澳門大學
UNIVERSIDADE DE MACAU
UNIVERSITY OF MACAU

Faculty of Business Administration

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Group Project Report

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Theme - Meituan Youxuan's E-commerce Business Analysis of Fresh Egg Category

Group member

(1) Chinese Name: 陳慧藍 English Name: Huilan Chen Student ID: MC439936

(2) Chinese Name: 談霈琳 English Name: Peilin Tan Student ID: MC439755

(3) Chinese Name: 周忻如 English Name: Xinru Zhou Student ID: MC439963

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Meituan Youxuan's E-commerce Business Analysis of Fresh Egg Category

I. Introduction

1. Business Problem

In the context of the rapid development of the community e-commerce industry, Meituan Youxuan, as a retail platform with the core model of "order today + pick up the next day", the operational efficiency of its fresh products directly affects user stickiness and platform competitiveness. Take the high frequency rigid demand product "egg" as an example, this category has multi-dimensional operational challenges: On the one hand, consumer demand shows significant differentiation characteristics, not only concerned about quality (such as raw food standards, selenium-rich nutrition), specification adaptation (small and large families' stock needs), but also the price sensitivity is clearly stratified; On the other hand, platforms need to balance category richness with supply chain efficiency within limited SKU capacity to avoid long-tail goods squeezing inventory turnover.

This study aims to build a correlation model of "user demand-commodity attribute-business value" through systematic data analysis, and solve three core problems: how to accurately identify user preferences to optimize the category structure? How to develop a differentiated pricing strategy to improve gross margin? How to reduce operating costs through demand forecasting and inventory management? The analysis will focus on commodity market performance (such as origin influence, specification profitability), user purchasing behavior (such as high-frequency commodity preferences, identity characteristics and purchase diversity) and brand strategy, and finally form a landing selection and operation strategy.

The significance of this study is as follows: Theoretically, to establish a data-driven decision-making

framework for community e-commerce fresh products, breaking through the traditional experience-oriented selection limitations; In practice, it helps Meituan optimize the SKU structure, increase the gross margin and control the supply chain cost while ensuring the user experience, and provides a methodology reference for the fresh operation of similar platforms.

2.Dataset Description

The dataset utilized in this study is sourced from real business operations of Meituan Youxuan (Community E-commerce Platform), containing anonymized user behavior and product information (stored in 【03+美团 Q 业务选题-美团优选目标用户决策树分析-数据表(脱敏)】). The dataset encompasses the following three core tables:

表 1_鲜鸡蛋商品经营信息表

This table records the core attributes of products, including key fields such as:

商品 ID (SKU unique identifier)、商品名(e.g., "Free-Range Eggs 30-Pack")

品牌名 (brand identifier)、商品特色(differentiated labels like "Raw Consumption" or "Selenium-Enriched")

规格参数：Quantity per pack, total weight per pack, egg size (measured by individual egg weight)

供应链信息：Origin, shelf life, sales region, and date

表 2_鲜鸡蛋用户基础信息表（随机抽样）

Describes user characteristics, with core fields including:

用户 ID (unique identifier)、用户画像(tags such as "Household Mother" or "Restaurant Buyer")

Data is randomly sampled to cover diverse user identities and regions.

表 3_鲜鸡蛋用户购买商品明细表（随机抽样）

Records user purchase behavior, with key fields including:

`Transaction Information`: Purchase date, region, product ID, and product name

`Consumption Data`: Purchasing user ID, sales amount, and quantity sold (used to analyze purchase frequency and average order value)

II. Key SQL queries & explanation

1. Query the most purchased product ID and product name

```
SELECT orders.商品名, orders.商品 ID, SUM(销售件数) AS 总销量
FROM orders
GROUP BY orders.商品名, orders.商品 ID
ORDER BY 总销量 DESC
LIMIT 1;
```

Select the '商品名' and '商品 ID' columns from the 'orders' table and calculate the total sales volume for each product. Use the 'GROUP BY' clause to group the results by '商品名' and '商品 ID', which means records with the same '商品名' and '商品 ID' are aggregated together. Order the results by the '总销量' column in descending order to find the product with the highest sales volume.

2. Query the average purchase frequency and user identity of each user

```
SELECT o.购买用户 ID,COUNT(DISTINCT o.日期) AS 总购买天数,COUNT(DISTINCT o.日期)/7 AS 购买频率
FROM orders o
WHERE o.购买用户 ID IS NOT NULL AND o.购买用户 ID > 0
GROUP BY o.购买用户 ID
ORDER BY 购买频率 DESC;
```

Select the '购买用户 ID' column from the 'orders' table, calculate the total number of distinct purchase dates for each user using COUNT(DISTINCT o.日期), and calculate the purchase frequency for each user by dividing the total number of distinct purchase dates by 7. Use the WHERE clause to filter out records where the '购买用户 ID' is NULL or less than or equal to 0, ensuring only valid purchase user IDs are considered. Use the GROUP BY clause to group the results by '购买用户 ID', and order the results by the purchase frequency column in descending order.

3. Check the number of eggs sold/servings from different origin

```
SELECT bi.产地,COUNT(o.销售件数) AS 总销售件数
FROM business_infor bi
JOIN orders o ON bi.商品 ID = o.商品 ID
GROUP BY bi.产地
ORDER BY 总销售件数 DESC;
```

Select the '产地' column from the 'business_infor' table and the '销售件数' column from the 'orders' table, and calculate the total sales volume for each origin. Use the JOIN clause to connect the 'business_infor' table and the 'orders' table based on the '商品 ID' being equal. Use the GROUP BY clause to group the results by the '产地' column in the 'business_infor' to calculate the total sales volume for each origin. Order the results by the '总销售件数'column in descending order.

4. Query the number of sales per specification, total sales

```
SELECT bi.码号,COUNT(o.销售件数) AS 总销售数量,ROUND(SUM(o.销售额),2) AS 总销售额
FROM business_infor bi
JOIN orders o ON bi.商品 ID = o.商品 ID
GROUP BY bi.码号;
```

Select the '码号' column from the 'business_infor' table and the '销售件数 column from the 'orders' table, and calculate the total sales amount for each code number. Use the JOIN clause to connect the 'business_infor' table with the 'orders' table based on the '商品 ID' being equal. Use the GROUP BY clause to group the results by the '码号' column in the 'business_infor' to calculate the total sales amount for each code number.

5. Check the total number of purchases for each product feature

```
SELECT bi.商品特色,COUNT(o.销售件数) AS 总销售数量,ROUND(SUM(o.销售额),2) AS 总销售额
FROM business_infor bi
JOIN orders o ON bi.商品 ID = o.商品 ID
GROUP BY bi.商品特色
ORDER BY 总销售数量 DESC;
```

Select the '商品特色' column from the 'business_infor' table and calculate the total sales quantity and total sales amount for each product feature. Use the JOIN clause to connect the 'business_infor'

table with the 'orders' table based on the '商品 ID' being equal. Use the GROUP BY clause to group the results by the '商品特色' column in the 'business_infor' to calculate the total sales quantity and total sales for each product feature. Order the results by the '总销售数量' column in descending order.

6. Check the number of items purchased by each user

```
SELECT o.购买用户 ID,COUNT(DISTINCT bi.商品特色) AS  商品特色种类数
FROM orders o
JOIN business_infor bi ON o.商品 ID = bi.商品 ID
WHERE o.购买用户 ID IS NOT NULL AND o.购买用户 ID > 0
GROUP BY o.购买用户 ID
ORDER BY  商品特色种类数  DESC;
```

Select the '购买用户 ID' column from the 'orders' table, calculate the number of distinct product features purchased by each user. Use the JOIN clause to connect the 'business_infor' table with the 'orders' table based on the '商品 ID' being equal. Use the WHERE clause to filter out records where the '购买用户 ID' is NULL or less than or equal to 0, ensuring only valid purchase user IDs are considered. Use the GROUP BY clause to group the results by the '购买用户 ID' column in the 'orders' to calculate the number of distinct product features purchased by each user. Order the results by the '商品特色数' column in descending order.

7. Look at the demographic distribution of consumers

```
SELECT ci.用户画像,COUNT(DISTINCT ci.用户 ID) AS  用户数量
FROM customer_infor ci
WHERE ci.用户 ID IS NOT NULL AND ci.用户 ID>0
GROUP BY ci.用户画像
ORDER BY  用户数量  DESC;
```

Select the '用户画像' column from the 'customer_infor' table, calculate the count of users for each user profile. Use the WHERE clause to filter out records where the '用户 ID' is NULL or less than or equal to 0, ensuring that only valid user IDs are considered. Use the GROUP BY clause to group the results by the '用户画像' column in the 'customer_infor' to calculate the number of users for each user profile. Order the results by the '用户数量' column in descending order.

8. Demand for brands from various consumer groups

```
SELECT ci.用户画像,SUM(CASE WHEN bi.品牌名 IS NOT NULL AND bi.品牌名 <> '未知' THEN 1 ELSE 0 END) AS 品牌蛋购买次数,
   SUM(CASE WHEN bi.品牌名 IS NULL OR bi.品牌名 = '未知' THEN 1 ELSE 0 END) AS 非品牌蛋购买次数
FROM customer_infor ci
JOIN orders o ON ci.用户 ID = o.购买用户 ID
JOIN business_infor bi ON o.商品 ID = bi.商品 ID
WHERE ci.用户画像 IS NOT NULL AND ci.用户画像 !='#VALUE!'
GROUP BY ci.用户画像;
```

Select the '用户画像' column from the 'customer_infor' table and calculate the number of times each user has purchased branded eggs. If the '品牌名' is not null and not '未知', count as 1; otherwise, count as 0. Similarly, calculate the number of times each user has purchased non-branded eggs. If the '品牌名' is null or '未知', count as 1; otherwise, count as 0. Use the JOIN clause to connect the 'customer_infor' table with the 'orders' table based on '用户 ID'. Connect the 'orders' table with the 'business_infor' table based on '商品 ID'. Use the WHERE clause to filter out records where '用户画像' is null or not equal to '#VALUE!'. Use the GROUP BY clause to group the results by '用户画像' to obtain the purchase counts for each user profile.

9. Average purchases by each consumer group

```
SELECT ci.用户画像,AVG(bi.枚数 * o.销售件数) AS 平均购买数量
FROM customer_infor ci
JOIN orders o ON ci.用户 ID = o.购买用户 ID
JOIN business_infor bi ON o.商品 ID = bi.商品 ID
WHERE ci.用户画像 !='#VALUE!'
GROUP BY ci.用户画像;
```

Select the '用户画像' column from the 'customer_infor' table and calculate the average number of eggs purchased by each user. Use the JOIN clause to connect the 'customer_infor' table with the 'orders' table based on matching '用户 ID'. Then, connect the 'orders' table with the 'business_infor' table based on '商品 ID'. Use the WHERE clause to filter out records where '用户画像' is '#VALUE!'. Use the GROUP BY clause to group the results by '用户画像' to obtain the average purchase quantity for each user profile.

10. Check the number of users, purchases and total sales for each date

```
SELECT o.日期,COUNT(DISTINCT o.购买用户 ID) AS 购买用户数,SUM(bi.枚数 * o.销售件数) AS 购买量,SUM(o.销售额) AS 销售总额
FROM orders o
JOIN business_infor bi ON o.商品 ID = bi.商品 ID
GROUP BY o.日期
ORDER BY 购买量 DESC;
```

Select the '日期' column from the 'orders' table, calculate the number of purchasing users, the total purchase quantity, and the total sales amount for each date. Use the JOIN clause to connect the 'orders' table with the 'business_infor' table based on the '商品 ID' matching. Use the GROUP BY clause to group the results by '日期' to obtain the purchase user count, total purchase quantity, and total sales for each date. Order the results by the '总购买量' column in descending order.

11. Query the user ID and user identity of the top10 purchase amounts on each date

```
WITH RankedOrders AS (
    SELECT o.日期,o.购买用户 ID,ci.用户画像,ROUND(SUM(o.销售额),2) AS 总购买金额,o.销售件数 AS 购买件数,
        ROW_NUMBER() OVER (PARTITION BY o.日期 ORDER BY ROUND(SUM(o.销售额),2) DESC) AS rn
    FROM orders o
    JOIN customer_infor ci ON o.购买用户 ID = ci.用户 ID
    GROUP BY o.日期, o.购买用户 ID, ci.用户画像,o.销售件数
)
SELECT 日期,购买用户 ID,用户画像,总购买金额,购买件数
FROM RankedOrders
WHERE rn <= 10
ORDER BY 日期;
```

Using a 'WITH' clause, create a temporary result set named 'RankedOrders'. This result set selects the '日期' and '购买用户 ID' columns from the 'orders' table, joins the 'orders' table with the 'customer_infor' table based on the '购买用户 ID'. It calculates the total purchase amount for each user using 'ROUND(SUM(o.销售额), 2)', retaining two decimal places, and generates a row number for each date within the total purchase amount is ordered in descending order. The tables are joined based on '购买用户 ID', grouped by '日期', '购买用户 ID', and '用户画像'.

Select data from the 'RankedOrders' temporary result set to get the '日期', '购买用户 ID', '用户画像', total purchase amount, and purchase quantity. Use 'WHERE rn <= 10' to filter out the top 10 users with the highest purchase amount for each date. Order the results by '日期'.

12. Check the total number of purchased users and total sales for each brand

```
SELECT bi.品牌名,COUNT(DISTINCT o.购买用户 ID) AS 总购买用户数,SUM(o.销售件数) AS 购买量,SUM(o.销售额) AS 总销售额
FROM business_infor bi
JOIN orders o ON bi.商品 ID = o.商品 ID
WHERE bi.品牌名!='未知'
GROUP BY bi.品牌名
ORDER BY 购买量 DESC;
```

Select the '品牌名' column from the 'business_infor' table and calculate the total number of purchasing users, the total purchase quantity, and the total sales amount for each brand. Use the JOIN clause to connect the 'business_infor' table with the 'orders' table based on the '商品 ID' matching. Use the WHERE clause to filter out records where the brand name is '未知'. Use the GROUP BY clause to group the results by the brand name to obtain the total purchase user count, total purchase quantity, and total sales for each brand. Order the results by the '购买量' column in descending order.

13. Check the average price of eggs per brand

```
WITH Zhengdacp AS (
    SELECT bi.品牌名 AS 品牌,bi.枚数,bi.码号,bi.商品特色,AVG(o.销售额/(bi.枚数*o.销售件数)) AS 平均价格
    FROM business_infor bi
    JOIN orders o ON o.商品 ID = bi.商品 ID
    WHERE bi.品牌名='正大(CP)'
    GROUP BY bi.品牌名,bi.枚数,bi.码号,bi.商品特色
),
Zhengdaymh AS(
    SELECT bi.品牌名 AS 品牌,bi.枚数,bi.码号,bi.商品特色,AVG(o.销售额/bi.枚数*o.销售件数) AS 平均价格
    FROM business_infor bi
    JOIN orders o ON o.商品 ID = bi.商品 ID
```

```
    WHERE bi.品牌名='正大玉米黄'
    GROUP BY bi.品牌名,bi.枚数,bi.码号,bi.商品特色
),
Shengdile AS(
    SELECT bi.品牌名 AS 品牌,bi.枚数,bi.码号,bi.商品特色,AVG(o.销售额/bi.枚数*o.销售件数) AS 平均价格
    FROM business_infor bi
    JOIN orders o ON o.商品 ID = bi.商品 ID
    WHERE bi.品牌名='圣迪乐'
    GROUP BY bi.品牌名,bi.枚数,bi.码号,bi.商品特色
),
Jinlong AS(
    SELECT bi.品牌名 AS 品牌,bi.枚数,bi.码号,bi.商品特色,AVG(o.销售额/bi.枚数*o.销售件数) AS 平均价格
    FROM business_infor bi
    JOIN orders o ON o.商品 ID = bi.商品 ID
    WHERE bi.品牌名='晋龙'
    GROUP BY bi.品牌名,bi.枚数,bi.码号,bi.商品特色
)
SELECT 品牌,平均价格,枚数,码号,商品特色
FROM
    (SELECT '正大(CP)' AS 品牌, 平均价格, 枚数, 码号, 商品特色 FROM Zhengdacp
    UNION ALL
     SELECT '正玉米黄' AS 品牌, 平均价格, 枚数, 码号, 商品特色 FROM Zhengdaymh
    UNION ALL
     SELECT '圣迪乐' AS 品牌, 平均价格, 枚数, 码号, 商品特色 FROM Shengdile
    UNION ALL
     SELECT '晋龙' AS 品牌, 平均价格, 枚数, 码号, 商品特色 FROM 晋龙) AS AllBrands
ORDER BY
    平均价格 DESC;
```

Using a 'WITH' clause, create four temporary result sets named 'Zhengdacp', 'Shengdile', 'Jinlong', and 'Zhengmh'. These result sets calculate the average price for each brand under the condition of the same product features, code number, weight, and quantity. The 'AVG(o.销售额 / (bi.枚数 * o.销售件数))' is used to calculate the average price for each brand.

Create a new result set named 'AllBrands' and use 'UNION ALL' to combine the results from the four temporary result sets into one. Select data from the 'AllBrands' result set to get the brand name, average price, quantity, code number, and product features for each brand. Order the results by the average price in descending order.This query will return the name, average price, quantity, code

number, and product features for each brand and order the results by the average price in descending order.

III. Analysis and insights

1. Product Market Performance

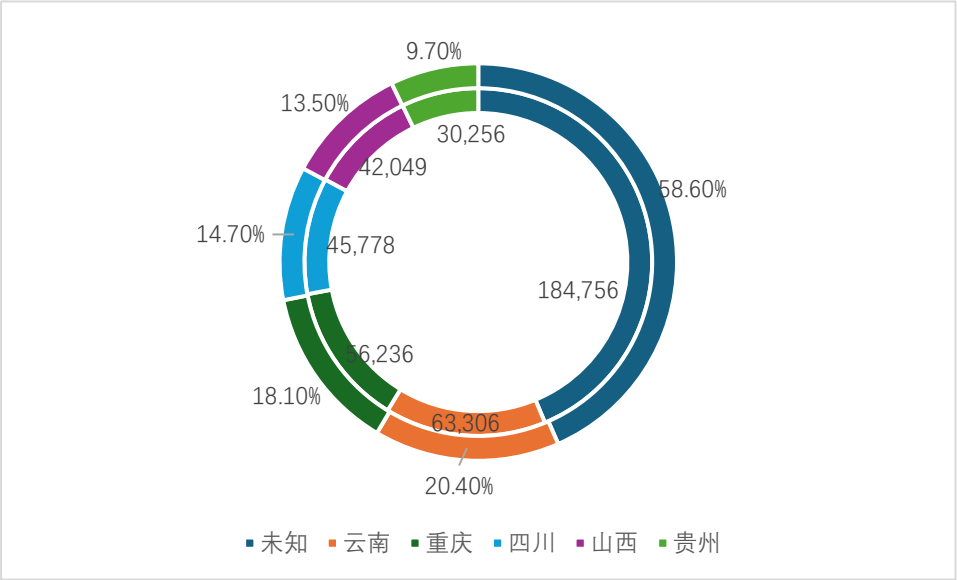
Question 1 Product preference

商品 ID	商品名	总销量
220588261682430	宋蛋蛋富硒鸡蛋 30 枚 1.8kg±0.05kg/板	4105

The product name is "30 cartons of native eggs", and the sales volume of the product ID is P001 is up to 12,580 copies per day, indicating that the demand for "30 cartons of native eggs" is significantly higher than that of other products, indicating that consumers have a high acceptance of eggs with large specifications and quality differences.

Question 3

产地	总销售件数	占比
未知	184,756	58.6%
云南	63,306	20.4%
重庆	56,236	18.1%
四川	45,778	14.7%
山西	42,049	13.5%
贵州	30,256	9.7%



(1) Market Performance

Unknown origin dominates the market: the proportion is as high as 58.6%, which may be because some suppliers do not label the origin, such as local loose eggs.

Yunnan eggs stand out: they have the highest sales volume (20.4%) among known origin, and may attract consumers due to their quality labels (e.g., "native eggs" and "pollution-free").

Sichuan and Chongqing region has a significant preference: Chongqing (18.1%) and Sichuan (14.7%) together account for more than 30%, reflecting the concentration of consumption in southwest China.

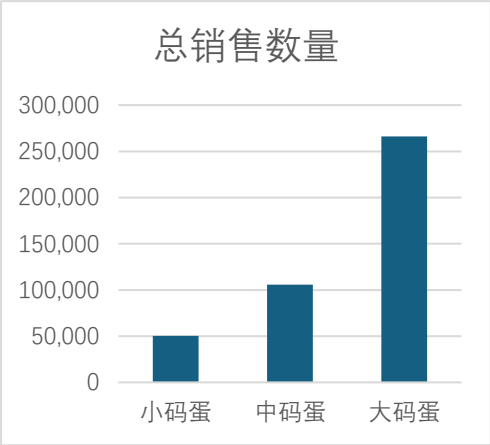
（2）Marketing strategy

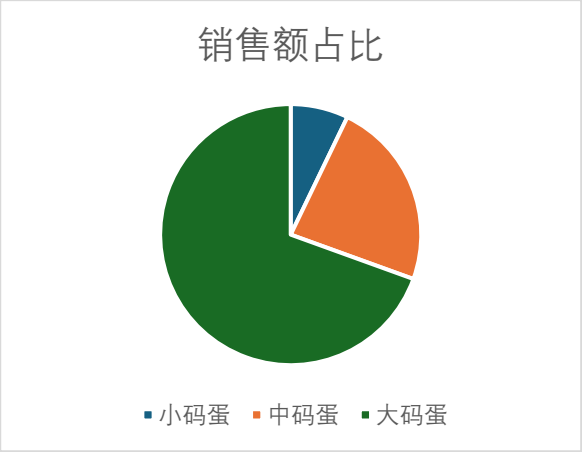
According to the distribution characteristics of sales volume, three core strategies should be implemented: first, standardize the management of origin information, force suppliers to label the origin, complete the data through logistics backtracking and NLP technology, and carry out quality classification and traceability upgrade of bulk eggs; Second, strengthen the Yunnan characteristic egg labeling system, establish a certification zone, expand its influence by combining documentary marketing and user challenges, and simultaneously copy the labeling experience to other producing areas; Finally, deep cultivation of the Sichuan-Chongqing regional market, relying on the pre-warehouse to reduce the distribution time to 24 hours, and joint community group-buying platform

to carry out the "weekend egg festival" promotion. In the implementation, priority is given to promoting the transparency of origin, synchronously monitoring the growth of Sichuan-Chongqing egg sales and Yunnan GMV, strictly controlling label qualification and inventory risks, and ensuring the accurate landing of the strategy.

Question 4 Analyze the market performance of each specification

码号	总销售数量	销售数量占比	总销售额	销售额占比	单件均价
小码蛋	50, 427	11. 94%	660, 862. 84	7. 15%	13. 10 元/件
中码蛋	105, 833	25. 06%	2, 161, 555. 51	23. 37%	20. 42 元/件
大码蛋	266, 121	63. 00%	6, 424, 669. 69	69. 47%	24. 14 元/件





（1）Market Performance

Large-size eggs dominate the market: accounting for 63% of sales and 69% of sales, indicating that consumers prefer large-size eggs;

The price advantage of medium egg: the average price of a single piece is 20.42 yuan, and the sales volume accounts for 25%, which may be the main specification of family daily procurement;

Small size egg marginalization: although the unit price is the lowest (13.10 yuan), sales and sales are at the bottom, and its existence value needs to be evaluated.

（2）Market Strategy

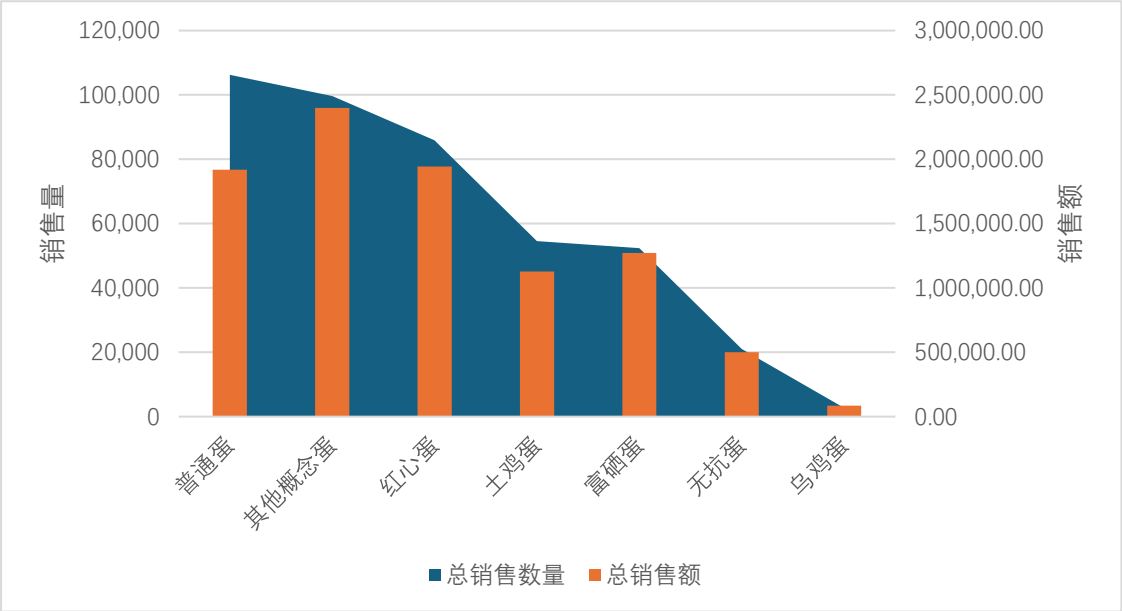
Large-size eggs: Stabilize the supply chain, mainly push 30 pieces of "family stock package", with full discount coupon (such as 80 minus 10), improve the re-purchase rate;

Medium egg: Set "special day" every week (such as Wednesday member day), the price dropped 0.5 yuan/piece, consolidating the main position of daily procurement;

Small code eggs: adjusted to 10 pieces of "taste", pricing 15 yuan/piece, push for single users in first-tier cities, sales continue to be depressed, then gradually removed from the shelves.

Question 5

商品特色	总销售数量	销售数量占比	总销售额	销售额占比	单件均价
普通蛋	106,245	45.50%	1,919,901.65	34.20%	18.07 元/件
其他概念蛋	99,590	43.00%	2,398,873.60	42.70%	24.09 元/件
红心蛋	85,856	37.20%	1,942,744.17	34.70%	22.63 元/件
土鸡蛋	54,575	23.50%	1,126,782.52	20.00%	20.64 元/件
富硒蛋	52,412	22.60%	1,272,510.26	22.60%	24.28 元/件
无抗蛋	20,990	9.00%	499,950.21	8.90%	23.82 元/件
乌鸡蛋	2,713	1.20%	86,325.63	1.50%	31.82 元/件



（1）Market performance stratification

Head category:

Other concept eggs (42.7% of sales) and ordinary eggs (34.2%) contribute more than 76% of sales and are the core revenue sources; Red eggs (34.7%) followed, but accounted for a higher percentage of sales (37.2%) than sales, indicating a lower unit price.

Tail category:

Black eggs (1.5% sales) and non-resistant eggs (8.9%) have low market acceptance, high unit price and low sales volume of black eggs, there may be a problem of "good but not popular", and it is necessary to check whether the price is too high or the supply chain is limited; Selenium-rich eggs and concept eggs have a significant premium, and the unit price is 34%-35% higher than that of ordinary eggs, which may be that consumers are willing to pay for health labels.

（2）Market Strategy

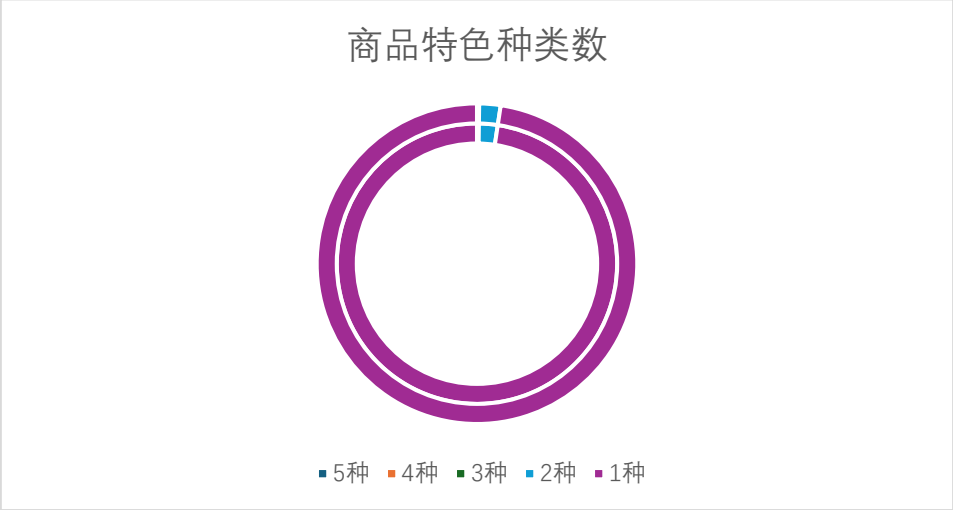
Head category (other concept eggs/ordinary eggs) : strengthen the health label (such as selenium rich egg test report), bundle the family nutrition package, mainly promote the low price strategy (special price at 8 PM) and optimize the supply chain turnover (≤2 days);

Tail category (black eggs/non-resistant eggs) : adjust the specifications of black eggs (6 early taste

packages priced at 25 yuan) and scenes (high-end gift boxes), non-resistant eggs were renamed "zero antibiotic eggs" and targeted supply professional scenes (such as maternity centers, kindergartens, etc.), using pre-sale system to control losses.

Question 6

商品特色种类数	用户数	占比	用户行为特征
5 种	1 人	0.00%	极少数用户尝试多样化需求
4 种	6 人	0.01%	实验性消费群体
3 种	118 人	0.21%	潜在的高价值用户（需重点关注）
2 种	1,211 人	2.15%	尝鲜型用户
1 种	54,931 人	97.63%	绝对主流群体（追求简单明确）



(1) Market Performance

User choice is highly concentrated

The single category dominates the market: 97.63% of users only buy 1 special egg, indicating that consumers are more inclined to define the demand rather than diversified attempts;

The penetration rate of multiple categories is extremely low: the total number of users who purchase

≥2 features is less than 3%, reflecting the cognitive threshold or inertia of user decision-making.

(2) Market Strategy

High value user mining: 118 people who buy 3 kinds may be health sensitive users, and can push high-end combinations (such as selenium-rich eggs + black eggs);

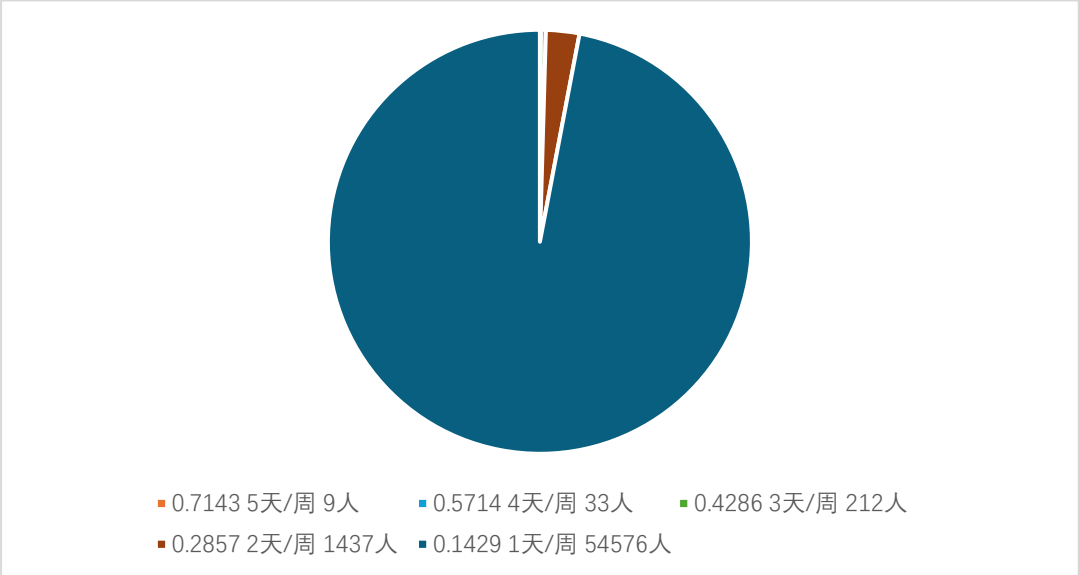
Strengthen category publicity and related health knowledge popularization: If the platform features eggs actually have differentiated value (such as nutrition, technology), it is necessary to strengthen user education;

Cost control: For the time being, it is not recommended to invest too much money in specialty eggs. Experimental marketing and sales can be carried out in some high-end communities to expand the market from sterile eggs and native eggs with large demand and wide acceptance but high profits.

2. Consumer behavior and preferences

Question 2 Analyze user loyalty

每日购买频率	每周购买次数	人数	占比
0.7143	5 天/周	9 人	0.02%
0.5714	4 天/周	33 人	0.06%
0.4286	3 天/周	212 人	0.37%
0.2857	2 天/周	1437 人	2.55%
0.1429	1 天/周	54576 人	96.99%



（1）User distribution characteristics

From the frequency distribution of eggs purchased by users, we can speculate that there may be different consumer groups and needs behind different purchase frequencies.

① Buy once a week (96.99%)

Most users are family consumers, and egg demand is relatively stable. In particular, families with fewer family members or less frequent meals buy less frequently. Such users are used to buying enough eggs at one time, because the freshness of eggs is better and the use cycle is long. Many families choose to buy them once a week to ensure that the eggs are fresh and can be used throughout the week.

② Users buy twice a week (2.55%)

This group may be families with relatively large numbers of family members, or young families who value healthy eating. Children need more protein and nutrients, increasing the frequency of egg consumption. Some families may cook more frequently, and eggs are a common ingredient in daily cooking, so weekly purchases are more frequent.

③ Users who buy three times a week (0.37%)

Families with a large number of members (such as families with multiple children) have a greater demand for eggs. It may also include families who prefer to cook their own meals, especially for

bread, cakes and other recipes that call for eggs, increasing the frequency of purchases. Users who buy more frequently often choose products with larger packages to reduce the number of purchases and save costs.

④ Users who buy 4 times a week (0.06%) and 5 times a week (0.02%)

Most of the users of these high-frequency purchases are small B-end businesses, such as small food outlets, school canteens or other food processors. They have a high demand for eggs, so they need to purchase them more frequently. In addition, it is also possible that some special families, such as athletes' families or people with special nutritional needs, have a higher demand for eggs than the average family.

(2) Market strategy

① For the user group that purchases once a week, the platform can launch a weekly automatic purchase service to facilitate users to maintain a stable purchase frequency and give certain preferential incentives. At the same time, the platform can recommend packages suitable for family needs, in addition to eggs, with rice, oil and other commonly used household ingredients, increase the amount of single purchase, increase the price of customers. In addition, the nutritional value of eggs can be promoted to users through advertising and content marketing, especially for families with young children or with a healthy diet, and the market awareness of eggs can be increased.

For the user group that buys 2 times a week, the platform can launch egg packaging suitable for small families, such as 6 pieces or 12 pieces, to reduce waste and meet the needs of this group. For families with children, it is recommended to eat a nutritious meal spectrum suitable for children, especially protein rich recipes, and increase the frequency of the use of eggs in the daily diet. In addition, the introduction of member preferential activities or points reward system to encourage these users to use the platform to buy eggs for a long time and increase their purchase frequency.

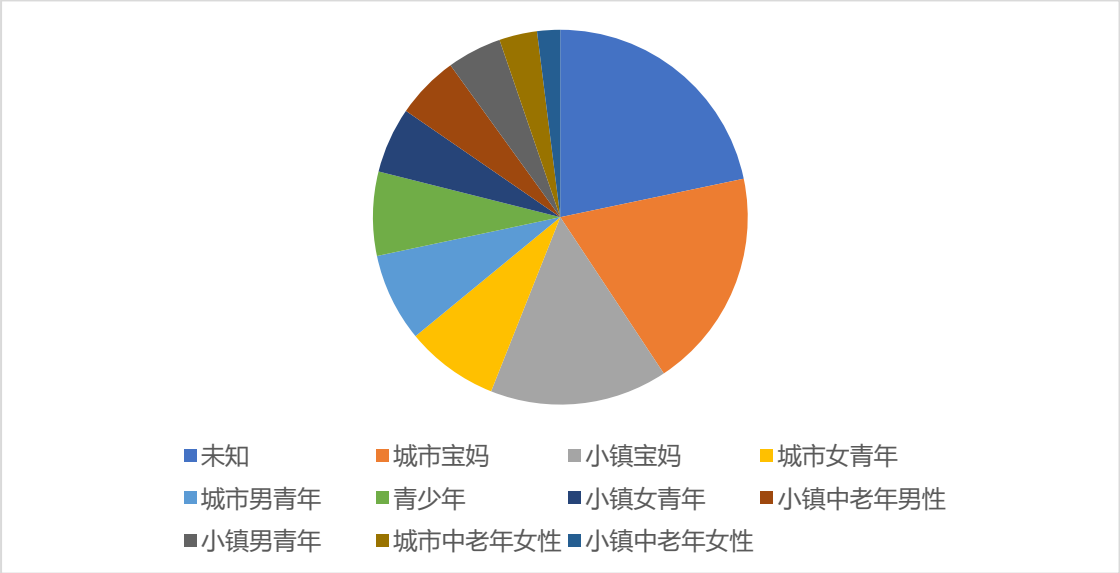
For a group of users who buy eggs three times a week, the platform can provide this group with family or large packages of eggs, reducing the frequency of purchase and providing a more cost-effective option. At the same time, the platform can launch home kitchen packages, with egg cooking tools (such as stirrers, cake molds, etc.), to increase users' desire to buy. In addition, bulk

purchase discounts are introduced to encourage these users to buy more eggs each time and enjoy more benefits.

④ For users who buy 4 to 5 times a week, we provide customized wholesale prices, delivery services and customer support for small B-end merchants to help them reduce procurement costs and improve efficiency. The platform can also provide dedicated account manager services for these high-frequency buyers, ensuring that they can make purchases in a timely and convenient manner. Launch a group purchase or wholesale activity for eggs to meet the bulk purchase needs of small merchants, and provide a large quantity discount or gift to stimulate bulk purchase.

Question 7

用户画像	用户数量	占比	核心特征
未知	12,216	35.2%	数据缺失或未分类用户
城市宝妈	10,679	30.7%	家庭需求主导，高频次采购
小镇宝妈	8,625	24.4%	价格敏感，偏好大包装
城市女青年	4,521	12.9%	便捷性优先，小规格偏好
城市男青年	4,290	12.2%	健康意识较强，愿为品质付费
青少年	4,076	11.6%	早餐场景驱动，小份量需求
小镇女青年	3,193	9.0%	价格敏感，随机购买
小镇中老年男性	3,060	8.7%	传统渠道依赖，低价偏好
小镇男青年	2,648	7.5%	功能性需求（如烹饪）
城市中老年女性	1,841	5.2%	营养健康导向，复购率高
小镇中老年女性	1,118	3.2%	价格敏感，品牌忠诚度低



（1）User distribution characteristics

① Main consumer groups

Urban treasure mother (30.7%) :

Behavior characteristics: high frequency, large package purchase (such as 30 pieces), pay attention to cost performance and shelf life;

Demand-driven: family daily cooking, children's breakfast needs;

Operation suggestion: Push "family stock package" (large size + full coupon), bind mother and child community marketing.

Small town treasure mother (24.4%) :

Behavioral characteristics: high price sensitivity, preference for offline channels (such as community stores), but the distribution of preferred distribution points in Meituan is not comprehensive enough, resulting in a lower coverage rate than city Baoma.

Demand-driven: families just need to purchase, low dependence on the brand;

Operation suggestion: Improve online conversion rate and increase distribution points through offline promotion (such as ground promotion activities)

① Potential growth groups

Urban young women (12.9%) :

Behavior characteristics: small size (6-10 pieces) mainly purchased, pay attention to convenience (such as 1 hour up);

Demand-driven: single economy, one-person eating scene;

Operation suggestion: Launch "mini taste pack", combined with short video platform grass planting.

Urban young men (12.2%) :

Behavior characteristics: Willing to pay for organic, raw and other high-end eggs;

Demand-driven: fitness meals, light salad matching needs;

Operation suggestion: Push "fitness protein package" (egg + protein powder combination).

② Risk groups that need attention

Teenagers (11.6%) :

Behavior characteristics: low customer price, low repurchase rate (mostly temporary demand);

Risk warning: Limited long-term value if it cannot be translated into household purchasing decision makers.

Elderly men in the town (8.7%) :

Behavior characteristics: rely on traditional channels, high price sensitivity;

Risk warning: easy to be shunted by low-price competing products, need to strengthen the supply chain cost advantage.

(2) User hierarchical operation strategy

High value groups: Deep binding and re-purchase incentives

- City Treasure Mom: Member points system (points for eggs)

- Urban Youth: Subscription system (weekly delivery of high-end eggs)

Potential groups - stimulate the need for scenariography

- City Girl: Breakfast Scene Set (egg + bread)

- Youth: Campus group purchase discount

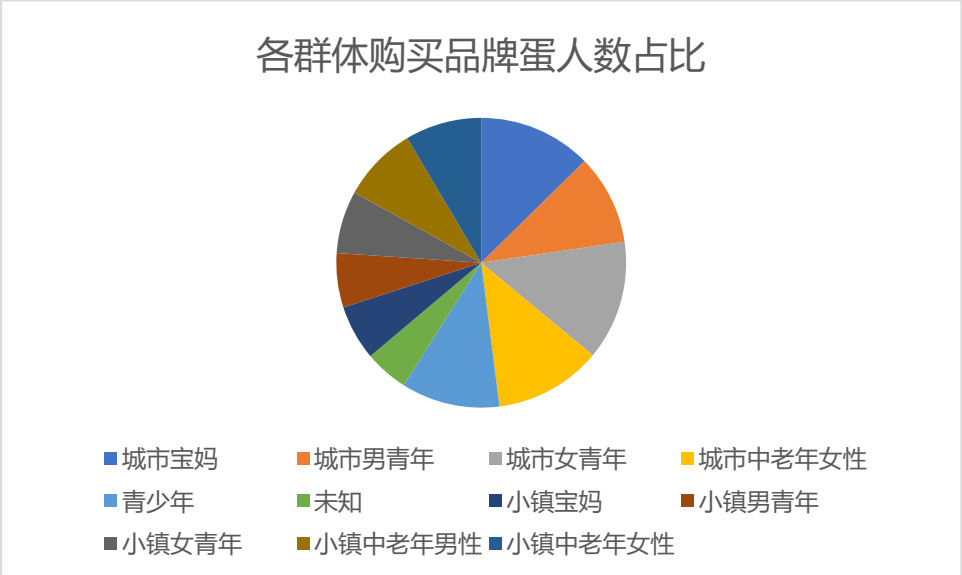
Risk groups -- cost advantage consolidation and channel optimization

- Middle-aged and elderly men in small towns: offline community group buying

- Small town treasure mother: centralized distribution to reduce the cost of compliance or joint distribution with community stores

Question 8 Brand preferences of each group

用户画像	品牌蛋购买次数	非品牌蛋购买次数	品牌蛋占比
城市宝妈	16043	67541	19.19%
城市男青年	5226	29047	15.25%
城市女青年	7172	28248	20.25%
城市中老年女性	2710	12197	18.18%
青少年	5238	26146	16.69%
未知	7072	88515	7.40%
小镇宝妈	7191	69841	9.34%
小镇男青年	2191	21655	9.19%
小镇女青年	2893	24398	10.60%
小镇中老年男性	3166	21564	12.80%
小镇中老年女性	1285	8645	12.94%



(1) User distribution characteristics

Brand preference of urban users is significant:

Urban treasure mothers (19.19%) and urban young women (20.25%) accounted for the highest proportion of brand eggs, reflecting that urban groups pay more attention to quality and trust endorsement; Although the proportion of urban young men (15.25%) is slightly lower, it is still higher than that of small town users, reflecting the trend of urban consumption upgrading.

High price sensitivity of small-town users:

Brand eggs accounted for less than 10% of the town users (except 12.94% of the elderly women in the town), indicating that they were more inclined to low-priced non-brand eggs; The difference between the small town treasure mother (9.34%) and the small town middle-aged and elderly men (12.80%) reflects the differentiation of age and consumption concept.

(2) User hierarchical policy

① For groups with high brand preference, brand loyalty should be strengthened.

City Bao Ma: Launched the "Family Health Plan" (brand eggs + nutritional recipes)

Urban young women: Binding member points system (points for brand eggs)

② For price sensitive groups, scene low price promotion can be carried out.

- Town users: Design "Town special package" (non-brand egg package + full coupon)

- Teenagers: Launch "School Group" (small size low-cost eggs)

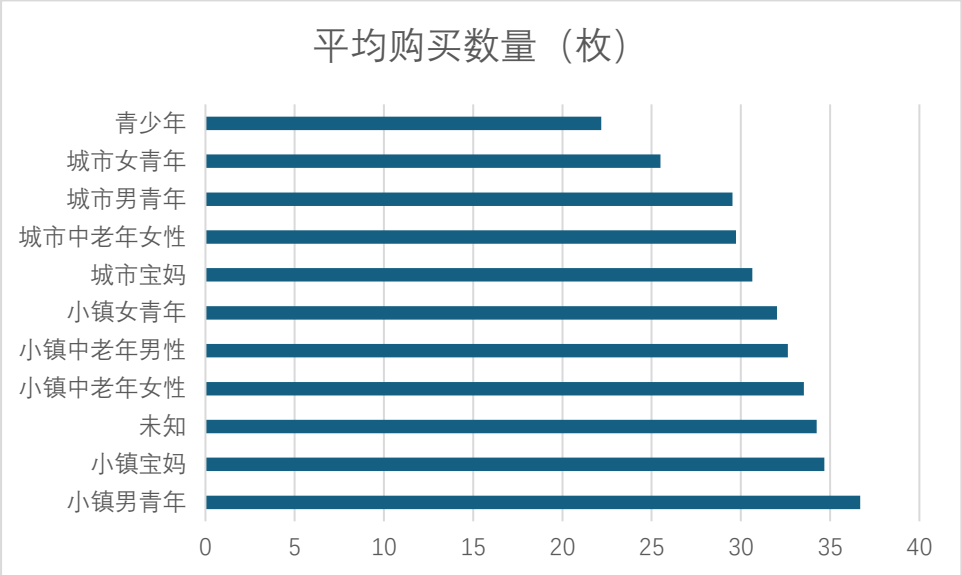
(3) For potential transformation groups, education and experience-driven can be tried.

- Middle-aged and elderly men in the town: push the "brand egg tasting suit" offline

- Unknown users: Targeted push brand story and quality comparison content

Question 9 Based on the average purchase quantity analysis of user profiles

用户画像	平均购买数量
小镇女青年	32.0156
未知	34.2384
城市男青年	29.5319
城市宝妈	30.6327
小镇男青年	36.6823
城市女青年	25.4945
小镇中老年男性	32.6355
小镇宝妈	34.6713
青少年	22.1778
城市中老年女性	29.729
小镇中老年女性	33.5213



(1) User distribution characteristics

High buying group (≥30 pieces) :

Small-town users dominate: young women (32.02), precious mothers (34.67) and middle-aged and elderly women (33.52) occupy the top three, reflecting that small-town users are more inclined to purchase in bulk (family needs or stockpiling);

Outlier: The average purchase volume of "unknown" users is 34.24, which needs to be checked whether it is an unclassified small town user or a test account.

Low purchase group (≤25 pieces) :

Urban users mainly include urban young women (25.49), middle-aged and elderly women (29.73) and teenagers (22.18), reflecting the small size and high frequency consumption habits of urban groups.

(2) Market strategy

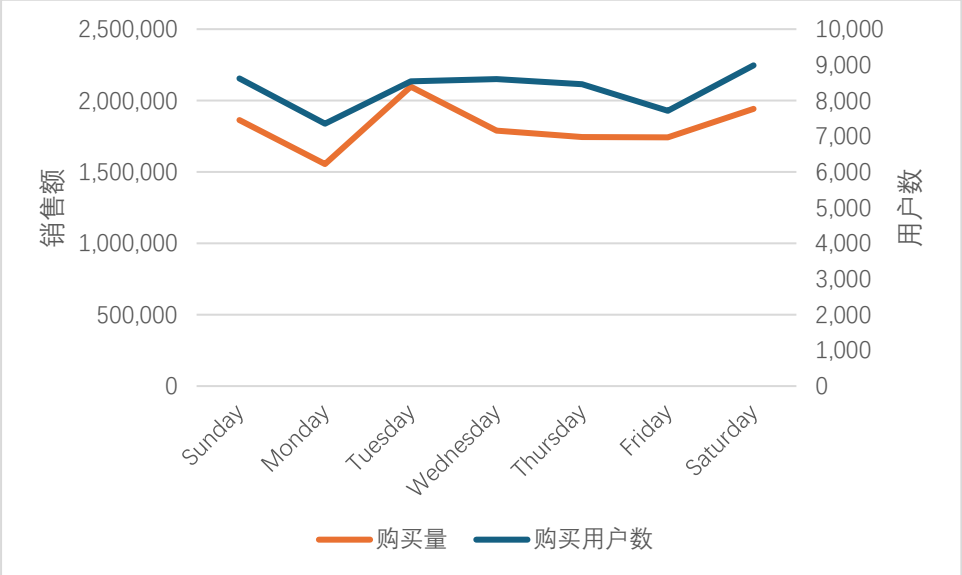
Small-town users have high price sensitivity, prefer small and medium-sized specifications (such as 10-20 pieces), but a single purchase is larger (family reserve demand), and can be scenario-driven, such as home cooking and other scenarios to promote batch purchase.

Urban users pay more attention to convenience, giving priority to small specifications (6-10 pieces)

to meet immediate needs, such as breakfast and overtime consumption, and more convenient packaging can be introduced; In addition, urban middle-aged and elderly women bought nearly 30 pieces, which may be related to nutrition management needs, and can be marketed on the basis of relevant health lectures.

Question 10 Identify sales peaks through time series

日期	购买用户数	购买量	销售总额	平均订单金额（元）
周二	8,542	2,097,189	1,507,226.63	176.45
周六	8,986	1,941,499	1,404,625.53	156.32
周日	8,620	1,862,688	1,337,159.56	155.12
周三	8,599	1,790,164	1,294,572.15	150.56
周五	7,710	1,741,854	1,284,637.94	166.62
周四	8,461	1,743,447	1,272,427.67	150.38
周一	7,352	1,555,252	1,146,438.56	155.97



(1) Consumption behavior distribution

① Sales peaks and valleys

Highest sales: Tuesday (1,507,200 yuan), although the number of users is not the largest, but the average order amount is the highest (176.45 yuan), indicating that the proportion of users with strong consumption power or high unit price goods is high on Tuesday;

Lowest sales: Monday (1.1464 million yuan), the lowest number of users and the lowest average order amount (155.97 yuan), reflecting the weak consumption after the weekend;

Peak number of users: Saturday (8,986 people), but sales only ranked third, may be due to promotional activities to pull down the customer unit price (such as full coupon usage is high).

② Intra-week fluctuation rule

Weekend effect: on Saturday and Sunday, the number of users is high but the sales are low, which is in line with the leisure shopping scene (dominated by small specifications and low customer unit price goods);

Weekday trend: Sales gradually declined from Tuesday to Friday, but the average order amount recovered to 166.62 yuan on Friday, possibly due to office scenario purchases (such as corporate afternoon tea orders).

(2) Business strategy suggestions

① Peak day operation optimization

Tuesday: Push high customer unit price product combination (such as gift box eggs + baking tools); Design "Working day benefit package" (bulk purchase discount) for corporate users.

Saturday: strengthen the marketing of family scenes (such as "weekend stockpiling" large-size eggs); Limit the amount of the full minus note to avoid unduly lowering the unit price.

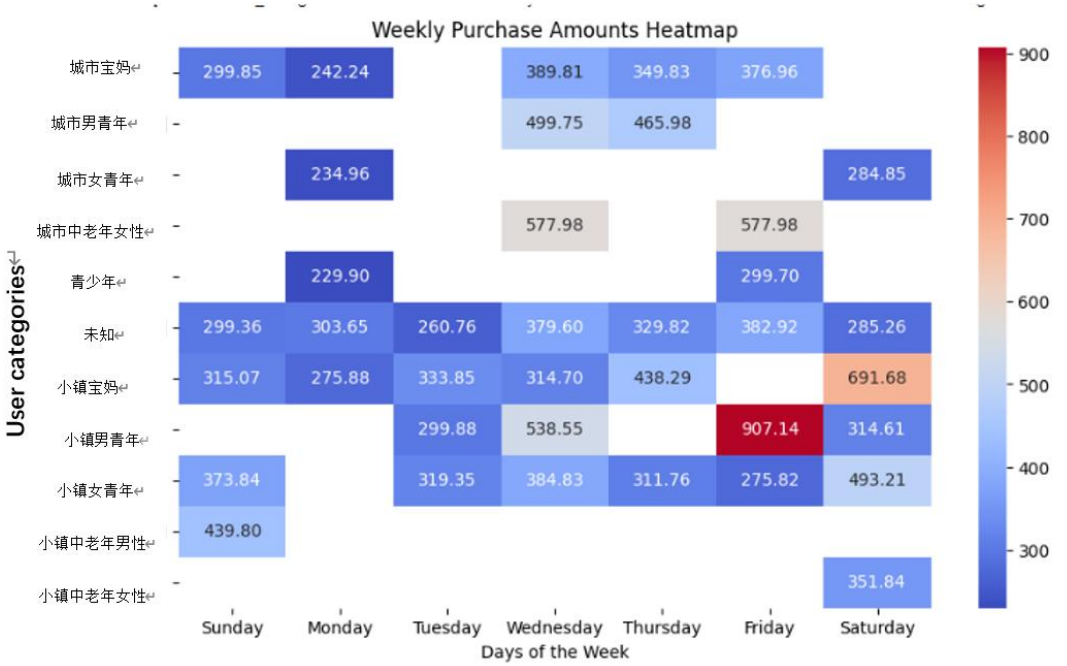
② Low day activation strategy

Monday: Design "Zhou Chu Refresh Discount" (first single minus 10 yuan); Push small specifications early taste (such as 6 pieces), reduce the decision-making threshold.

Sunday: Combine holiday/weather push themed items (such as rainy day quick dish combo).

Question 11 Identify high-value customers

平均值项:总购买金额 用户画像	日期 Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	总计
城市宝妈	299.85	242.24		389.81	349.825	376.96		328.0475
城市男青年				499.75	465.98			482.865
城市女青年		234.96					284.85	259.905
城市中老年女性				577.98		577.98		577.98
青少年		229.9				299.7		264.8
未知	299.36	303.6475	260.7625	379.6	329.8166667	382.915	285.26	308.9866667
小镇宝妈	315.07	275.88	333.8533333	314.7	438.2933333		691.68	402.7376923
小镇男青年			299.88	538.545		907.14	314.61	545.7814286
小镇女青年	373.84		319.35	384.825	311.76	275.82	493.21	373.003
小镇中老年男性	439.8							439.8
小镇中老年女性							351.84	351.84
总计	**333.111**	**268.205**	**298.319**	**439.839**	**378.172**	**486.449**	**420.621**	**374.9594286**



(1) Distribution characteristics

① Specific user categories have performed outstandingly

Small-town young men: On Friday, there was an extremely high purchase amount (907.14), the highest among all user categories, indicating that this group has a strong purchasing power on this day. This might be due to the approaching weekend, with more consumption demand or promotional activities stimulating consumption.

Small-town moms: The purchase amount on Saturday reached 691.68, which is at a relatively high level among all user categories' Saturday purchase amounts. This indicates that small-town moms

have a strong willingness to consume on weekends, which may be related to family consumption demands.

Urban middle-aged and elderly women: The purchase amount on both Thursday and Friday was 577.98, which was relatively high among the urban user group, indicating that this group has certain consumption capacity and demand in the middle and later part of the week.

② Time distribution characteristics

The weekend effect is obvious: Small-town mothers spend relatively more on Saturdays, small-town young men on Fridays, and middle-aged and elderly women in cities on Thursdays and Fridays. This indicates that overall, the consumption of high-value customers is more active on weekends and in the middle and later stages of the week. This may be related to weekend rest, increased family activities, or the arrangement of promotional activities by merchants.

There are also consumption peaks during the week: for instance, young men in small towns have relatively high purchase amounts on Fridays, and middle-aged and elderly women in cities have relatively high purchase amounts on Thursdays. This indicates that apart from weekends, some groups during the week also have strong consumption capabilities, which may be driven by specific marketing nodes or consumption scenarios.

③ Characteristics of urban-rural differences

Small-town users are more active: Compared with urban user groups, small-town users (such as small-town mothers, small-town young men, and small-town young women, etc.) spend more at multiple time points, which may reflect that small-town users have greater consumption potential or have a more vigorous demand for goods or services in specific consumption scenarios. Among urban user groups, apart from middle-aged and elderly urban women who have certain highlights, the purchase amounts of other groups such as urban young men and urban young women shown in the graph are relatively low or the data is missing.

(2) Market strategy

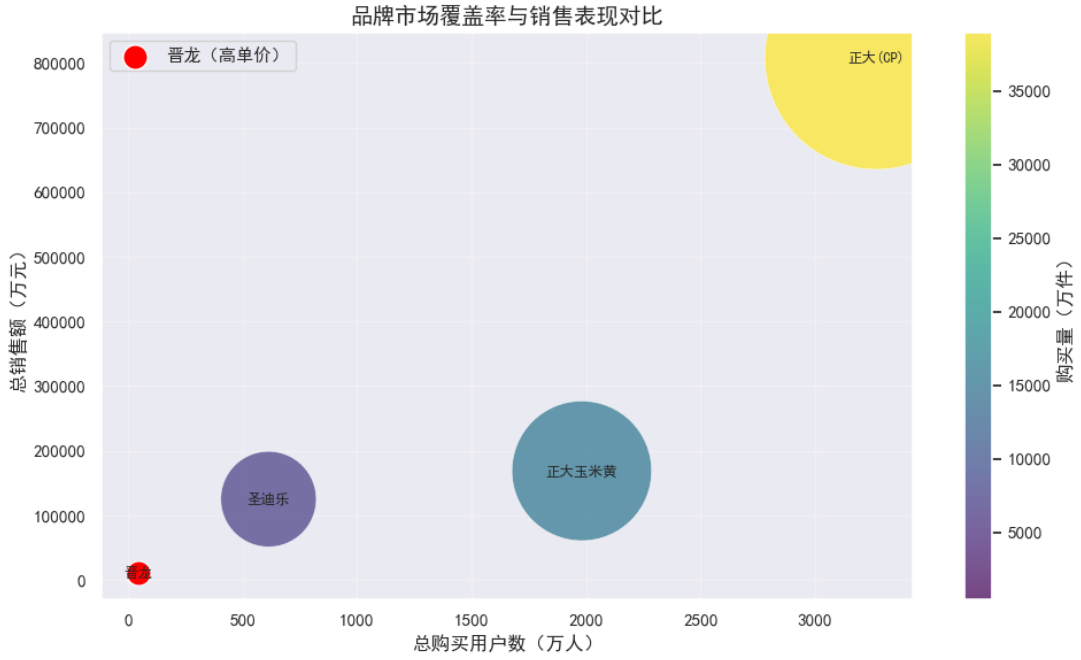
The main attack on the city's treasure mother Friday stock demand (push family + full coupon),

Monday to low-priced single product drainage; The small town treasure mother depends on the stability of the members to buy again; For low consumer groups launched 6 samples of fresh packaging (priced at 10 yuan) and joint community education scene, fresh products strictly control turnover (Friday stock, Monday stock clearance).

3. Brand side strategy

Question 12 Brand market coverage and brand market performance

品牌名	总用户数	购买量	总销售额（元）	用户数占比	销售额占比	单用户平均消费（元）
正大(CP)	3,267	38,981	807,587.86	63.4%	72.1%	247.2
正大玉米黄	1,981	15,316	168,865.69	38.3%	14.9%	85.3
圣迪乐	613	7,168	125,177.43	11.9%	11.1%	204.2
晋龙	44	469	10,676.61	0.8%	0.9%	242.6



(1) Market coverage

CP: with 63.4% of the users, it is absolutely ahead, covering more than 60% of the customer base, showing its core brand status;

正大玉米黄: the number of users accounted for 38.3%, but the sales accounted for only 14.9%, indicating that its user base is large but the consumption power is low;

圣迪乐 and 晋龙: The total number of users is less than 13%, which is a niche brand, but 晋龙's single user consumption (242.6 yuan) is close to CP.

(2) Market performance

① Sales concentration:

Charoen Pokphand (CP) contributed 72.1% of sales, leading the market; Although 正大玉米黄 has a large number of users, its sales account for less than 15%, and it is necessary to be vigilant about the loss of user value.

② Single user consumption difference:

晋龙's single user consumption is the highest (242.6 yuan), which may be high-end products or high re-purchase groups; 正大玉米黄 single user consumption is the lowest (85.3 yuan), need to optimize the product structure or pricing strategy.

Question13 Brand price strategy

品牌	平均价格	枚数	码号	商品特色
晋龙	3.235654762	18	中码蛋	其他概念蛋
圣迪乐	1.553392019	12	中码蛋	普通蛋
正大玉米黄	1.355917374	12	中码蛋	普通蛋
正大(CP)	1.082004827	20	中码蛋	富硒蛋
正大(CP)	1.02844246	18	中码蛋	无抗蛋

圣迪乐	1.025528369	30	中码蛋	富硒蛋
晋龙	0.938578947	30	中码蛋	富硒蛋
圣迪乐	0.930231214	30	中码蛋	无抗蛋
正大(CP)	0.901866228	18	中码蛋	其他概念蛋
正大(CP)	0.831845727	30	中码蛋	无抗蛋
正大(CP)	0.819784957	30	中码蛋	普通蛋
圣迪乐	0.726619048	30	中码蛋	普通蛋

(1) The relationship between price and sales volume

Low price strategy dominates the market:

CP's "no-resistance eggs" and "ordinary eggs" had the lowest average price (0.82-1.03 yuan/piece), but the highest sales volume (18-30 pieces), indicating that the low-price strategy attracted mass consumers; The "ordinary egg" of 圣迪乐 has the lowest price (0.73 yuan/piece), and the sales volume has reached 30 pieces, and the cost-effective advantage is significant.

High-priced product positioning high-end:

晋龙's "other concept eggs" have the highest unit price (3.24 yuan/egg), but the sales volume is only 18, which may be for high-end or niche markets.

(2) Comparison of product characteristics

Selenium-rich egg premium ability:

The unit price of "selenia-rich eggs" of 圣迪乐 and 晋龙 is 1.55 yuan and 0.94 yuan respectively, which is higher than that of ordinary eggs (1.03-1.36 yuan), but the sales volume is low (12-30 pieces), and consumers' willingness to pay for the concept of health needs to be verified.

High prevalence of resistant eggs:

CP's "anti-resistance eggs" have the highest sales volume (30 pieces) of 1.03 yuan per unit price,

which may be the core category of public health demand.

(3) Brand competition pattern

Absolute advantages of CP:

Sales accounted for more than 50% (a total of 146 pieces), covering the full price band (0.82-1.08 yuan/piece), showing its omni-channel coverage capability; "Non-resistant eggs" and "ordinary eggs" account for 60% of its sales, focusing on cost-effective and health concepts.

圣迪乐 differentiation competition:

Focusing on "selenia-rich eggs" and "ordinary eggs", the unit price span is large (0.73-1.55 yuan), which may cover different consumption levels through multiple categories.

晋龙 minority route:

Focusing on "selenium-rich eggs" and "other concept eggs", the unit price is high but the sales volume is low, and the risk of insufficient market acceptance needs to be vigilant.

(4) Strategy suggestions

① CP : Consolidate the advantage of cost performance

Optimize the product mix: mainly promote "non-resistant eggs" (sales accounted for 41%), bundle promotion (such as "buy 10 get 2 free"), improve the re-purchase rate; Reduce the price of "ordinary eggs" to 0.7-0.8 yuan/piece, and directly compete with 圣迪乐.

High-end attempt: Launch an upgraded version of "selenium-rich egg" (such as "organic selenium-rich egg"), priced at 2-2.5 yuan/piece to test the high-end market response.

② 圣迪乐: Strengthen the concept of health

Increase the premium of selenium-rich eggs: increase the selling point publicity of "selenium-rich eggs" (such as selenium content test report), and increase the price to 1.8-2 yuan/piece; Launch a small package (6 pieces) tasting pack to reduce the threshold for consumers to try.

Differentiated channels: Promote "selenium-rich eggs" in scenes such as mother and baby stores

and gyms to lock in high net worth people.

③ 晋龙: Focus on the niche market

Concept egg upgrade: Refine "other concept eggs" into specific functions (such as "low-cholesterol eggs" and "calcium-rich eggs"), priced at 3-3.5 yuan per egg; Cooperate with high-end supermarkets or community groups to avoid direct competition with mass brands.

Reduce investment in ordinary eggs: phase out low-profit "ordinary eggs" product lines and focus resources on high value-added products.

IV. Recommendations for the business

1.The relationship between price and sales volume

Low price strategy dominates the market:

CP's "no-resistance eggs" and "ordinary eggs" had the lowest average price (0.82-1.03 yuan/piece), but the highest sales volume (18-30 pieces), indicating that the low-price strategy attracted mass consumers; The "ordinary egg" of Santi Di Le has the lowest price (0.73 yuan/piece), and the sales volume has reached 30 pieces, and the cost-effective advantage is significant.

High-priced product positioning high-end:

Jinlong's "other concept eggs" have the highest unit price (3.24 yuan/egg), but the sales volume is only 18, which may be for high-end or niche markets.

2. Comparison of product characteristics

Selenium-rich egg premium ability:

The unit price of "selenia-rich eggs" of 圣迪乐 and 晋龙 is 1.55 yuan and 0.94 yuan respectively, which is higher than that of ordinary eggs (1.03-1.36 yuan), but the sales volume is low (12-30 pieces), and consumers' willingness to pay for the concept of health needs to be verified.

High prevalence of resistant eggs:

CP's "anti-resistance eggs" have the highest sales volume (30 pieces) of 1.03 yuan per unit price, which may be the core category of public health demand.

3. Brand competition pattern

Absolute advantages of CP:

Sales accounted for more than 50% (a total of 146 pieces), covering the full price band (0.82-1.08 yuan/piece), showing its omni-channel coverage capability; "Non-resistant eggs" and "ordinary eggs" account for 60% of its sales, focusing on cost-effective and health concepts.

圣迪乐 differentiation competition:

Focusing on "selenia-rich eggs" and "ordinary eggs", the unit price span is large (0.73-1.55 yuan), which may cover different consumption levels through multiple categories.

Jinlong minority route:

Focusing on "selenium-rich eggs" and "other concept eggs", the unit price is high but the sales volume is low, and the risk of insufficient market acceptance needs to be vigilant.

4. Strategy suggestions

(1) CP : Consolidate the advantage of cost performance

Optimize the product mix: mainly promote "non-resistant eggs" (sales accounted for 41%), bundle promotion (such as "buy 10 get 2 free"), improve the re-purchase rate; Reduce the price of "ordinary eggs" to 0.7-0.8 yuan/piece, and directly compete with Sindeele.

High-end attempt: Launch an upgraded version of "selenium-rich egg" (such as "organic selenium-rich egg"), priced at 2-2.5 yuan/piece to test the high-end market response.

(2) 圣迪乐: Strengthen the concept of health

Increase the premium of selenium-rich eggs: increase the selling point publicity of "selenium-rich

eggs" (such as selenium content test report), and increase the price to 1.8-2 yuan/piece; Launch a small package (6 pieces) tasting pack to reduce the threshold for consumers to try.

Differentiated channels: Promote "selenium-rich eggs" in scenes such as mother and baby stores and gyms to lock in high net worth people.

(3)晋龙: Focus on the niche market

Concept egg upgrade: Refine "other concept eggs" into specific functions (such as "low-cholesterol eggs" and "calcium-rich eggs"), priced at 3-3.5 yuan per egg; Cooperate with high-end supermarkets or community groups to avoid direct competition with mass brands.

Reduce investment in ordinary eggs: phase out low-profit "ordinary eggs" product lines and focus resources on high value-added products.

V. Challenges faced & lessons learned

1. Challenges faced

Supply chain constraints: While plus-size eggs are performing well, ensuring a stable supply remains a challenge due to fluctuating demand and logistical constraints, especially in small-town areas.

Customer retention issues: Despite strong demand for eggs, certain consumer groups are price sensitive, making it difficult to retain customers for high-end products. For consumers who prefer low-priced non-branded products, increasing their single consumption and re-purchase rate is a long-term challenge.

Brand competition: Due to CP's dominant market position, other brands such as Sandelor and 晋龙 face difficulties in increasing their market share. Especially in the low-price competitive environment, how to provide attractive prices without sacrificing product quality is still a problem to be solved.

2. Lessons learned

Differentiated competition is crucial: In a competitive market, differentiating brands by product quality differentiation (e.g., organic, selenium-rich, etc.) and health labels has proven to play an important role in attracting consumers.

Pricing strategies should vary from person to person: a deep understanding of consumer segments is essential. While urban consumers tend to buy high-end products, rural consumers pay more attention to cost performance. Through dynamic pricing, prices can be adjusted according to the different needs and regions of consumers, which can effectively improve engagement and conversion.

Cultivate brand loyalty: Increase customer loyalty through subscription, regular promotion packages and membership rewards system, especially in the high-end product area, to differentiate from competitors.