



TOKOBLI CAMPAIGN EVALUATION AND PRODUCT PAGE ANALYSIS

Santa Riyanti T
8/14 November 2025
RevoU FSDA Batch OCT25

OVERVIEW DATASET

| A1 | Transaction ID | Product ID | Customer ID | Status | Created At | Campaign | SKU | Price | QTY | Discount | Shi |
|----|----------------|------------|-------------|------------|----------------|------------------------|----------|-------|----------|----------|-----|
| 1 | ID-461 | 726415 | 84749 | 2023-10-10 | Campaign 10/10 | APPNET59E7A8CCDE9A5 | 5.99E+06 | 1 | 5.99E+05 | | |
| 2 | ID-1678 | 733356 | 85384 | 2023-10-10 | Campaign 10/10 | MEFOXF5A5351278999F-L | 3.99E+06 | 1 | 0.00E+00 | | |
| 3 | ID-1034 | 729604 | 42851 | 2023-10-10 | Campaign 10/10 | HASQARSA53697E3A84A | 4.40E+05 | 2 | 4.40E+04 | | |
| 4 | ID-1844 | 733590 | 28651 | 2023-10-10 | Campaign 10/10 | MEFSIK59CA6921D46E5-XL | 3.99E+06 | 1 | 0.00E+00 | | |
| 5 | ID-3229 | 741414 | 86994 | 2023-10-10 | Campaign 10/10 | SOGMDF5A69BC0EEF973 | 4.32E+06 | 1 | 0.00E+00 | | |
| 6 | ID-1638 | 732135 | 85563 | 2023-10-10 | Campaign 10/10 | MEFWINS9C38B62A9E8E | 8.99E+06 | 1 | 0.00E+00 | | |
| 7 | ID-1234 | 730582 | 48608 | 2023-10-10 | Campaign 10/10 | MEFOXF5A53506E21D20-L | 3.99E+06 | 1 | 0.00E+00 | | |
| 8 | ID-324 | 726298 | 84739 | 2023-10-10 | Campaign 10/10 | HALSHA59F1E1E98BD6E | 2.99E+06 | 1 | 0.00E+00 | | |
| 9 | ID-3226 | 741384 | 86990 | 2023-10-10 | Campaign 10/10 | HASDUNSA7036A33A09 | 4.32E+06 | 2 | 4.32E+05 | | |

DISCLAIMER

- This analysis is for educational purposes and does not reflect the actual business metrics of TokoBli.
- Insight and recommendations are derived from the provided dataset and may not represent real market conditions.



COMPANY OVERVIEW

TokoBli is Indonesia's leading e-commerce platform, offering diverse product categories and running major sales campaigns on "twin dates". The business aim to leverage data analytics to optimize campaign strategies, grow transactions, and maximize revenue while keeping campaign costs efficient.

Milestone 1

Problem Statement *using SMART*

How TokoBli aims to identify, the most effective promotional campaign among the last three major sales periods (10.10, 11.11 and 12.12) by analyzing discount, transaction count, customer count, product sold and total revenue so the goal is to optimize future year promotional strategies to improve revenue and profit more efficiently while minimizing unnecessary discount spending ?

Most Relevant Business Metrics *that best address the problem statement*

Total Revenue, Mean and Median plus Standard Deviation is the best statistic to answer the business problem. By combining these four statistical measures, we can observe the average results before and after the campaign and evaluate the variations across different periods.

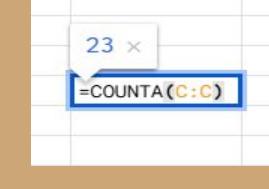
Handling Missing Data in Column

| A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|--------------|------------|-------------|------------|----------------|-----------|----------|-------|----------|----------|-----------|---------------|-----------------|----------------|
| Transactions | Product ID | Customer ID | Status | Created At | Campaign | SKU | Price | QTY | Discount | Shipping | Total Revenue | Category Name | Payment Method |
| ID-461 | 726415 | 84749 | 2023-10-10 | Campaign 10/10 | APPNET59E | 5.99E+06 | 1 | 5.99E+05 | 0 | 5,391,000 | Appliances | Instant Payment | |
| ID-1878 | 733356 | 85384 | 2023-10-10 | Campaign 10/10 | MEFOXF5A5 | 3.99E+06 | 1 | 0.00E+00 | 0 | 3,990,000 | Men's Fashion | COD | |

| A | B | C | D | E | F | G | H | I | J | K | |
|------------|-------------|------------|----------------|----------|-----|----------|-----|-----------|---------------|---------------|---------------|
| Product ID | Customer ID | Status | Created At | Campaign | SKU | Price | QTY | Discount | Shipping | Total Revenue | Category Name |
| 726415 | 84749 | 2023-10-10 | Campaign 10/10 | 5.99E+06 | 1 | 5.99E+05 | 0 | 5,391,000 | Appliances | | |
| 733356 | 85384 | 2023-10-10 | Campaign 10/10 | 3.99E+06 | 1 | 0.00E+00 | 0 | 3,990,000 | Men's Fashion | | |

Remove Transaction ID, SKU and Payment Method cause not useful dan too granular for campaign performance analysis.

| L5 | A | B | C |
|----|------------|-------------|--------------|
| | | | =COUNTA(C:C) |
| 1 | Product ID | Customer ID | Status |
| 2 | 724855 | 50178 | complete |
| 3 | 724271 | 19977 | complete |
| 4 | 724189 | 35535 | complete |
| 5 | 724677 | 59299 | complete |
| 6 | 724903 | 15960 | complete |
| 7 | 724562 | 42046 | complete |
| 8 | 724073 | 19100 | complete |
| 9 | 724900 | 15960 | complete |
| 10 | 724835 | 42753 | complete |
| 11 | 724241 | 21 | complete |
| 12 | 724190 | 35535 | complete |
| 13 | 724669 | 18967 | complete |
| 14 | 724739 | 33830 | complete |
| 15 | 724838 | 42753 | complete |
| 16 | 724517 | 19168 | complete |
| 17 | 724268 | 17684 | complete |
| 18 | 724561 | 42046 | complete |
| 19 | 724442 | 8616 | complete |
| 20 | 724898 | 15960 | complete |
| 21 | 724043 | 41651 | complete |
| 22 | 724051 | 44830 | complete |
| 23 | 724904 | 15960 | complete |



Removing data "Status" in the column is based on the COUNTA formula, which show that only 23 rows are filled in of 4213 data rows (only 0.54% filled).

Handling Missing Data in Row

- Fill in Price Row

| A | B | C | D | E | F | G | H | I | J |
|------------|-------------|------------|----------------|-------|-----|----------|-------------|---------------|---------------|
| Product ID | Customer ID | Created At | Campaign | Price | QTY | Discount | Shipping Co | Total Revenue | Category Name |
| 737661 | 79880 | 10/10/2023 | Campaign 10/10 | | 1 | 0 | 0 | 3,320,000 | Kids & Baby |

| E | F | G | H | I |
|---------|--------------|-------------|---------------|-----------|
| Price | Discount | Shipping Co | Total Revenue | |
| 4990000 | =I1642/E1642 | 0 | 0 | 9,980,000 |

By using filter, it is observed that there is one empty row in the price. Therefore, it can fill in by dividing the total revenue with the product quantity.

• Fill in Quantity Row

| A | B | C | D | E | F | G | H | I | J |
|------------|-------------|------------|----------------|---------|-----|----------|-------------|---------------|---------------|
| Product ID | Customer ID | Created At | Campaign | Price | QTY | Discount | Shipping Co | Total Revenue | Category Name |
| 757475 | 90284 | 11/11/2023 | Campaign 11/11 | 4990000 | | 0 | 0 | 9,980,000 | Men's Fashion |

| F | F | G | H | I |
|---------------|-----|----------|-------------|---------------|
| 3320000 X | QTY | Discount | Shipping Co | Total Revenue |
| 1/10 =I48/F48 | 1 | 0 | 0 | 3,320,000 |

By using filter, it is observed that there is one **empty row in the quantity**. Therefore, it can fill in by dividing the total revenue with the price.

• Fill in Discount Row

| A | B | C | D | E | F | G | H | I | J |
|------------|-------------|------------|----------------|--------|-----|----------|-------------|---------------|---------------|
| Product ID | Customer ID | Created At | Campaign | Price | QTY | Discount | Shipping Co | Total Revenue | Category Name |
| 764220 | 90641 | 11/11/2023 | Campaign 11/11 | 680000 | 1 | | 0 | 612,000 | Kids & Baby |

| E | F | G | H | I |
|-------|--------|------------------------|-------------|---------------|
| Price | QTY | 68,000 X | Shipping Co | Total Revenue |
| 1 | 680000 | 1 =(E2132*F2132)-I2132 | 0 | 612,000 |

It is observed that there is one **empty row in the discount**. Therefore, it can fill in by multiplying price with quantity and reduce by total revenue.

Handling Duplicate Data

| Transaction | Product ID | Customer ID | Status | Created At | Campaign | SKU | Price | QTY | Discount | Shipping Co | Total Revenue |
|-------------|------------|-------------|--------|------------|----------------------------|----------|-------|-----|----------|-------------|---------------|
| ID-461 | 726415 | 84749 | | 2023-10-10 | Campaign 10/10 APPNET59E7A | 5.99E+06 | | | 1 | 5.99E+05 | 0 |
| ID-1878 | 733556 | 85384 | | 2023-10-10 | Campaign 10/10 MEFKAR5A7C1 | 5.99E+06 | | | 1 | 0.00E+00 | 0 |
| ID-1034 | 729604 | 42851 | | | | | | | 2 | 4.40E+04 | 0 |
| ID-1844 | 733590 | 28651 | | | | | | | 1 | 0.00E+00 | 0 |
| ID-3229 | 741414 | 86994 | | | | | | | 1 | 0.00E+00 | 0 |
| ID-1638 | 732135 | 85563 | | | | | | | 1 | 0.00E+00 | 0 |
| ID-1234 | 730582 | 48608 | | | | | | | 1 | 0.00E+00 | 0 |
| ID-324 | 726298 | 84739 | | | | | | | 1 | 0.00E+00 | 0 |
| ID-3226 | 741384 | 86990 | | | | | | | 2 | 4.32E+05 | 0 |
| ID-2311 | 734854 | 62696 | | | | | | | 2 | 3.70E+05 | 0 |
| ID-1967 | 734160 | 66338 | | | | | | | 1 | 2.99E+05 | 0 |
| ID-2113 | 734769 | 86018 | | | | | | | 1 | 0.00E+00 | 0 |
| ID-2140 | 741657 | 87036 | | | | | | | 1 | 0.00E+00 | 0 |

Hapus duplikat
5 baris duplikat ditemukan dan dihapus.
Tersisa 4212 baris unik.

Oke

There is **5 duplicate rows** that found and removed (from 4218 to 4213 unique rows).

Adjusting The Data Types of Columns

| E | F | G |
|---------------|-----|----------|
| Price | QTY | Discount |
| 1/10 5.99E+06 | 1 | 0.00E+00 |
| 1/10 1.99E+06 | 1 | 0.00E+00 |
| 1/10 5.53E+06 | 2 | 0.00E+00 |
| 1/10 2.49E+06 | 1 | 0.00E+00 |
| 1/10 2.20E+06 | 1 | 0.00E+00 |
| 1/10 8.00E+06 | 1 | 0.00E+00 |
| 1/10 5.49E+06 | 1 | 0.00E+00 |

| E | F | G |
|------------|-----|----------|
| Price | QTY | Discount |
| 10 5990000 | 1 | 0 |
| 10 1990000 | 1 | 0 |
| 10 5330000 | 2 | 0 |
| 10 2490000 | 1 | 0 |
| 10 2200000 | 1 | 0 |
| 10 8000000 | 1 | 0 |
| 10 5490000 | 1 | 0 |
| 10 4800000 | 1 | 0 |
| 10 1620000 | 2 | 0 |
| 10 2100000 | 5 | 0 |
| 10 3090000 | 1 | 0 |
| 10 1200000 | 1 | 0 |
| 10 2990000 | 1 | 0 |
| 10 270000 | 2 | 0 |
| 10 6740000 | 1 | 674000 |
| 10 4450000 | 1 | 445000 |

| C |
|---------------|
| Created At |
| 8 2023-10-10 |
| 7 2023-10-10 |
| 5 2023-10-10 |
| 9 2023-10-10 |
| 10 2023-10-10 |
| 0 2023-10-10 |
| 6 2023-10-10 |
| 0 2023-10-10 |

| C |
|------------|
| Created At |
| 10/10/2023 |
| 10/10/2023 |
| 10/10/2023 |
| 10/10/2023 |
| 10/10/2023 |
| 10/10/2023 |
| 10/10/2023 |
| 10/10/2023 |



Adjusting the data types of **Price and Discount** to format IDR and change format of **Date** (day/month/year).

IDENTIFY OUTLIERS BASED ON TOTAL REVENUE

| Before Outlier Removal | |
|---------------------------|-------------------|
| Q1 | 2280000 |
| Q3 | 6950000 |
| IQR | 4670000 |
| Q1-1.5*IQR | Lower Limit |
| | -4725000 |
| Q3+1.5*IQR | Upper Limit |
| | 13955000 |
| Range | 0 - 13955000 |
| | |
| Mean | 4,696,285 |
| Standard Deviation | 4100055 |
| Mean ± SD | 4696285 ± 4100055 |
| Range | 596230 - 8796340 |

When we look at the range of values using **Mean ± SD** approach, the **total revenue ranges from Rp 596.230 to Rp 8.796.340**. This method is quite simple but may result in too many potential outliers. To avoid this issue, we use the **Tuckey Method** instead. With this approach, the **range of Total Revenue is between 0 and Rp 13.955.000** (**Lower Limit** -Rp 4.725.000 = 0 and **Upper Limit** Rp 13.955.000, **Q1** Rp 2.280.000, **Q3** Rp 6.950.000 and **IQR** Rp 4.670.000).

ELIMINATE ALL OUTLIERS BASED ON TOTAL REVENUE

| | A | Total Revenue |
|------|---|---------------|
| 1 | | 16,590,000 |
| 4202 | | 21,000,000 |
| 4203 | | 48,090,000 |
| 4204 | | 50,190,000 |
| 4205 | | 64,000,000 |
| 4206 | | 65,100,000 |
| 4207 | | 69,800,000 |
| 4208 | | 69,900,000 |
| 4209 | | 74,250,000 |
| 4210 | | 74,250,000 |
| 4211 | | 78,400,000 |
| 4212 | | 83,556,000 |
| 4213 | | |

outliers

| After Outlier Removal | |
|---------------------------|-------------------|
| Q1 | 2280000 |
| Q3 | 6900000 |
| IQR | 4620000 |
| Lower Limit | -4650000 |
| Upper Limit | 13830000 |
| Range | 0 - 13830000 |
| | |
| Mean | 4,539,435 |
| Standard Deviation | 2643520 |
| Mean ± SD | 4539435 ± 2643520 |
| Range | 1895915 - 7182955 |

After removing outliers, it is evident that the **Mean ± SD** method shows vulnerability in the total revenue interval (**Range Rp 1.895.915 - Rp 7.182.955**). In contrast, the **Tuckey Method**, which is a statistical approach based on data order (quartiles), does not show significant changes in the **total revenue interval (Range 0 - Rp 13.830.000)**. Therefore, it can be concluded that the **Tuckey Method** is less sensitive to outliers compared to **Mean ± SD Method**.

STATISTICAL MEASUREMENTS *for Total Revenue*

| | | |
|----------|----------|---|
| Mean | 4696285 | |
| Median | 4230000 | If the mean is greater than the median, it means the data distribution has a positive skew or is right-skewed. This indicates that most of the data are concentrated on the left side (lower values), while there are a few extremely high values (a long right tail) that pull the mean upward. |
| Skewness | 9 | A skewness value of 9 indicates a highly skewed (and even non-normal) distribution to the right, meaning the data have a long tail on the right side and most of the data points are concentrated on the left. In general, skewness values between -1 and +1 are considered approximately symmetrical, while values greater than +1 or less than -1 are typically considered highly skewed. |
| Minimum | 45000 | The minimum value, which represents the smallest total revenue in the dataset, is Rp 45.000, while the highest value is Rp 83.556.000,- |
| Maksimum | 83556000 | |

| | |
|-----------------------|---------------|
| Total Revenue | |
| Mean | 4696285 |
| Standard Error | 63175 |
| Median | 4230000 |
| Mode | 7200000 |
| Standard Deviation | 4100055 |
| Sample Variance | 1681045309440 |
| Kurtosis | 153 |
| Skewness | 9 |
| Range | 83511000 |
| Minimum | 45000 |
| Maximum | 83556000 |
| Sum | 19780753700 |
| Count | 4212 |
| Largest(1) | 83556000 |
| Smallest(1) | 45000 |
| Confidence Level(95%) | 123856 |

STATISTICAL MEASUREMENTS *for Quantity*

| | | |
|----------|----|---|
| Mean | 1 | If the mean and median of a dataset are the same, it means the data distribution is symmetric and does not have any significant outliers (extreme values). This indicates that the data are evenly distributed around the central value, with approximately the same number of observations below and above the middle value. |
| Median | 1 | |
| Skewness | 15 | A skewness value of 15 means that the data distribution has a very high or extreme positive skewness (right-skewed), indicating that the data are heavily concentrated on the left side with a long tail extending to the right. |
| Minimum | 1 | The minimum value, which represents the smallest quantity in the dataset, is 1, while the highest value is 31. |
| Maksimum | 31 | |

| QTY | |
|-----------------------|------|
| Mean | 1 |
| Standard Error | 0 |
| Median | 1 |
| Mode | 1 |
| Standard Deviation | 1 |
| Sample Variance | 2 |
| Kurtosis | 300 |
| Skewness | 15 |
| Range | 30 |
| Minimum | 1 |
| Maximum | 31 |
| Sum | 5430 |
| Count | 4212 |
| Largest(1) | 31 |
| Smallest(1) | 1 |
| Confidence Level(95%) | 0 |

STATISTICAL MEASUREMENTS *for Discount*

| | | |
|----------|--------|--|
| Mean | 83327 | A condition where the mean is 83,327 and the median is 0 indicates an extreme imbalance or a highly skewed data distribution. |
| Median | 0 | |
| Skewness | 2 | A skewness value of 2 means that the data distribution is moderately right-skewed (positive skew), as it has a longer tail on the right side of the higher values. This indicates that most of the data are concentrated at lower values, but there are some extremely high values that pull the mean to the right, making it greater than the median. |
| Minimum | 0 | The minimum value, which represents the smallest discount in the dataset, is 0, while the highest value of discount is Rp 900.000,- |
| Maksimum | 900000 | |

| <i>Discount</i> | |
|-----------------------|-------------|
| Mean | 83327 |
| Standard Error | 2922 |
| Median | 0 |
| Mode | 0 |
| Standard Deviation | 189624 |
| Sample Variance | 35957160368 |
| Kurtosis | 5 |
| Skewness | 2 |
| Range | 900000 |
| Minimum | 0 |
| Maximum | 900000 |
| Sum | 350971300 |
| Count | 4212 |
| Largest(1) | 900000 |
| Smallest(1) | 0 |
| Confidence Level(95%) | 5728 |

BUSINESS KEY INSIGHT from Total Revenue

- From **Mean (4696285)**, we can see the average revenue per transaction is relatively high, indicating stable sales performance.
- From **Median and Skewness (4230000, 9)** we can see that the distribution is positively skewed, meaning most transactions are concentrated at lower revenue values.
- From **Standard Deviation and Range (4100055, 83511000)** indicated the dataset shows a wide spread, with large variation between transaction.
- From **Minimum and Maximum (45000, 83556000)** we can see large gap values indicated potential outliers.

BUSINESS KEY INSIGHT from Quantity

- From **Mean (1)**, we can see the average quantity sold per transaction, is only 1 item, which indicates that most customers purchase single unit order.
- From **Median and Skewness (1, 15)**, indicates a very high skewness, that a few transactions have significantly higher quantities, creating a long right tail in the distribution.
- From **Standard Deviation and Range (1, 30)**, we can see although most transactions have low quantities, there is a wide range , showing occasional bulk orders from wholesale buyer or special promotions.

BUSINESS KEY INSIGHT from Discount

- From **Mean (83327)**, the average discount given per transaction is Rp 83.327, suggesting that discounts are commonly applied and the company likely using discounts strategically to stimulate sales.
- From **Skewness (2)** shows that a small portion of transactions received significantly higher discount.
- From **Range and Standard Deviation (900000, 189624)** that very large, indicate high variability in discount values.

Milestone 2

EXPLORATORY DATA ANALYSIS (EDA)

Differences Variable Among The Three Campaign Period

| Campaign | COUNTA of Product ID | COUNTUNIQUE of Customer ID | SUM of QTY | SUM of Discount | SUM of Total Revenue |
|----------------|----------------------|----------------------------|------------|-----------------|----------------------|
| Campaign 10/10 | 1411 | 896 | 1,882 | 116149500 | 6,872,795,500 |
| Campaign 11/11 | 1400 | 880 | 1,705 | 125353000 | 6,824,327,000 |
| Campaign 12/12 | 1401 | 856 | 1,843 | 109536800 | 6,083,631,200 |

Revenue Performance

Campaign 10/10 generated the highest revenue Rp 6.87 billion, even though its discount was lower than Campaign 11/11. Campaign 12/12 had the lowest revenue Rp 6.08 billion, despite having a relatively high quantity sold. A larger discount does not necessarily lead to higher revenue. Campaign 11/11 offered the biggest discount, yet it still fell short of Campaign 10/10 in terms of total revenue.

Discount Performance

Campaign 12/12 was the most efficient, it offered the smallest discount (Rp109 million) while maintaining comparable quantity and product sales to the other campaigns. Campaign 11/11 was the least efficient, it gave the highest discount (Rp125 million), yet its quantity and revenue were lower than Campaign 10/10. The discount strategy in Campaign 12/12 was more cost-effective while remaining competitive in sales volume.



Customer Performance

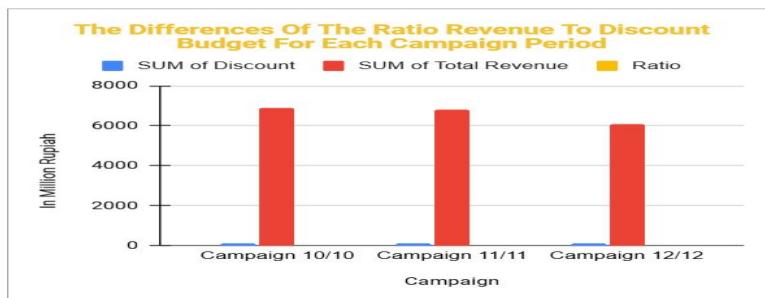
There was a decline in the number of customers from 896 → 880 → 856. Despite the decrease in customer count, the total quantity remained high in Campaign 12/12. Customers in Campaign 12/12 tended to purchase more items per person, indicating higher individual buying behavior.

Product Performance

The number of products sold remained relatively stable across all three campaigns (around 1,400 units). Campaign 10/10 slightly outperformed the others in both product count and total revenue. Campaign 10/10 may have featured more attractive product offerings or a more effective promotional strategy.

The Differences Of The Ratio Revenue To Discount Budget For Each Campaign Period

| Campaign | SUM of Discount | SUM of Total Revenue | Ratio |
|----------------|-----------------|----------------------|-------|
| Campaign 10/10 | 116149500 | 6,872,795,500 | 59.17 |
| Campaign 11/11 | 125353000 | 6,824,327,000 | 54.44 |
| Campaign 12/12 | 109536800 | 6,083,631,200 | 55.54 |



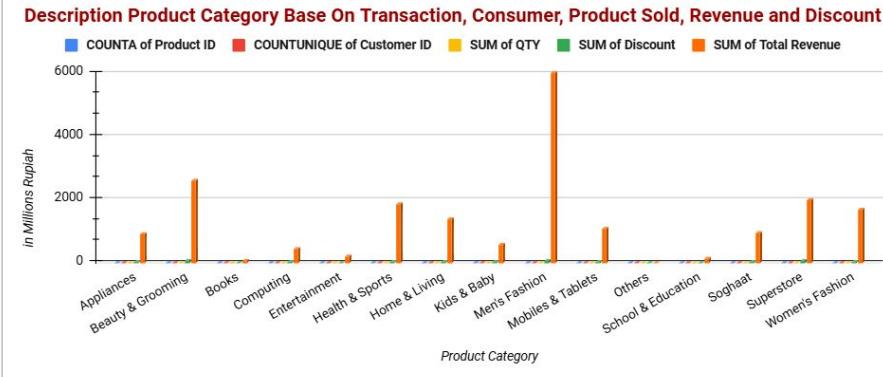
Campaign Efficiency

Campaign 10/10 was the most efficient, it had the highest ratio (59.17), indicating that each rupiah of discount generated more revenue compared to the other campaigns. Campaign 11/11 was the least efficient, it had the lowest ratio (54.44), despite offering the largest discount. Offering a larger discount does not guarantee efficiency. Campaign 10/10 successfully maximized revenue with a more controlled discount strategy.

The smallest discount (Rp109 million) was offered in Campaign 12/12, yet its efficiency ratio was better than Campaign 11/11. This indicates that Campaign 12/12 discount strategy was more cost-effective while still generating competitive revenue.

Description Product Category Base On Transaction, Consumer, Product Sold, Revenue and Discount

| Category Name | COUNTA of Product ID | COUNTUNIQUE of Customer ID | SUM of QTY | SUM of Discount | SUM of Total Revenue |
|--------------------|----------------------|----------------------------|------------|-----------------|----------------------|
| Appliances | 138 | 129 | 159 | 33524000 | 912,796,000 |
| Beauty & Grooming | 536 | 372 | 779 | 53874500 | 2,582,981,500 |
| Books | 11 | 9 | 11 | 658000 | 45,322,000 |
| Computing | 77 | 72 | 85 | 7769000 | 418,391,000 |
| Entertainment | 24 | 24 | 34 | 1764000 | 200,976,000 |
| Health & Sports | 508 | 187 | 734 | 32985000 | 1,853,285,000 |
| Home & Living | 334 | 271 | 370 | 24269000 | 1,376,458,000 |
| Kids & Baby | 174 | 132 | 184 | 15693000 | 574,457,000 |
| Men's Fashion | 1031 | 842 | 1,095 | 41097000 | 5,999,843,000 |
| Mobiles & Tablets | 272 | 236 | 303 | 20285000 | 1,073,325,000 |
| Others | 1 | 1 | 2 | 0 | 5,000,000 |
| School & Education | 42 | 34 | 47 | 2386000 | 138,826,000 |
| Soghaat | 273 | 169 | 356 | 19864800 | 921,203,200 |
| Superstore | 497 | 242 | 966 | 59991000 | 1,984,339,000 |
| Women's Fashion | 294 | 237 | 305 | 36879000 | 1,693,571,000 |



Top Revenue Categories

- Men's Fashion leads with the highest revenue Rp 5.99 billion, supported by the highest product count (1.031) and customer base (842).
- Beauty & Grooming and Superstore follow with Rp 2.58 billion and Rp 1.98 billion respectively.

High Efficiency Segments

- Health & Sports and Home & Living show strong revenue (Rp 1.85 billion and Rp 1.37 billion) with moderate product and customer counts.
- Mobiles & Tablets also perform well (Rp 1.07 billion) with relatively low quantity sold (303), suggesting high-value items.

Low Revenue Categories

- Books, Entertainment, School & Education, and Others contribute minimal revenue (under Rp 200 million).
- They also have low product counts and customer engagement.

Discount Allocation

- Superstore and Beauty & Grooming received the highest total discounts (Rp 59.99 million and Rp 53.87 million), aligning with their high sales volume.
- Men's Fashion, despite leading in revenue, had a moderate discount (Rp 41.09 million).

The Highest Ratio of Revenue to Discount Budget from Product Category in Each Campaign Period

| Campaign | Category Name | SUM of Discount | SUM of Total Revenue | Ratio |
|----------------|--------------------|-----------------|----------------------|--------|
| Campaign 10/10 | Appliances | 10273000 | 305,087,000 | 32.70 |
| | Beauty & Grooming | 29175600 | 1,488,000,000 | 51.01 |
| | Books | 0 | 5,970,000 | |
| | Computing | 2003000 | 180,467,000 | 100.10 |
| | Entertainment | 810000 | 6,000,000 | 135.00 |
| | Health & Sports | 9390000 | 426,104,000 | 45.29 |
| | Home & Living | 7433000 | 491,197,000 | 66.08 |
| | Kids & Baby | 270000 | 3,000,000 | 89.33 |
| | Men's Fashion | 10532000 | 1,374,028,000 | 130.46 |
| | Mobiles & Tablets | 6543000 | 474,477,000 | 72.62 |
| | Others | 0 | 1,000,000 | |
| | School & Education | 390000 | 100,441,000 | 384.89 |
| Campaign 11/11 | Appliances | 6471000 | 406,000,000 | 21.00 |
| | Beauty & Grooming | 15177000 | 301,613,000 | 19.92 |
| | Books | 9361000 | 394,639,000 | 42.37 |
| | Computing | 1410000 | 18,000,000 | 77.77 |
| | Entertainment | 2690000 | 72,970,000 | 27.13 |
| | Health & Sports | 10834000 | 23,180,000 | 47.67 |
| | Home & Living | 10396000 | 374,184,000 | 35.99 |
| | Kids & Baby | 9365000 | 182,055,000 | 101.92 |
| | Men's Fashion | 1000000 | 3,000,000 | 333.33 |
| | Mobiles & Tablets | 7491000 | 210,479,000 | 29.44 |
| | Others | 0 | 200,000,000 | |
| | School & Education | 15336000 | 697,973,000 | 45.51 |
| Campaign 12/12 | Books | 2340000 | 25,246,000 | 107.89 |
| | Computing | 3030000 | 40,000,000 | 75.75 |
| | Entertainment | 8650000 | 88,885,000 | 93.51 |
| | Health & Sports | 1220000 | 1,000,000 | 122.00 |
| | Home & Living | 5440000 | 511,077,000 | 79.36 |
| | Kids & Baby | 36220000 | 177,308,000 | 49.95 |
| | Men's Fashion | 1000000 | 3,000,000 | 333.33 |
| | Mobiles & Tablets | 6251000 | 388,369,000 | 62.13 |
| | School & Education | 1883000 | 48,159,000 | 25.18 |
| | Superstore | 711000 | 200,000,000 | 28.57 |
| | Women's Fashion | 19193000 | 614,707,000 | 20.82 |
| | Others | 13734000 | 717,576,000 | 62.02 |

Notes :

- There are several ratio values that "undefined or cannot be determined as a valid numerical value" for the campaign 10.10 in the book and others product categories, as well as for campaign 11.11 in the entertainment product category.
- This is because the total discount value is zero. In the business context, this occurs when the company does not provide any discounts at all during the analyzed period.

Campaign 10/10 : Product Category School & Education

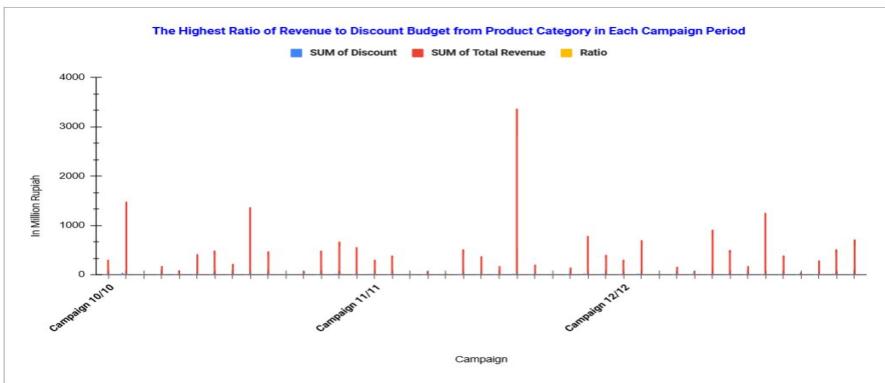
This category delivered exceptional efficiency, generating Rp 80.4 million in revenue from just Rp 209,000 in discount (ratio 384.89). A standout performer despite its niche size.

Campaign 11/11 : Product Category Men's Fashion

Men's Fashion dominated both in volume and efficiency (Revenue Rp 3.374.994.000,- , Discount Rp 19.616.000,- and Ratio 172.05), making it the top performing category in this campaign.

Campaign 12/12 : Product Category Books

Despite its niche size, the Books category has revenue Rp 25.246.000,- and discount Rp 234.000,- (ratio 107.89). This is delivered the highest return per rupiah spent on discount in Campaign 12/12.



INSIGHTS AND ACTIONABLE BUSINESS RECOMMENDATION

Overall Insights from Campaign Performance

1. Revenue versus Discount Efficiency

- Campaign 10/10 had the highest overall revenue and the best discount-to-revenue efficiency.
- Campaign 11/11 offered the largest total discount but did not outperform Campaign 10/10 in revenue, indicating diminishing returns.
- Campaign 12/12 was the most cost-efficient in terms of discount allocation, with several categories showing strong ROI despite lower budgets.

2. Top Performing Categories

- School & Education (Campaign 10/10) is the highest ratio (384.89), exceptional efficiency from minimal discount.
- Men's Fashion (Campaign 11/11) is a dominated in both volume and efficiency (ratio 172.05), a consistent revenue driver.
- Books (Campaign 12/12) is the highest efficiency (ratio 107.89) despite low total revenue, showing strong ROI per rupiah spent.

3. Category Level Trends

- Men's Fashion, Beauty & Grooming, and Superstore consistently generated high revenue across campaigns.
- Computing and Entertainment showed strong efficiency in Campaign 12/12, suggesting high-value transactions with low promotional cost.
- Low-performing categories like Others, Books (in some campaigns), and School & Education (except 10/10) had limited reach but occasional spikes in efficiency.

4. Customer Behavior

- Unique customer counts declined slightly across campaigns, but quantity sold remained stable or increased that indicating higher purchase volume per customer in later campaigns.

ACTIONABLE BUSINESS RECOMMENDATIONS

1. Optimize Discount Strategy

- Avoid blanket high discounts like in Campaign 11/11, instead, apply targeted promotions to categories with proven ROI (e.g., Men's Fashion, Computing).
- Use ratio analysis to guide future budget allocation, prioritize categories with high revenue to discount ratio.

2. Segment and Prioritize Categories

- Focus investment on high-efficiency categories like Men's Fashion, Computing, Books (for niche campaigns), and School & Education (for targeted outreach).
- Reassess low-performing segments, consider phasing out or repositioning categories like Others or Entertainment (in Campaign 11/11).

3. Campaign Design Strategy

- Use Campaign 10/10 as a benchmark for balancing discount and revenue.
- For future campaigns, test smaller discount allocations in high efficiency categories to validate ROI before scaling.

4. Customer Targeting

- Leverage insights from Campaign 12/12, fewer customers bought more suggesting potential for loyalty programs or bundle offers.
- Segment customers by category engagement to personalize offers and improve conversion.

STATISTICAL HYPOTHESIS TESTING

Objective

To determine whether the new product page design leads to a higher average order value compared to the current product page.

Formula Hypotheses

Null Hypothesis (H_0) : The average order value of the new page is equal to that of the current page. ($H_0 = H_1$)

Alternatif Hypotesis (H_1) : The average order value of the new page is greater than the current page. ($H_0 > H_1$)

New Page > Current Page

H_0 : Order New Page = Order Current Page

H_1 : Order New Page > Order Current Page

Alpha : 5% or 0.05

t-Test: Two-Sample Assuming Equal Variances

| | Current Page | New Page |
|------------------------------|--------------|-------------|
| Mean | 746102.61 | 830460.16 |
| Variance | 22436486774 | 33088798170 |
| Observations | 498 | 502 |
| Pooled Variance | 27783989789 | |
| Hypothesized Mean Difference | 0 | |
| df | 998 | |
| t Stat | -8.001901057 | |
| P(T<=t) one-tail | 0 | |
| t Critical one-tail | 1.646381816 | |
| P(T<=t) two-tail | 0 | |
| t Critical two-tail | 1.962343802 | |

Statistical Interpretation

1. The t-test = -8.00, which is far below the critical value of 1.646.
2. The p-value = 0.000, indicating strong statistical significance.
3. Since the p-value is less than 0.05, we reject the null hypothesis.

Conclusion

1. The test provides strong evidence that the new product page design significantly increases average order value.
2. The uplift is approximately Rp 84,000 per transaction, or 11.3% improvement, tell us that the new page increased average order value by 11.3% compared to current page.

Absolute Uplift

Mean of New Page - Mean of Current Page

$$830460.16 - 746102.61 = 84357.55 \text{ (We round it to Rp 84,000 for simplicity).}$$

Percentage Uplift

$$(84357.55/746102.61) \times 100\% = 11.3\%$$

Business Recommendation by using OBIPR Framework

| Observation | Business Impact | Isolation | Prioritization | Recommendation |
|---|--|--|--|---|
| Evaluate whether the new product detail page design should be rolled out to all users, based on its impact on average order value (AOV) and overall business performance. | Launched a redesigned product detail page. To validate its effectiveness, a two-week A/B test was conducted. The test was designed to determine whether the new design leads to a statistically significant increase in user spending. | The statistical analysis revealed the following of t-Test : <ul style="list-style-type: none">• Mean Order Value Current Page vs New Page• Variance Current Page vs New Page• t-Statistic• p-value (one-tailed)• Critical t-value ($\alpha = 0.05$) | High Effort and High Impact By roll out the new product page design to all users, supported by a structured implementation and monitoring plan. | <ul style="list-style-type: none">• The A/B test results provide clear, statistically significant evidence that the new design improves user spending behavior. The uplift in AOV aligns with TokoBli's strategic goals to increase revenue and enhance user experience.• Rolling out the new design, combined with ongoing optimization and performance tracking, will position TokoBli for stronger conversion rates and long-term growth. |