RFM or Recency, Frequency, and Monetary is analysis measures **how recently**, **how often**, and **how much money** a customer has given by brand.

What is RFM segmentation ?

RFM Metrics

RECENCY

The freshness of the customer activity, be it purchases or visits

E.g. Time since last order or last engaged with the product

FREQUENCY

The frequency of the customer transactions or visits

E.g. Total number of transactions or average time between transactions/ engaged visits

MONETARY

The intention of customer to spend or purchasing power of customer

E.g. Total or average transactions value

✓ **Simple** from customer database segmentation

✓ **Very useful for high value customer program**, database reactivation, increasing loyalty, and customer lifetime value

✓ **Keep track** of your customer and build a relationship that can increase sales and productivity

Pareto Principle

20% 20%

80% 80%

20% of the input (time, resources, effort) accounts for 80% of the output (results, rewards)
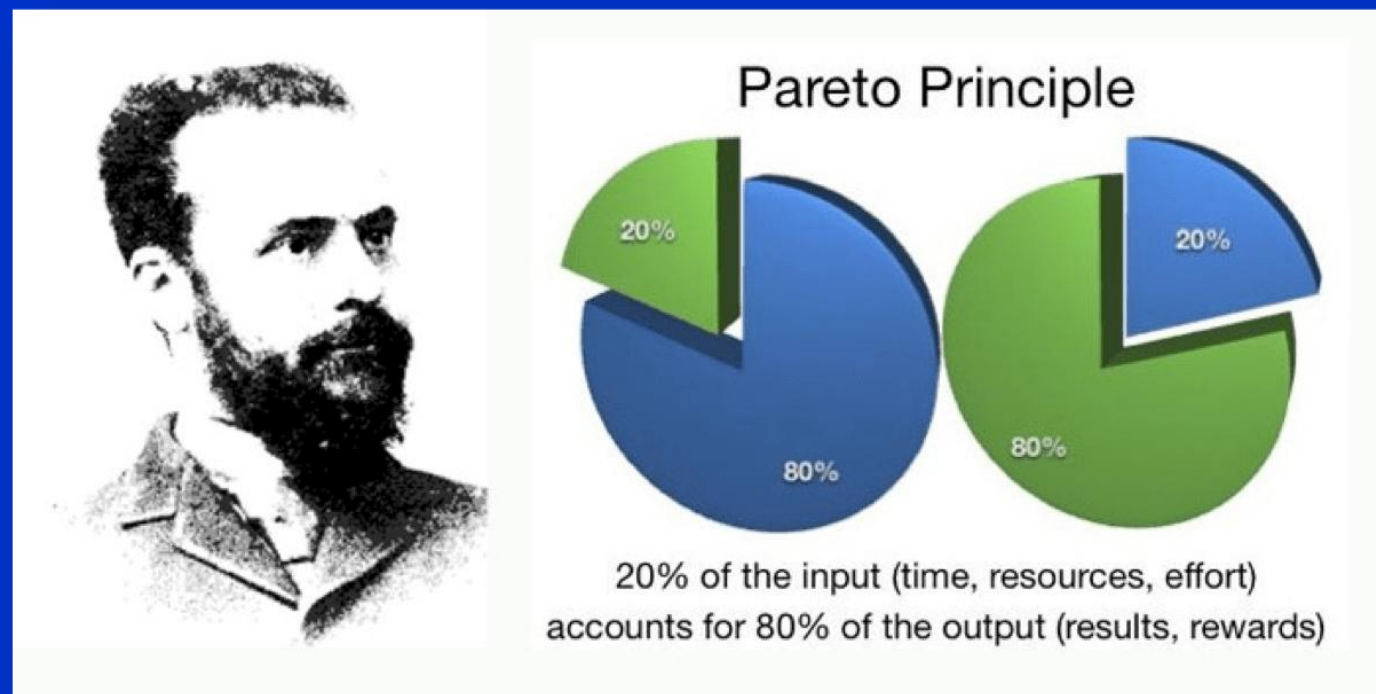
Why using customer RFM segmentation ?

Advantage

- ✓ No need complex data (only transaction information)
- ✓ Easy to develop
- ✓ Has high interpretability

Disadvantage

- ✓ Limited variable, only use a number of selection variables (RFM)
- ✓ Cannot be deployed to new customer
- ✓ Difficult to identify business driver of customer

Some questions that can be answered with RFM

- ✓ Who are my best customers ?
- ✓ Which customers are the verge of churning ?
- ✓ Who has potential to be converted in more profitable customers ?

- ✓ Who are lost customers that you don't need to pay much attention to ?
- ✓ Which customers you must retain

- ✓ Who are loyal customers ?
- ✓ Which group of customers is most likely to respond to your current campaign ?

Example: You are the fourth tallest person in a group of 20

80% of people are shorter than you:

You →

80%

That means you are at the **80th percentile**.

If your height is 1,85m then "1,85m" is the 80th percentile height in that group.

How to build RFM ?

1. Calculate the percentile values for each customer. Percentile is the value below which a percentage of data falls.
2. Compare these to the overall percentiles.
3. Combine the fields.
4. Visualize and get the insights.

Example

Let's do customer segmentation with RFM anlaysis with a simple data below,

| ID	Name	Email	Recency (Days)	Frequency (Times)	Monetary (IDR,000)
1	Melissa	Melissa@gmail.com	30	7	100
2	Amber	Amber@gmail.com	4	1	175
3	Amy	Amy@gmail.com	5	3	190
4	Lisa	Lisa@gmail.com	45	1	650
5	Shelby	Shelby@gmail.com	1	30	500
6	David	David@gmail.com	50	1	60
7	John	John@gmail.com	2	9	450
8	Glenn	Glenn@gmail.com	14	4	125
9	Jon	Jon@gmail.com	21	2	60
10	Peggy	Peggy@gmail.com	70	30	700
11	Todd	Todd@gmail.com	17	2	350
12	Stephanie	Stephanie@gmail.com	10	5	110
13	Jessica	Jessica@gmail.com	32	2	150
14	Sharon	Sharon@gmail.com	33	15	350
15	Kenneth	Kenneth@gmail.com	6	10	300
16	James	James@gmail.com	60	1	50
17	Michelle	Michelle@gmail.com	24	3	250
18	Tony	Tony@gmail.com	5	8	65

Example

Let's classify the **frequency** into 3 categories

Calculate Frequency Percentile

ID	Frequency (Times)	Frequency Percentile (%)
1	7	67
2	1	6
3	3	44
4	1	6
5	30	94
6	1	6
7	9	78
8	4	56
9	2	28
10	30	94
11	2	28
12	5	61
13	2	28
14	15	89
15	10	83
16	1	6
17	3	44
18	8	72

Visualize the data

Score		
1	2	3
0		>
-33	33-66	66
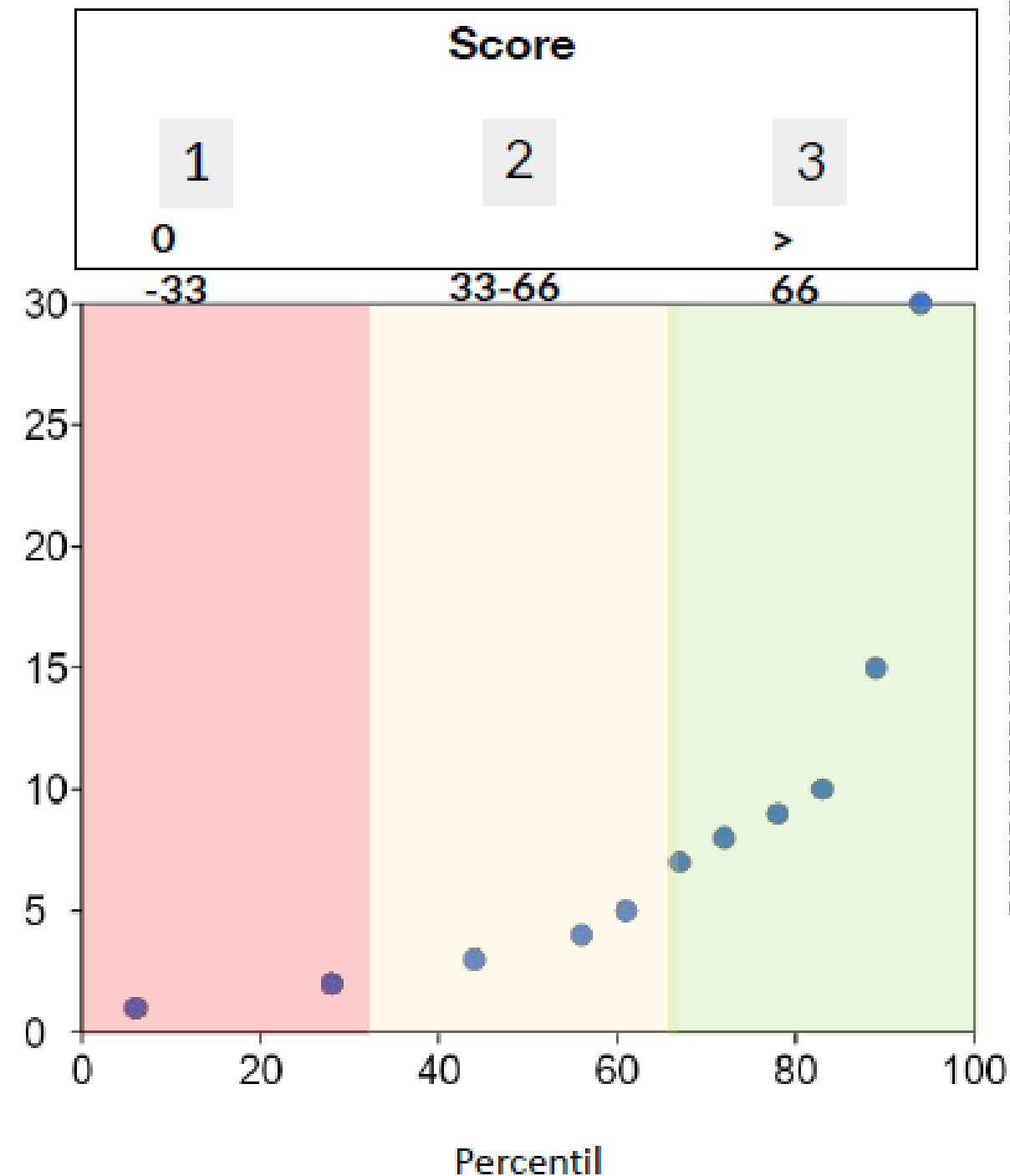
Percentil

Scoring Frequency

| ID	Frequency (Times)	Frequency Percentile (%)	Frequency Score
1	7	67	3
2	1	6	1
3	3	44	2
4	1	6	1
5	30	94	3
6	1	6	1
7	9	78	3
8	4	56	2
9	2	28	1
10	30	94	3
11	2	28	1
12	5	61	2
13	2	28	1
14	15	89	3
15	10	83	3
16	1	6	1
17	3	44	2
18	8	72	3

Example

Let's classify the **recency** into 3 categories

Calculate Recency Percentile

ID	Recency (Days)	Recency Percentile (%)
1	30	67
2	4	17
3	5	22
4	45	83
5	1	6
6	50	89
7	2	11
8	14	44
9	21	56
10	70	100
11	17	50
12	10	39
13	32	72
14	33	78
15	6	33
16	60	94
17	24	61
18	5	22

Visualize the data

Score

3	2	1
0		>
-33	33-66	66

X-axis: Percentil (0 to 100), Y-axis: 0 to 70
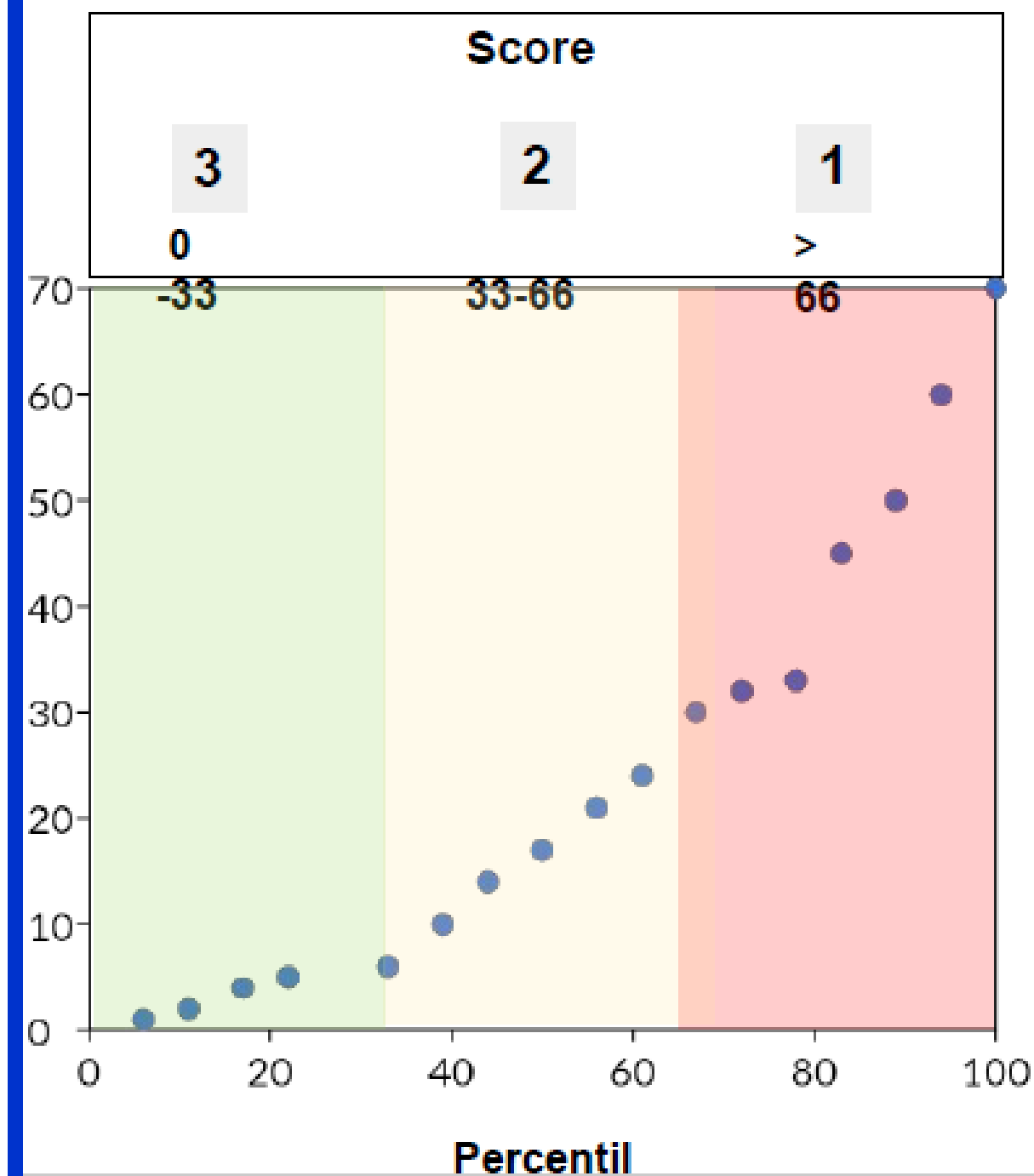
Scoring Recency

| ID	Recency (Days)	Recency Percentile (%)	Recency Score
1	30	67	1
2	4	17	3
3	5	22	3
4	45	83	1
5	1	6	3
6	50	89	1
7	2	11	3
8	14	44	2
9	21	56	2
10	70	100	1
11	17	50	2
12	10	39	2
13	32	72	1
14	33	78	1
15	6	33	2
16	60	94	1
17	24	61	2
18	5	22	3

Example

Let's classify the **monetary** into 3 categories

Calculate Monetary Percentile

ID	Monetary (IDR,000)	Monetary Percentile (%)
1	100	28
2	175	50
3	190	56
4	650	94
5	500	89
6	60	11
7	450	83
8	125	39
9	60	11
10	700	100
11	350	72
12	110	33
13	150	44
14	350	72
15	300	67
16	50	6
17	250	61
18	65	22

Visualize the data
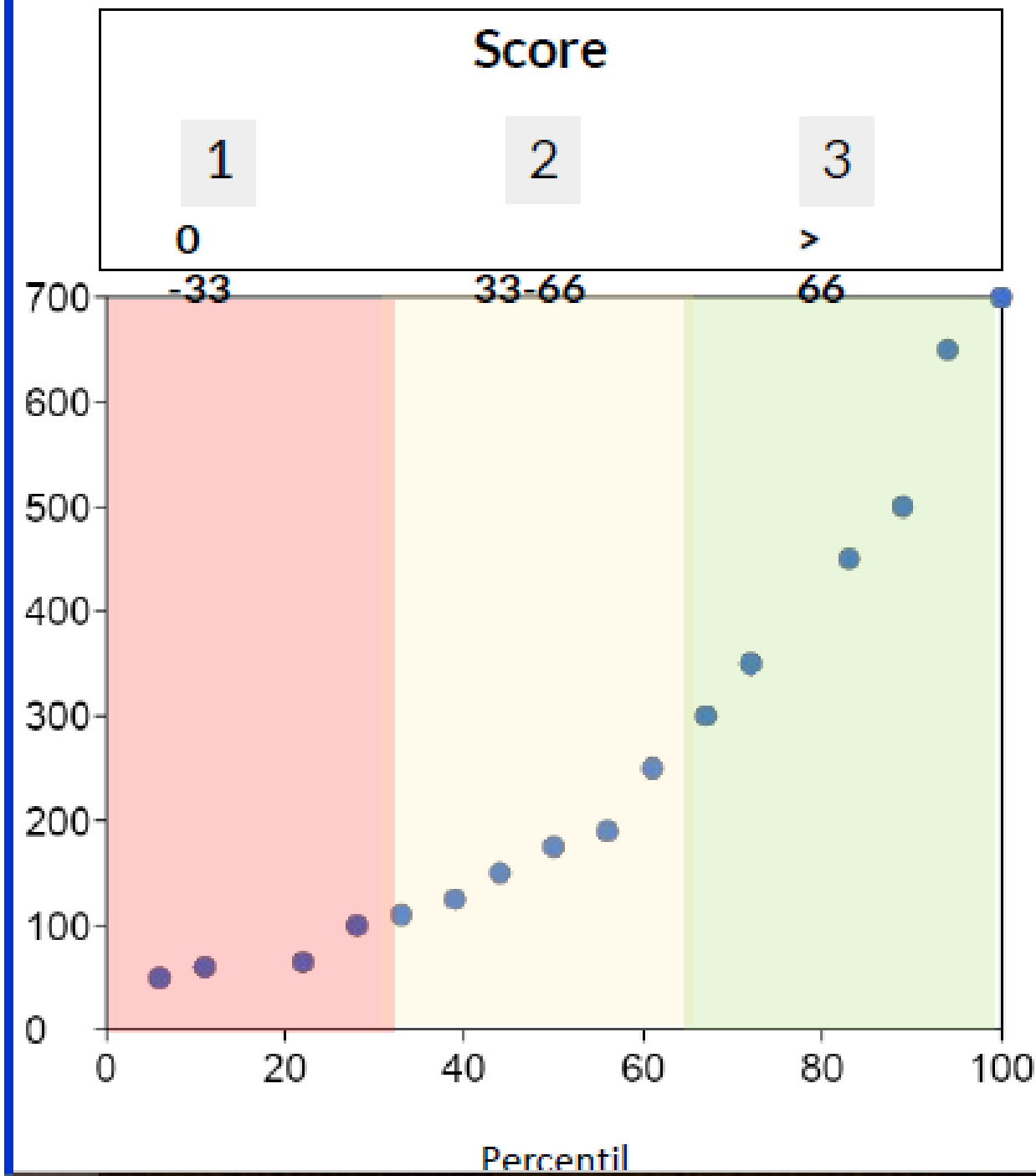
Scoring Monetary

ID	Monetary (IDR,000)	Monetary Percentile (%)	Monetary Score
1	100	28	1
2	175	50	2
3	190	56	2
4	650	94	3
5	500	89	3
6	60	11	1
7	450	83	3
8	125	39	2
9	60	11	1
10	700	100	3
11	350	72	3
12	110	33	1
13	150	44	2
14	350	72	3
15	300	67	3
16	50	6	1
17	250	61	2
18	65	22	1

Example

Creating RFM segmentation

Recency Score	Frequency Score	Monetary Score	Total Score
3	3	3	9
		2	8
		1	7
	2	3	8
		2	7
		1	6
	1	3	7
		2	6
		1	6
2	3	3	8
		2	7
		1	6
	2	3	7
		2	6
		1	5
	1	3	6
		2	5
		1	4
1	3	3	7
		2	6
		1	5
	2	3	6
		2	5
		1	4
	1	3	5
		2	4
		1	3

| Segment Name	Total Score Formula	Description	Actionable Tip
Champion	9	Do transaction recently, buy often and spend the most!	Reward them, can be early adopters for new products. Will promote your brand.
Loyal	8	Bring good money for us, responsive to promotion	Upsell higher value products. Ask for reviews. Engage them.
Potential Loyalist	7	Recent customers, but spent a good amount and bought more than once	Offer membership/loyalty programs and recommend other products.
Average	6	In average recency, frequency, and monetary values	Built a good relationship with them
Recent Customer	6-7 (recency days score 3)	Bough most recently, but not often	Provide on-boarding support, give them early success, start building relationship
Cannot Loose Them	6-7 (recency days score 1)	Made biggest purchases, and often. But haven't returned for a long time	Win them back don't lose them to be dropped outlets, bring with relevant promotion
About To Sleep	4 and 5	Below average recency, frequency, and monetary values. Will lose them if not reactivated	Share valuable resources. Recommend popular products/renewals at discount. Reconnect with them.
Lost Customer	3	Lowest recency, frequency and monetary values	Revive interest with a reach-out campaign, ignore otherwise

Example

Apply customer segment formula into the dataframe

ID	Name	Email	Recency (Days)	Frequency (Times)	Monetary (IDR,000)	Recency Score	Frequency Score	Monetary Score	Segment Name
1	Melissa	Melissa@gmail.com	30	7	100	1	3	1	About to Sleep
2	Amber	Amber@gmail.com	4	1	175	3	1	2	Recent Customer
3	Amy	Amy@gmail.com	5	3	190	3	2	2	Potential Loyalist
4	Lisa	Lisa@gmail.com	45	1	650	1	1	3	About to sleep
5	Shelby	Shelby@gmail.com	1	30	500	3	3	3	Champion
6	David	David@gmail.com	50	1	60	1	1	1	Lost Customer
7	John	John@gmail.com	2	9	450	3	3	3	Champion
8	Glenn	Glenn@gmail.com	14	4	125	2	2	2	Average
9	Jon	Jon@gmail.com	21	2	60	2	1	1	About to sleep
10	Peggy	Peggy@gmail.com	70	30	700	1	3	3	Cannot Loose Them
11	Todd	Todd@gmail.com	17	2	350	2	1	3	Average
12	Stephanie	Stephanie@gmail.com	10	5	110	2	2	1	About to sleep
13	Jessica	Jessica@gmail.com	32	2	150	1	1	2	About to sleep
14	Sharon	Sharon@gmail.com	33	15	350	1	3	3	Cannot Loose Them
15	Kenneth	Kenneth@gmail.com	6	10	300	2	3	3	Loyal
16	James	James@gmail.com	60	1	50	1	1	1	Lost Customer
17	Michelle	Michelle@gmail.com	24	3	250	2	2	2	Average
18	Tony	Tony@gmail.com	5	8	65	3	3	1	Potential Loyalist

Example

RFM segmentation key insights
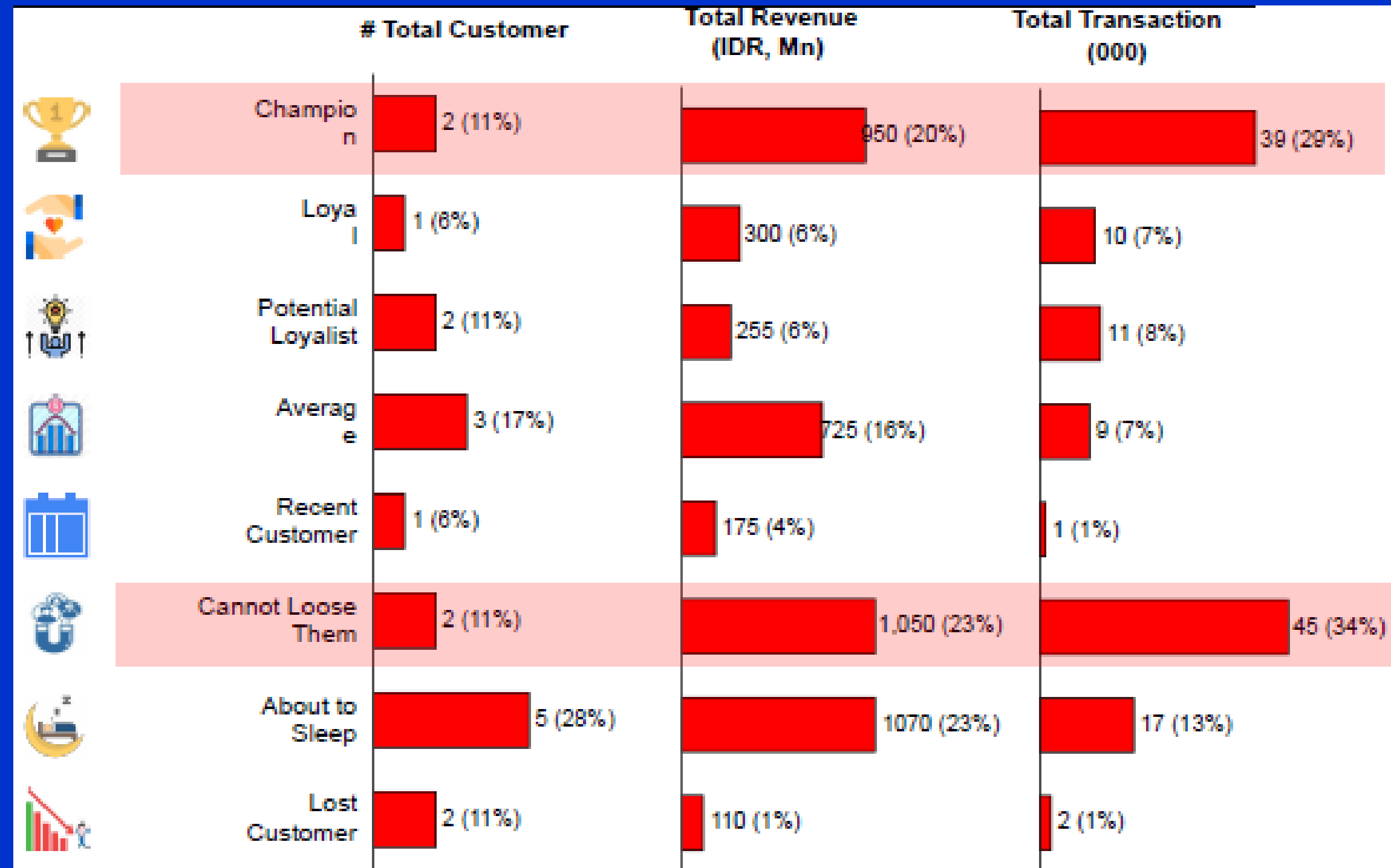
Demographic
- Age
- Gender
- Ethnicity
- Income
- Level of education
- Religion
- Profession/Role in Company

Pyschographic
- Personality Traits
- Hobbies
- Life Goals
- Values
- Beliefs
- Lifestyles

Geographic
- Country
- Region
- City
- Postal Code

Behavioral
- Spending Habits
- Purchasing Habits
- Browsing Habits
- Interaction with Brand
- Loyalty with Brand
- Previous Product Rating

Other Segmentation Techniques

What is RFM - AR ?

RFM-AR is a combination of RFM (Recency, Frequency, Monetary) and AR (Age, Return) methods.

Age means how long have the customers buying our products or be our customer. This information can minimize the gap of RFM scores for new customers.

Return can answer the average of time a customers will buy our product again. If the return take longer than usual, an alert message needed.

THANK YOU !