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**INTRODUCTION:**

This report aims to help SmartStream better understand customer behaviour and improve engagement using transaction and customer data. The analysis identifies key customer groups based on how recently and frequently they shop, how much they spend, and how they interact with the platform. The findings support practical recommendations to improve customer engagement and drive sales growth.

# Section 1 – Answer to questions

# Question 1

# The most popular product based on quantity purchased is GGOEGGOA017399, with 192 transactions made by 168 unique customers. It has an average transaction rating of 3.17.

# Based on the number of unique customers, the most popular product is GGOENEBQ078999, purchased by 723 customers across 1,630 transactions, with an average rating of 4.0.

# The product with the highest number of transactions overall is GGOENEBJ079499, with 1,736 transactions from 721 customers. It is also the most favoured product, with the highest average transaction rating of 4.11.

# Question 2

# SmartStream’s most valuable customers are identified using their shopping behaviour, based on how recently, how often, and how much they have purchased. Customers with the following IDs - 14606, 12956, and 14410 - are among the most recent buyers, with their last purchases made 209 days ago (as of 28 July 2025). The most frequent shopper is customer 12748, who has made 32 purchases on the platform. This same customer is also the highest spender, with a total spend of approximately $36,100.

# NOTE: Monetary value includes product spend after discounts but excludes delivery charges, focusing on actual customer payments and avoiding distortion from non-purchase-related costs.

# Question 3

# Customers were segmented using RFM analysis: Recency (how recently they purchased), Frequency (how often), and Monetary (how much they spent). For each metric, customers were grouped into five levels, where 5 means the top 20% and 1 means the bottom 20%. These scores were combined into a 3-digit RFM code (e.g., 555). Higher scores indicate better performance. To enhance the analysis, customers were grouped into behavioural segments such as Power Users, High-Value Purchasers, and Lapsed Buyers. Power Users had the highest average spend at $6088, while Budget Buyers and Lapsed Buyers spent the least.

# Question 4

# The analysis also explores how customer engagement across different channels relates to spending. High spenders were often highly engaged, particularly via chatbot and email, while a distinct group of 13 customers engaged across all channels and ranked in the top 25% of spenders. In contrast, over 300 customers showed no engagement and had the lowest spend. Customers who prefer Chatbot or Social Media as their communication channel spend more on average than those preferring Email or SMS. Spending increases with higher chatbot usage, from $1296 among low users to $1483 among high users, suggesting a strong link between real-time interaction and purchase behaviour. For email and ad engagement, spending was relatively high among engaged users but unexpectedly peaked among those with no interaction, with non-email openers averaging $2009 and non-ad clickers averaging $1485. These patterns indicate that some high-value customers may rely on self-directed browsing and purchasing without engaging with outbound marketing.

# Section 2 – recommendations TO help SmartStream enhance customer engagement and boost sales

**Recommendation 1**

# The RFM segmentation revealed a large group of Lapsed Buyers who have not made recent purchases and spend significantly less than the other segments. Re-engaging this group with tailored messages that promote relevant smart home products could help bring them back and recover revenue from previously active customers.

**Explanation of Recommendation 1**

# The Lapsed Buyers segment includes 246 customers who have not made recent purchases. Their average spend is $594, which is far below the average for more active segments. Despite this, they represent a group that is already familiar with SmartStream’s platform and product offerings.

# In contrast, Power Users and High-Value Purchases spend over $3000 on average. This gap suggests that Lapse Buyers may still have the potential to return if given the right prompt. Since SmartStream sells a variety of smart home products, targeted emails or in-app messages could feature product bundles or upgrades related to items they previously bought.

# For example, a customer who bought smart lighting might be shown new compatible accessories, while those who purchased security cameras might be offered a new subscription plan or add-on service. The message should focus on usefulness, simplicity, and convenience, rather than generic promotions.

# Making the content more relevant to individual customers increases the chance of reactivation. If even a small portion of these lapsed customers return, the increase in revenue could be significant, especially if they are encouraged into more active segments like Frequent Shoppers.

**Recommendation 2**

# There is a connection between chatbot usage and customer spending. Customers who use the chatbot more often tend to spend more overall. SmartStream should encourage greater usage by improving the chatbot’s functionality, training it to make it more useful and flexible in answering a wide range of customer questions, and placing it on key pages such as product listings, product details, and the checkout screen.

**Explanation of Recommendation 2**

# Customers who used the chatbot frequently spent more than those who used it less. On average, high chatbot users spent $1483, while low users spent only $1295. Even customers with moderate usage spent more than those with little or no interaction. This suggests that the chatbot helps customers navigate their shopping journey by giving product details, addressing concerns, or offering timely support.

# A similar pattern appeared in channel preferences. Customers who preferred to engage through the chatbot spent more than those who preferred email or SMS. Interactive and real-time support during shopping appears to be more effective in helping customers make decisions and complete their purchases.

# SmartStream should improve the chatbot’s performance by making it more capable of handling a broader range of customer questions and needs. This includes enhancing the chatbot’s ability to provide accurate and helpful responses on topics such as product comparisons, stock availability, delivery options, and returns. The chatbot should also be easy to find while shopping. It can be added to product listing pages, product details, and the checkout screen so customers can easily access help when they are about to decide, which may lead to higher usage and more spending.

**REFLECTION**

This analysis uses customer engagement and transaction data but lacks information on browsing behaviour, customer location, or product feedback. Adding data on page views, search history, or abandoned carts could help SmartStream identify purchase intent even without a transaction. Location data would allow for regional targeting and personalised delivery options. Feedback or product reviews could offer deeper insight into customer satisfaction and help refine product recommendations.