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Revenue Leakage: Low-Revenue, High-Volume Products

```
1 WITH product_metrics AS (
2     SELECT
3         store,
4         product_name,
5         SUM(quantity) AS units_sold,
6         ROUND(SUM(price * quantity), 2) AS revenue
7     FROM all_sales_big_table
8     GROUP BY store, product_name
9 ),
0 store_avg AS (
1     SELECT
2         store,
3         AVG(revenue) AS avg_revenue
13     AVG(revenue) AS avg_revenue
14     FROM product_metrics
15     GROUP BY store
16 ),
17 ranked_products AS (
18     SELECT
19         p.store,
20         p.product_name,
21         p.units_sold,
22         p.revenue,
23         ROW_NUMBER() OVER (
24             PARTITION BY p.store
24             PARTITION BY p.store
25             ORDER BY p.units_sold DESC
26         ) AS rn
27     FROM product_metrics p
28     JOIN store_avg s
29     ON p.store = s.store
30     WHERE p.units_sold > 100
31     AND p.revenue < s.avg_revenue
32 )
33 SELECT
34     store,
35     product_name,
36     units_sold,
37     revenue
38 FROM ranked_products
39 WHERE rn <= 3
40 ORDER BY store, units_sold DESC;
41
```

store	payment_method	transactions	revenue
Japan	Credit Card	340	74653.56
Japan	Ewallet	332	79612.09
Japan	Cash	328	76419.68
Myanmar	Credit Card	340	71681.71
Myanmar	Ewallet	332	76461.37
Myanmar	Cash	328	72983.61

The results clearly show revenue leakage driven by products with high unit sales but relatively low total revenue in both Japan and Myanmar. In Japan, the Eco Canvas Tote Bag sold 149 units but generated only \$2,968.08, resulting in an average revenue of roughly \$19.92 per unit. Similarly, Hokkaido Dark Chocolate sold 131 units but produced just \$1,363.71, or approximately \$10.41 per unit, while Wool Comfort Socks sold 128 units for \$1,953.28, averaging \$15.26 per unit. Despite strong demand, these products contribute modest revenue compared to their sales volume.

A nearly identical pattern appears in Myanmar. The Canvas Tote Bag sold 149 units yet generated only \$2,793.75, averaging about \$18.75 per unit. Dark Chocolate Box recorded 131 units sold but produced just \$1,277.25, or roughly \$9.75 per unit, while Wool Socks sold 128 units with revenue of \$1,779.20, averaging \$13.90 per unit. These figures confirm that high sales volume does not equate to strong revenue contribution.

Across both countries, these products consistently exceed 100 units sold but remain below average product revenue (the average is around 3,300), indicating that a large portion of total sales activity is tied to low-priced, low-margin items. This creates a measurable revenue gap where operational effort and inventory turnover are high, yet financial returns are limited. Even a modest 5–10% price increase on these high-volume items could translate into hundreds of dollars in incremental revenue per product, significantly reducing leakage without sacrificing demand.

Peak Sales Time Analysis (Hour × Store)

```

1 SELECT
2   store,
3   hour,
4   transactions,
5   units_sold,
6   revenue
7 FROM (
8   SELECT
9     store,
10    SUBSTR(time, 1, 2) AS hour,
11    COUNT(DISTINCT invoice_id) AS transactions,
12    SUM(quantity) AS units_sold,
13    ROUND(SUM(price * quantity). 2) AS revenue.

```

```

11     COUNT(DISTINCT invoice_id) AS transactions,
12     SUM(quantity) AS units_sold,
13     ROUND(SUM(price * quantity), 2) AS revenue,
14     ROW_NUMBER() OVER (
15         PARTITION BY store
16         ORDER BY SUM(price * quantity) DESC
17     ) AS rn
18     FROM all_sales_big_table
19     GROUP BY store, hour
20 )
21 WHERE rn <= 3
22 ORDER BY store, revenue DESC;

```

store	hour	transactions	units_sold	revenue
Japan	12	89	501	25018.65
Japan	19	113	649	23915.88
Japan	18	93	475	22829.81
Myanmar	12	89	501	23926.45
Myanmar	19	113	649	23086.12
Myanmar	18	93	475	22069.52

The data shows that peak sales activity is concentrated in the late afternoon to evening hours (12:00, 18:00, and 19:00) for both Japan and Myanmar, with very similar transaction patterns. In Japan, the highest revenue hour is 12:00, generating \$25,018.65 from 89 transactions and 501 units sold, indicating strong lunchtime purchasing with a relatively high average basket size. This is followed by 19:00, which records the highest transaction count (113) and 649 units sold, but slightly lower revenue at \$23,915.88, suggesting more frequent but lower-value purchases. The 18:00 slot contributes \$22,829.81 from 93 transactions, making it the third strongest hour.

A similar trend appears in Myanmar, where 12:00 again leads in revenue with \$23,926.45 from 89 transactions and 501 units sold, confirming lunchtime as the most valuable sales window. At 19:00, Myanmar records 113 transactions and 649 units sold, producing \$23,086.12, slightly below Japan's revenue at the same hour. The 18:00 hour generates the lowest among the top three, with \$22,069.52 from 93 transactions, reinforcing that early evening sales are consistent but lower in value compared to midday.

Overall, while 19:00 consistently delivers the highest volume of transactions and units sold, 12:00 produces the highest revenue in both countries, indicating stronger pricing power or higher-value product mixes during lunchtime. This suggests that promotional strategies aimed at increasing average transaction value in the evening, or driving more traffic during midday, could significantly improve total revenue performance in both markets.

Customer Type Revenue Contribution

```

1 SELECT
2     store,
3     customer_type,
4     ROUND(SUM(price * quantity), 2) AS revenue,
5     COUNT(DISTINCT customer_id) AS customers
6 FROM all_sales_big_table
7 GROUP BY store, customer_type
8 ORDER BY store, revenue DESC;
9

```

store	customer_type	revenue	customers
Japan	Member	141688.74	12
Japan	Normal	88996.59	8
Myanmar	Member	135961.4	12
Myanmar	Normal	85165.29	8

The results show a clear revenue dominance by Member customers in both Japan and Myanmar, despite having the same number of customers as their Normal counterparts. In Japan, Members generate \$141,688.74 from 12 customers, averaging approximately \$11,807 per customer, while Normal customers generate \$88,996.59 from 8 customers, or about \$11,125 per customer. This indicates that Members not only contribute higher total revenue but also slightly outperform Normals on a per-customer basis.

A similar pattern is observed in Myanmar, where Members contribute \$135,961.40 from 12 customers, averaging \$11,330 per customer, compared to Normal customers who generate \$85,165.29 from 8 customers, or roughly \$10,646 per customer. Across both countries, Members account for approximately 61–62% of total revenue, demonstrating the strong financial impact of the membership program.

Overall, the data highlights that membership customers are the primary revenue drivers in both markets. This suggests that expanding membership enrollment, improving member retention, and offering member-exclusive incentives could significantly increase total revenue more effectively than focusing solely on acquiring new non-member customers.

Product Category Customer Satisfaction

```
1 SELECT
2     store,
3     category,
4     ROUND(AVG(rating), 2) AS avg_rating,
5     COUNT(*) AS reviews
6 FROM all_sales_big_table
7 GROUP BY store, category
8 HAVING COUNT(*) >= 11
9 ORDER BY store, avg_rating DESC;
```

store	category	avg_rating	reviews
Japan	Fashion Accessories	7.04	210
Japan	Electronic Accessories	7.04	209
Japan	Food And Beverages	6.96	131
Japan	Health And Beauty	6.94	137
Japan	Sports And Travel	6.92	178
Japan	Home And Lifestyle	6.88	135
Myanmar	Fashion Accessories	7.04	210
Myanmar	Electronic Accessories	7.04	209
Myanmar	Food And Beverages	6.96	131
Myanmar	Health And Beauty	6.94	137
Myanmar	Sports And Travel	6.92	178

The results indicate highly consistent customer satisfaction patterns across Japan and Myanmar, with minimal variation in average ratings by product category. In both countries, Fashion Accessories and Electronic Accessories achieve the highest average rating of 7.04, supported by the largest number of reviews (210 and 209 reviews respectively). This suggests these categories not only perform well in perceived quality but also generate strong customer engagement and feedback volume.

Mid-tier performance is observed in Food and Beverages, which records an average rating of 6.96 with 131 reviews, followed closely by Health and Beauty at 6.94 from 137 reviews. These categories maintain solid satisfaction levels but slightly trail the top performers, indicating opportunities for product or service enhancements to push ratings above the 7.0 threshold.

The lowest-rated categories in both markets are Sports and Travel (6.92 with 178 reviews) and Home and Lifestyle (6.88 with 135 reviews). While the ratings remain relatively strong overall, the combination of lower scores and substantial review counts suggests recurring customer pain points rather than isolated issues. Overall, the mirrored results across Japan and Myanmar imply standardized product quality and customer experience, making improvements in lower-rated categories scalable and likely to yield cross-market satisfaction gains.

Payment Method Performance

```

SELECT
    store,
    payment_method,
    COUNT(DISTINCT invoice_id) AS transactions,
    ROUND(SUM(price * quantity), 2) AS revenue
FROM all_sales_big_table
GROUP BY store, payment_method
ORDER BY store, transactions DESC;

```

TRANSACTION

store	payment_method	transactions	revenue
Japan	Credit Card	340	74653.56
Japan	Ewallet	332	79612.09
Japan	Cash	328	76419.68
Myanmar	Credit Card	340	71681.71
Myanmar	Ewallet	332	76461.37
Myanmar	Cash	328	72983.61

The data shows that digital payment methods consistently generate higher revenue than cash in both Japan and Myanmar, despite similar transaction volumes across payment types. In Japan, E-wallets produce the highest revenue at \$79,612.09 from 332 transactions, outperforming Credit Cards, which generate \$74,653.56 from 340 transactions, and Cash, which records \$76,419.68 from 328 transactions. This indicates that E-wallet users tend to make slightly higher-value purchases per transaction compared to other payment methods.

A similar pattern is observed in Myanmar, where E-wallets again lead with \$76,461.37 from 332 transactions, followed by Cash at \$72,983.61 from 328 transactions, and Credit Cards at \$71,681.71 from 340 transactions. Although Credit Cards have the highest number of transactions in both countries, they

generate the lowest revenue, suggesting smaller average basket sizes compared to E-wallet and cash payments.

Overall, the analysis highlights that E-wallet payments deliver the strongest revenue efficiency across both markets, making them a key driver of sales value rather than volume. Encouraging E-wallet adoption through incentives or exclusive discounts could increase average transaction value, while optimizing Credit Card usage may help close the revenue gap despite high customer adoption.