Sales Growth Analysis at HealthCare with SQL

Chiawei Wang

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This insights report provides an overview of healthcare retailer's sales performance and main
opportunities for future growth.

1 Executive Summary

HealthCare's sales growth is supported by consistent retention of existing customers and expansion across
product categories. However, new customer acquisition has been gradually declining, contributing less to
overall growth. Customers who shop across multiple categories show higher spending and stronger loyalty,
making cross-category engagement the clearest lever for growth. Weekend sales remain stronger than
weekdays, highlighting under-utilised weekday potential. Several Level-2 Categories linked to certain Level-1
Categories are also gaining momentum and present opportunities for further investment.

Top opportunities for growth:

1. Encourage multi-category shopping to raise basket size and loyalty
   - Lift multi-category share by +5pp to raise basket value 3–4%
2. Double down on fastest-growth Level-2 categories
   - Accelerate growth in top Level-2 categories to unlock 2–3% uplift in sales
3. Smooth weekday traffic to balance demand
   - Increase weekday sales by +5% to add 1–2% to revenues
4. Strengthen retention by intervening before churn
   - Cut churn by 2pp per month to protect 5–7% of annual revenue

2 Sales Framework

To understand and influence revenue growth at H&B, we frame sales through a simple but powerful equation:

$$\text{sales} = \text{customers} \times \text{transactions per customer} \times \text{average transaction value}$$

This formula allows us to separate **volume levers**, gaining and keeping customers, driving more visits, from
value levers, increasing spend per visit.

2.1 Sales Drivers and Strategies

1. Sales volume depends first on the number of **customers** who are actively buying.
   - **New customers:** Strengthen acquisition through targeted digital campaigns and partnerships
   - **Retained customers:** Incentivise repeat purchases with loyalty rewards and subscription models
   - **Churned customers:** Identify customers at risk of leaving (e.g. 60–90 days inactivity) and send
     personalised win-back offers
2. Transaction frequency is driven by the number of **purchases** each customer makes.
   - Create nudges (e.g. emails, app notifications) aligned with health missions or seasonal needs

- Introduce replenishment reminders for supplements and consumables
- Encourage subscription services for high-frequency products (e.g. monthly vitamins)
3. Average transaction value is influenced by the **basket size** and **item price**.
    - **Items per basket:** Promote bundles and encourage cross-sell at checkout
    - **Price per Item:** Encourage customers to buy premium products, manage promotions carefully to protect margin, and use personalised offers to minimise unnecessary discounts
    - **Sales mix:** Optimise performance by focusing on high-growth categories, expanding successful product ranges, and balancing sales across channels, regions, and suppliers

This framework ensures every growth initiative can be measured against specific levers of sales. When we have more customers through acquisition and retention, we can drive higher sales by increasing transaction frequency and average order value.

3 Trends and Insights

1. Net sales rose steadily to a peak of 124 thousand in January 2024, then gradually declined to 104 thousand by April 2024, with most sales coming from in-store purchases. Note that sales dropped sharply to 50 thousand in May 2024 because the data for May only covers a partial month.
2. Items per basket, average transaction value, and sales per customer remained relatively stable throughout the period, with about 4.4 items per basket, £30.91 average transaction value, and £39.79 sales per customer.
3. New customer acquisition dropped early in the period, while churn rose later. This highlights the need to improve retention. Specifically, new customer acquisition fell from 2,546 in January 2022 to 1,333 in July 2022, while churn increased from 1,302 in October 2023 to 1,983 in April 2024.
4. In December 2022, nearly half of customers (47.7%) shopped from more than one category. These multi-category shoppers spend more and are more loyal.
5. On average, Saturday in December 2022 had the highest sales, followed by Friday. Sales were lower on weekdays, especially Sunday and Monday.
6. Some Level-2 categories, like 2070, 2090, and 4, are growing quickly and present good opportunities for targeted marketing and product expansion, especially within Level-1 Categories 10, 20, and 50. In contrast, Level-2 Categories 2360, 2400, and 2260, linked to Level-1 Categories 30, 40, and 20, have declined sharply and need attention.
7. The top three best-selling Level-2 Categories were 2210, 7, and 2270, linked to Level-1 Categories 30 and 20. Category 2210 led with £241,758 in sales and 24,958 units sold, followed by category 7 with £171,425 in sales and 26,088 units sold, and category 2270 with £161,286 in sales and 10,265 units sold.
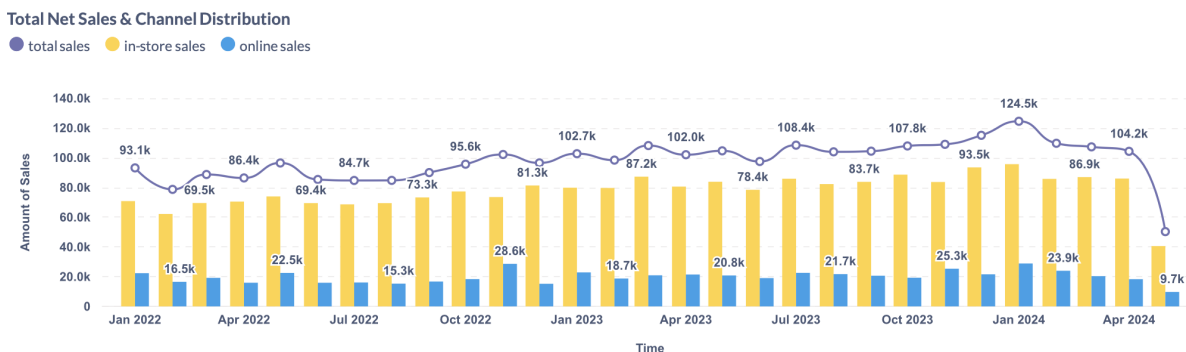

Figure 1: Top Net Sales by Channel

```
-- SQL query to calculate total sales
SELECT
    date_format(f.date_trading_nk, '%Y-%m-%d') AS date_iso,
```

```
        SUM(f.price_total) AS total_sales,
        CASE
            WHEN f.quantity IS NULL AND f.price_total = 0 THEN 'cancel_no_charge'
            WHEN f.quantity IS NULL AND f.price_total > 0 THEN 'cancel_with_charge'
            WHEN f.quantity > 0 AND f.price_total = 0 THEN 'free_item'
            WHEN f.quantity < 0 AND f.price_total < 0 THEN 'refund'
            ELSE 'normal_sale'
        END AS transaction_type
FROM hbi_dns_recruit.fact_basket_items AS f
LEFT JOIN hbi_dns_recruit.dim_sales_channels AS sc
    ON f.sales_channel_id = sc.sales_channel_id
LEFT JOIN hbi_dns_recruit.dim_countries AS c
    ON f.country_id = c.country_id
LEFT JOIN hbi_dns_recruit.dim_categories AS cat
    ON f.category_id = cat.category_id
LEFT JOIN hbi_dns_recruit.dim_products AS p
    ON f.product = p.product
WHERE transaction_type IN ('normal_sale','free_item')
GROUP BY substr(date_iso, 1, 7);
```
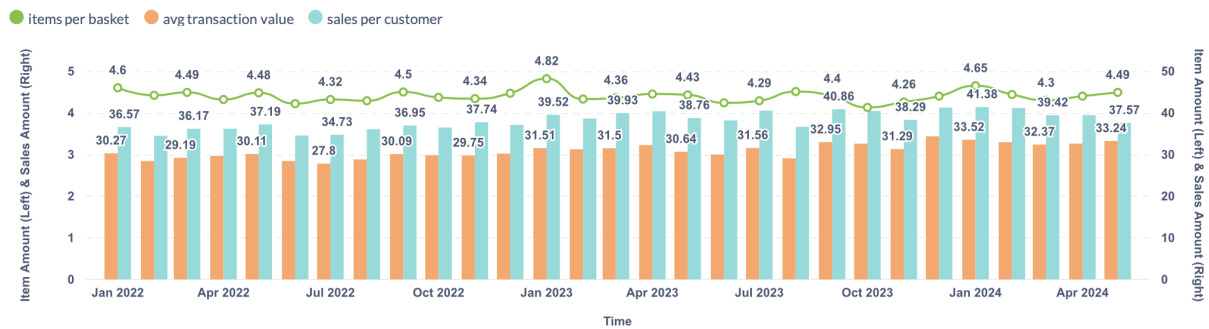

Figure 2: Items per Basket, Average Transaction Value, and Sales per Customer

```
-- SQL query to calculate IPB, ATV, and SPC
SELECT
    substr(date_iso, 1, 7) AS month,
    ROUND(SUM(quantity) * 1.0 / COUNT(DISTINCT basket_id), 2) AS items_per_basket,
    ROUND(SUM(price_total) / COUNT(DISTINCT basket_id), 2) AS avg_transaction_value,
    ROUND(SUM(price_total) / COUNT(DISTINCT customer_id), 2) AS sales_per_customer
FROM sales_data
WHERE transaction_type IN ('normal_sale','free_item')
GROUP BY substr(date_iso, 1, 7)
ORDER BY substr(date_iso, 1, 7);
```
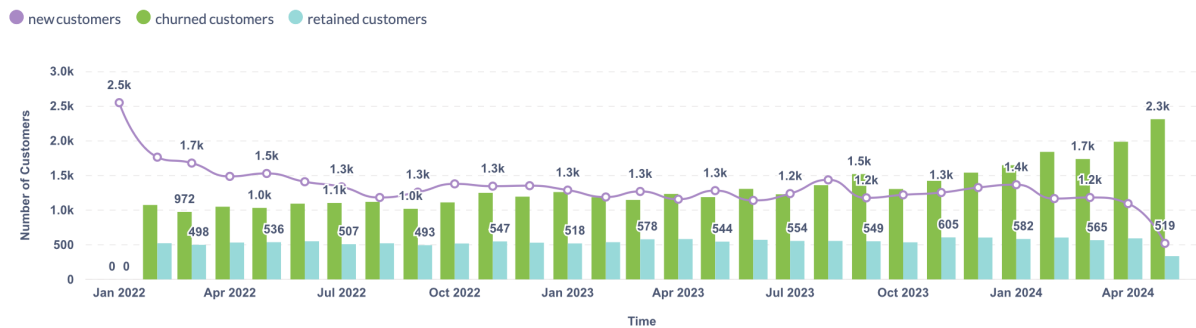

Figure 3: New, Churned, and Retained Customers

```
SELECT
    m.month,
    COALESCE(n.new_customers, 0) AS new_customers,
    COALESCE(r.retained_customers, 0) AS retained_customers,
    COALESCE(c.churned_customers, 0) AS churned_customers
FROM (SELECT DISTINCT month FROM customer_months) AS m
LEFT JOIN new_customers AS n ON m.month = n.month
LEFT JOIN retained_customers AS r ON m.month = r.month
LEFT JOIN churned_customers AS c ON m.month = c.month
ORDER BY m.month;
```
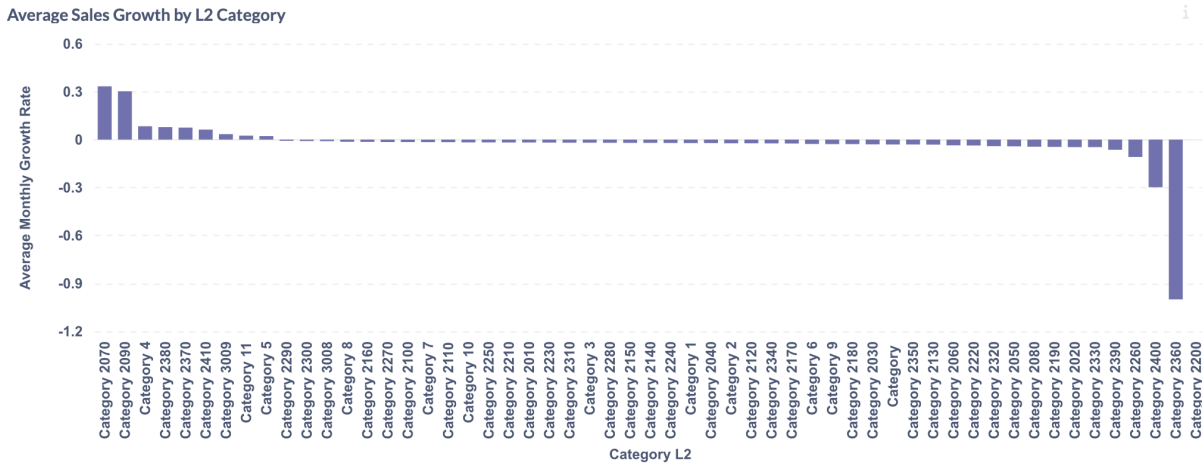

Figure 4: Average Sales Growth by L2 Category

```
-- SQL query to calculate average monthly growth rate by L2 category
SELECT
    category_l2_name,
    POWER(last_sales / NULLIF(first_sales, 0), 1.0 / NULLIF(num_months - 1, 0)) - 1 AS avg_monthly_growth_rate
FROM first_last_sales
ORDER BY avg_monthly_growth_rate DESC;
```
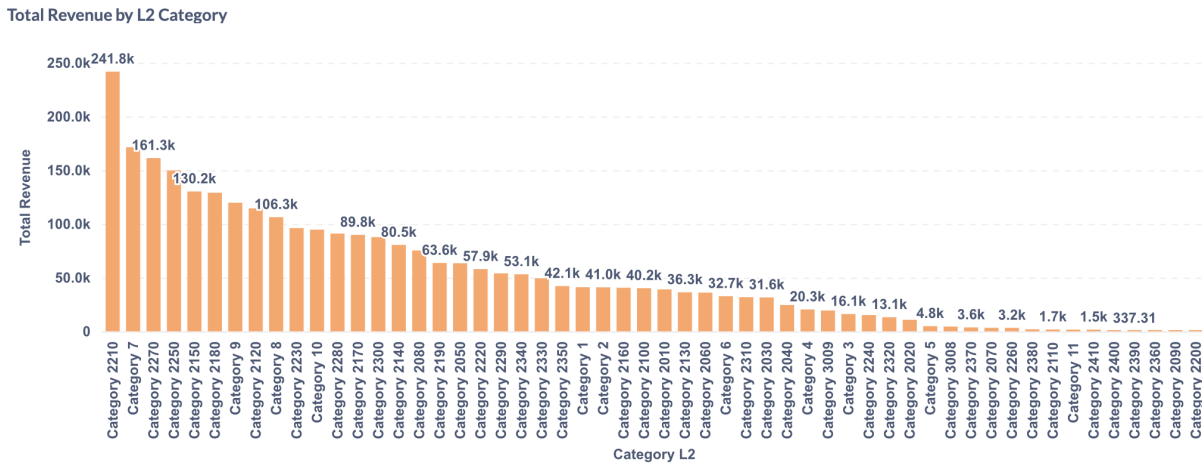

Figure 5: Total Revenue by L2 Category

```
-- SQL query to calculate total revenue by L2 category
SELECT
    category_l2_name,
    SUM(price_total) AS total_revenue
```

4

```
FROM sales_data
WHERE transaction_type = 'normal_sale'
GROUP BY category_l2_name
ORDER BY total_revenue DESC;
```

3.1   Key Drivers of Change & Recommendations

1. **Customer acquisition:** New customer sign-ups have slowed, impacting overall sales growth. The biggest risk to revenue is customer loss. Retention and reactivation must be prioritised, as frequency and basket value improvements cannot offset a shrinking base. Prioritise retention and reactivation through loyalty rewards, subscriptions, and targeted win-back campaigns.
   - Reducing churn by even 2pp per month could protect 5-7% of revenues annually.
   - Acquisition campaigns may raise costs without long-term loyalty, but retention incentives must avoid over-discounting.
2. **Cross-category shopping:** Customers who purchase across multiple categories tend to spend more and remain loyal. Encouraging cross-category shopping through personalised recommendations and bundled offers can drive higher sales.
   - A +5pp increase in multi-category share could lift average basket value by 3–4%, driving higher sales and stronger retention.
   - Over-discounting bundles may erode margins, and poor product pairing could reduce uptake.
3. **Seasonal trends:** Sales are consistently higher on weekends compared to weekdays, indicating potential for weekday promotions. Weekday sales could be boosted through targeted marketing and special offers. Stock availability should also be optimised to meet demand.
   - A +5% uplift in weekday sales would add 1–2% to total revenues, smoothing demand across the week.
   - Promotions risk cannibalising weekend sales if not targeted carefully, and weekday campaigns should be aligned with stock and staffing levels.
4. **Emerging categories:** Some Level-2 categories (2070, 2090, 4) linked to Level-1 Categories 10, 20, and 50 are growing fast. The top revenue drivers are Level-2 Categories 2210, 7, and 2270 under Level-1 Categories 30 and 20. Targeted marketing here could boost sales. Watch Level-2 Categories 2360, 2400, and 2260 (linked to Level-1 Categories 30, 40, and 20), as their sales have dropped sharply.
   - A 10% growth uplift in these categories could add 2–3% to overall sales, while strengthening H&B's relevance in growing segments.
   - Over-reliance on a few categories may increase exposure to supply chain or trend shifts, so expansion must be balanced with core categories.

3.2   What Comes Next: Implementation Timeline

- **Weeks 1–4:** Finalise dashboards to track sales drivers, launch a retention pilot aimed at reducing churn by 2pp
- **Weeks 5–8:** Scale weekday campaigns and cross-sell bundles, targeting a +5pp uplift in multi-category share
- **Weeks 9–12:** Roll out churn-prevention programme company-wide, monitor fast-growing categories to sustain momentum

3.3   Predictive Modelling

To support these recommendations, we will use statistical analysis and predictive modelling to identify high-value customers, flag churn risk early, forecast demand more accurately, and test interventions before scaling.

Key areas of predictive analytics include:

1. **Customer segmentation:** Use clustering algorithms to identify distinct customer segments based on purchasing behaviour, preferences, and demographics. This will enable targeted marketing efforts and personalised experiences.

2. **Churn prediction:** Implement logistic regression models to predict customer churn risk, allowing for proactive retention strategies. Key features may include purchase frequency, recency, and customer engagement metrics.
3. **Sales forecasting:** Use time series models to predict future sales by category, channel, region, product, and supplier. This helps plan inventory, staffing, and promotions more effectively.
4. **A/B testing:** Use experimental design to test the impact of different marketing strategies on customer behaviour and sales outcomes. This will help refine approaches and maximise ROI. For example, testing different product bundles, discount levels, or in-store displays can provide insights into which tactics drive higher sales and customer engagement.

Any questions, please reach out!

Chiawei Wang, PhD
Data & Product Analyst
chiawei.w@outlook.com