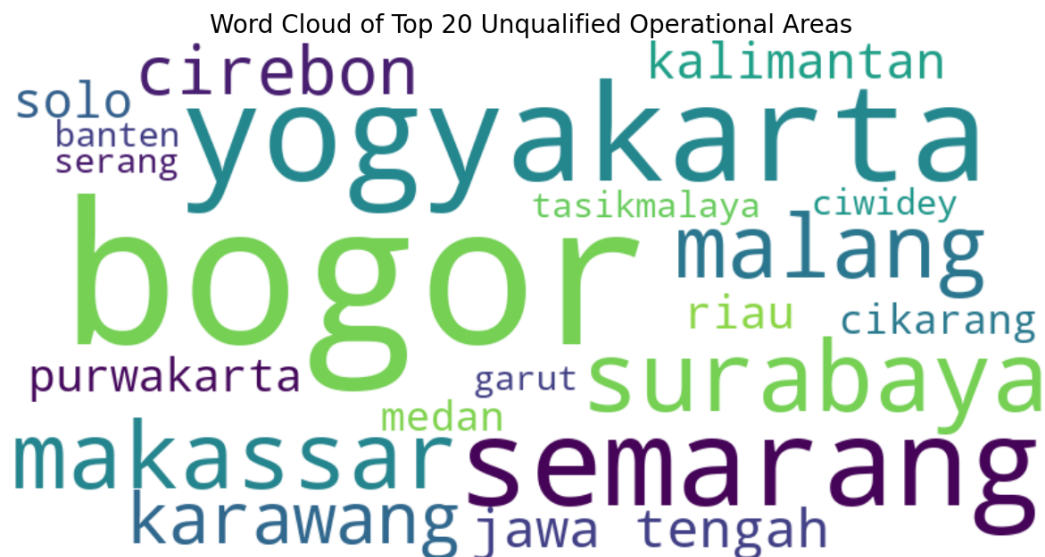
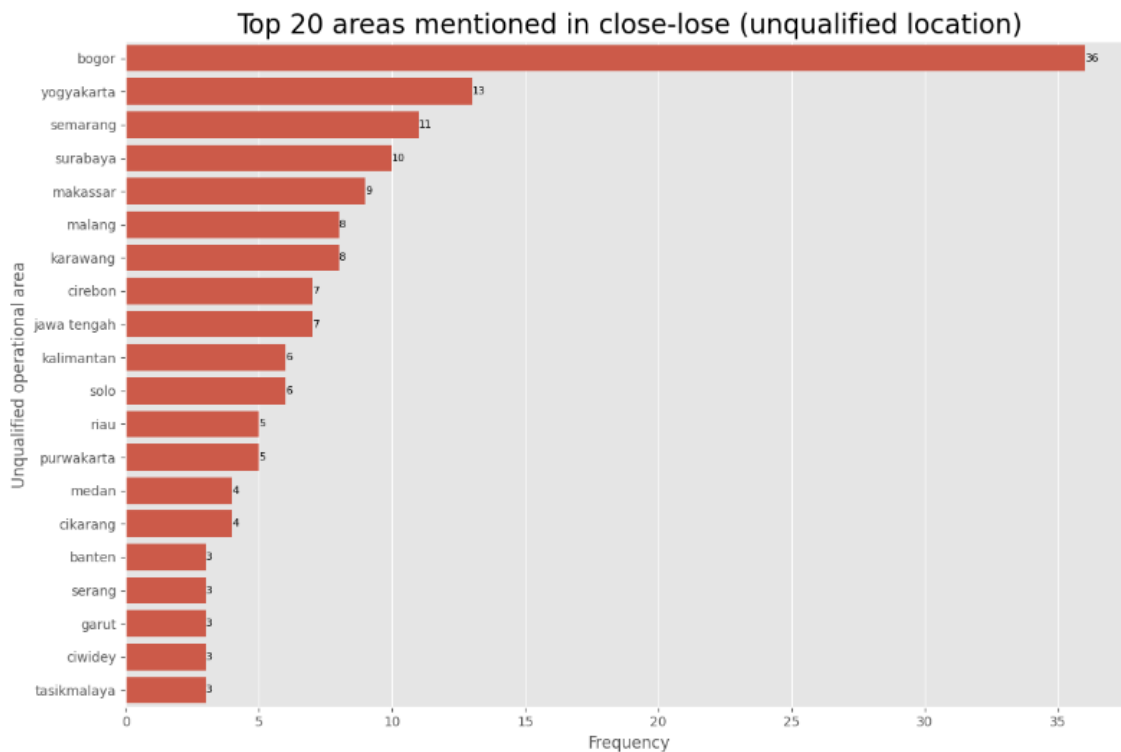
Calculation of the average budget of the losing leads is crucial for reviewing what are the budget that these potential clients have. By understanding their average budget, RB123 may have ways to find solutions that can compromise their budget with RB123 offered service. Thus, it is potentially attracting more successful leads.



A deeper analysis revealed that the median budget of these lost leads is IDR 150 million. This figure represents a significant portion of the budget constraints faced by potential customers. However, this median budget only constitutes 37.5% of RB123's minimum project budget of IDR 400 million. RB123's operational model, which includes appointing a project manager and quality control for every project to maintain high standards of work quality and customer satisfaction, cannot be sustained with such low budgets.

The locations of the lost leads

After minimum budget constrain, almost 40% of the lost lead due to unqualified locations. Because of that, it might be a good idea to analyse where the unqualified locations come from for improving our understanding of losing leads. By knowing the location of the losing leads, we can also prospect that area for consideration of future expansion of operational area.



- The top 5 unqualified locations: Bogor (36 leads), Yogyakarta (13 leads), Semarang (11 leads), Surabaya (10 leads), and Makassar (9 leads).

Bogor as a potential candidate for operational area expansion:

- **High number of leads from Bogor:** Bogor has the highest number of unqualified leads by 36 leads or 15% of overall unqualified area indicating either a high level of initial interest or potentially high expectations that were not met. This suggests a strong market presence that can be explored.
- **Geographical advantage:** In comparison to other cities (Yogyakarta, Semarang, Surabaya, Makassar) within the 5 of locations, Bogor is relatively closer to operational area of Jkt-Barat and Jkt-Timur (about 50-60 km) than the other mentioned area. This geographical advantage makes it logistically easier and more cost-effective to expand operations in Bogor compared to more distant locations.
- **Cost-effective expansion:** Expanding to a nearby location like Bogor is likely to be more cost-effective than expanding to more distant locations such as Makassar or Surabaya. This includes lower transportation and logistics costs, as well as potential savings on local market research for suppliers and company setup.

INSIGHTS AND RECOMMENDATIONS

Insights from CRM analytics

Lead trend, composition, and demographic

- **High drop off rate:** 47% of leads end up in the Close-lose stage, indicating a significant drop-off rate.
- 41% of leads remain in the initial "Leads" stage, suggesting **many potential clients are not progressing**.
- **Qualified to Close win ratio:** The ratio of Qualified Leads to Close win is approximately 2:1, indicating a good conversion rate once leads are qualified.
- Final conversion to Close win is relatively low at 2.7%.

Customer journey

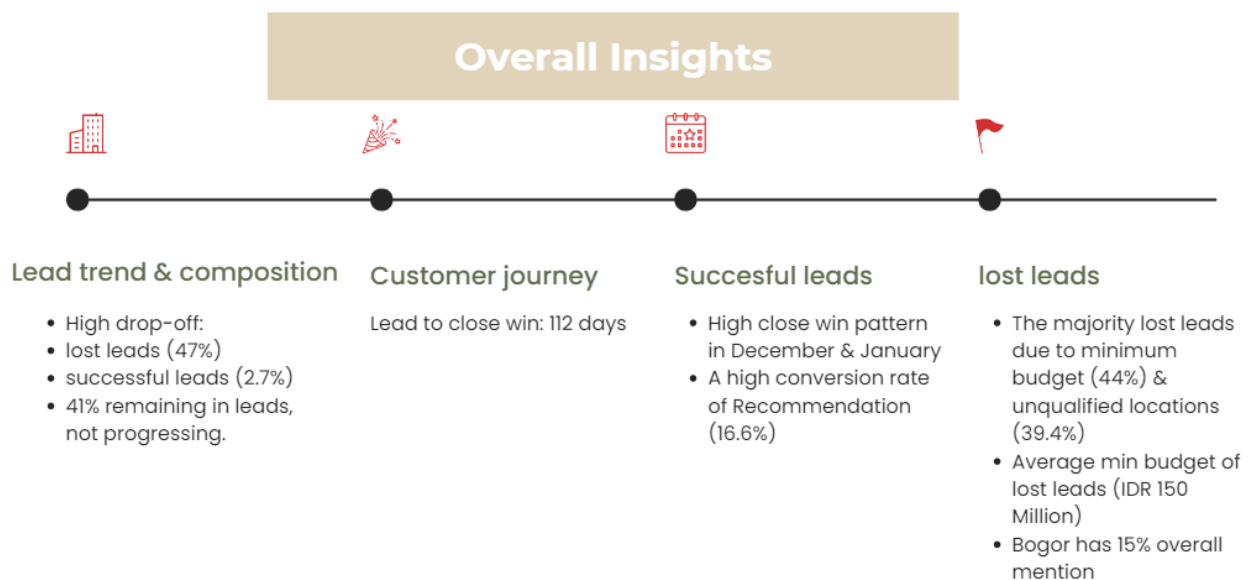
- **Lead to Close-Lose** (32 days): Quick identification of unqualified leads saves time and resources.
- **Lead to Qualified Lead** (125 days): Long qualification duration could suggest that lead nurturing is time-consuming but ensures high-quality leads.
- **Lead to Survey Impresi** (74 days): Critical for understanding the lead's interest level and requirements. Delays in conducting meetings might result in a loss of customer interest.
- **Lead to Delayed-Win** (89 days): Indicates issues that need addressing. Understanding reasons for delays from potential client can streamline processes.
- **Lead to Close-Win** (112 days): Reflects a relatively efficient sales process. Shorter time to close indicates effective customer engagement.

Successful lead origin and characteristics

- **Annual & Seasonal Patterns:** Notable close win peak in closed leads in December 2023 and January 2024, likely due to cultural factors such as annual bonuses and end-of-year budget assessments.
- **Operational area:** The highest number of close wins originates from the Bandung area, however Jakbar has the highest conversion rate.
- **House Type:** Only residential house projects were secured, with no close wins for boarding house projects.
- **Marketing Channel:** Recommendation as the source of leads has the highest conversion rate of close win (16.67%) and followed by Network (8.06%)

Lost leads and reasons behind lost leads

- Main Reasons for Losing Leads: Minimum budget constraint (44.1%) and unqualified locations (39.6%).
- Average Budget of Losing Leads: The median budget of these lost leads is IDR 150 million, only 37.5% of the minimum project budget of IDR 400 million.
- Location of Losing Leads: Top unqualified locations consist of Bogor (36 leads), Yogyakarta (13 leads), Semarang (11 leads), Surabaya (10 leads), and Makassar (9 leads).
- Bogor has 15% of overall mention, geographical advantage, lower cost expansion.



Recommendations for RancangBangun123

Improvement of CRM and customer engagement

- **Automation of CRM System:** Optimize CRM tools to automate parts of the qualification process, saving time and resources.
- **Enhance Lead Tracking:** Implement better lead tracking mechanisms to understand the source of all leads.
- **Simplify Initial Information:** Provide only the most crucial information to keep leads interested and shorten the qualification process
- **Enhance Customer Engagement:** Maintain regular and meaningful communication with leads to keep them engaged throughout the customer journey.

Improvement for Marketing operational

- **Capitalize on annual and cultural seasonal patterns:** Implement aggressive marketing and follow-up strategies in November and December, and near Eid Fitr day. Launch targeted promotions and referral programs
- **Enhance Recommendation Marketing:** Implement a robust referral program to encourage satisfied customers to refer new clients.
- **Leverage Professional Networks:** Engage actively in community and professional networking events to enhance trust and increase lead conversion rates
- **Develop New Pricing Model:** Create scalable project options for clients with smaller budgets, involving standardized, lower-cost project templates.
- **Adjust Boarding House Strategy:** If pursuing boarding house projects, adjust designs to meet customer expectations and optimize pricing strategies
- **Expand to Bogor:** Prioritize expansion into Bogor due to its high lead volume and proximity to current operations. Conduct more research to understand specific needs and preferences of potential clients

GLOSSARY

Close-lose

The stage in the customer journey where a lead does not convert into a sale and is marked as lost.

Close-win lead

A lead that successfully converts into a sale.

Conversion Rate

The percentage of leads that convert into actual customers.

CRM (Customer Relationship Management)

A system for managing a company's interactions with current and potential customers, using data analysis to improve business relationships and drive sales growth.

CRM Analytics

The use of data analysis techniques to understand and optimize customer relationship management processes.

Customer Journey

The complete experience a customer has with a company, from initial awareness to purchase and beyond.

DED (Detailed Engineering Design)

The phase in a project where detailed plans, drawings, and specifications are created.

Funnel

A model that represents the stages a customer goes through from initial awareness to final purchase.

Funnelling

The process of guiding potential customers through the stages of the sales funnel.

HGB (Hak Guna Bangun)

A legal right to build on land in Indonesia, typically for a specific period.

IAI (Ikatan Arsitektur Indonesia)

The Indonesian Institute of Architects, a professional organization for architects in Indonesia.

IMB (Izin Mendirikan Bangunan)

A building permit in Indonesia required for the construction, renovation, or expansion of a building.

Lead

A potential customer who has shown interest in a company's product or service.

Lost lead

A lead that does not convert into a customer.

PBG (Persetujuan Bangunan Gedung)

A building permit in Indonesia required for construction projects.

Pipeline customer

Potential customers who are in various stages of the sales funnel.

Qualified lead

A lead that has been assessed and determined to have a higher likelihood of converting into a customer.

SHM (Sertifikat Hak Milik)

A certificate of ownership in Indonesia, indicating full ownership rights over a property.

Successful lead

A lead that converts into a paying customer.

UTM (Urchin Tracking Module)

Parameters added to URLs to track the effectiveness of online marketing campaigns across different sources and media.