Key Insights from Telecom Churn Analysis:

1.Overall Revenue - How much coffee was sold?

- Total revenue for 2024: ₹82,644.80, for 2025: ₹29,600.78.
- Combined revenue for both years: ₹1,12,245.58.
- Coffee sales show consistent contribution, with 2024 being the strongest year.

2. Average Sale per Transaction – How much does each customer spend?

- Average sale per transaction is ₹31.65.
- Customers consistently spend a moderate amount per visit.

3. Top Revenue-Generating Coffee Type – Which coffee earns the most?

- 2024: Latte leads revenue generation.
- 2025: Americano takes the lead.
- Combined: Latte emerges as the overall top earner.

4. Most Sold Coffee Type – Which coffee is bought the most?

- 2024: Americano with Milk ranks highest.
- 2025: Americano ranks highest.
- Combined: Americano with Milk remains the most frequently purchased coffee.

5. Least Popular Coffee Type – Which coffee is least preferred?

Espresso consistently ranks as the least popular coffee across both years.

6. Highest Average Price Coffee - Which coffee is sold at premium rates?

- 2024: Hot Chocolate has the highest average price.
- 2025: Hot Chocolate, Cappuccino, Cocoa, and Latte are equally priced highest.
- Combined: Hot Chocolate remains the highest-priced coffee overall.

7. Peak Sales Hours – When are customers buying the most?

- 2024: Peak at 10 AM; top five hours 10 AM, 11 AM, 7 PM, 4 PM, 9 PM.
- 2025: Peak shifted to 4 PM; top five hours 4 PM, 3 PM, 5 PM, 10 AM, 2 PM.

- Combined: 10 AM remains the top hour, followed by 4 PM, 11 AM, 7 PM, 5 PM.
- Morning and evening consistently drive high sales; afternoons gained importance in 2025.

8. Time of Day Performance – Which shift earns most?

- 2024: Night shift (4 PM 10 PM) highest revenue: ₹29,568.90.
- 2025: Afternoon shift (12 PM 4 PM) leads revenue: ₹11,801.34.
- Combined: Night shift is the overall top-earning period: ₹38,186.34.

9. Day of Week Analysis - Which days are best?

- 2024: Tuesday (₹14,122.28) and Monday (₹11,990.96) highest; Sunday lowest (₹11,194.94).
- 2025: Monday (₹5,372.14) and Friday (₹5,370.16) top; Sunday lowest (₹2,141.12).
- Combined: Tuesday (₹18,168.38) and Monday (₹17,363.10) lead, weekends remain lowest.

10. Weekday vs Weekend Performance

- Weekdays consistently outperform weekends.
- Monday—Tuesday dominate, Saturday—Sunday contribute least.

11. Monthly Performance – Which months are strongest?

- 2024: October highest (₹13,891.16), April lowest (₹5,719.56).
- 2025: February highest (₹13,215.48), January lowest (₹6,398.86).
- Combined: March (₹15,891.64) and October (₹13,891.16) are top months; April & January lowest.

12. Seasonal Trends – Which seasons sell more coffee?

- Autumn: ₹32,470.34 (highest in 2024).
- Summer: ₹22,147.54.Spring: ₹29,775.62.
- Winter: ₹27,852.08.
- Autumn and Winter drive strong seasonal sales; Summer is comparatively lower.

13. Daily/Weekly Trends – How does sales evolve over time?

Daily peaks: 11 Oct 2024 at ₹836.66; lowest 29 Aug 2024 at ₹23.02.

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- Daily sales show steady upward trend, especially from August–October 2024. Weekly trends: steady growth with peaks above ₹3,000 by Week 34.
- Monthly revenue: fluctuating upward trend; strong growth from May 2024, peak in Oct 2024, moderate dip Nov–Jan 2025, rebound Feb–Mar 2025.

14. Coffee Preference by Time – Morning vs Afternoon vs Night

- Morning: "Americano with Milk" most popular.
- Afternoon: "Latte" most popular.
- Evening/Night: "Latte" continues as favorite. Espresso consistently least popular.

15. Weekend vs Weekday Preferences

- Slight increase in Cappuccino and Cortado on weekends.
- "Americano with Milk" remains top choice both weekdays & weekends.
- Customers spend similarly on coffee regardless of day type.

16. Seasonal Coffee Favorites

- Summer: "Americano with Milk" top; "Cocoa" least.
- Autumn: "Latte" top; "Espresso" lowest.
- Winter: "Americano with Milk" top; "Espresso" lowest.
- Overall: "Americano with Milk" & "Latte" dominate; "Espresso" least favored.

17. Coffee Type Performance – Repeat Purchase Trends

- Most sold consistently: "Americano with Milk" 310 days.
- Close competitor: "Latte" 302 days.
- Moderate sales: Cappuccino 252 days; Americano 243 days.
- Lower sales: Cortado 172 days; Hot Chocolate 157 days; Cocoa 138 days.
- Least sold: Espresso 102 days.
- Trend: Americano with Milk and Latte dominate daily purchases; others are occasional choices.

Overall Business Implications:

1. Focus on Peak Hours & Shifts

- Morning (10 AM) and Night shifts drive most sales.
- Staff and stock should be optimized during these hours.

2. Promote Top Coffee Types

- Latte and Americano with Milk generate most revenue and repeat purchases.
- Feature these in combos, loyalty programs, or promotions.

3. Encourage Seasonal Products

- Hot Chocolate in winter, Latte in Autumn, and Americano with Milk in Summer perform well.
- Offer seasonal promotions to boost engagement.

4. Weekday Promotions

- Monday-Tuesday show highest sales; weekends are weaker.
- Incentivize weekend visits through discounts or specialty drinks.

5. Monitor Less Popular Products

- Espresso consistently underperforms.
- Consider price adjustments, promotions, or bundling to improve sales.

6. Customer Retention & Pricing Strategy

- Average spending is consistent across weekdays/weekends.
- Consider upselling premium coffees like Hot Chocolate to maintain profitability.

7. Optimize Coffee Bundles & Combos

- Combine popular and moderately-selling coffees into bundles to increase overall sales.
- Offer "morning combo" (Americano with Milk + pastry) or "evening combo" (Latte + snack) to encourage higher transaction values.

8. Introduce Loyalty Programs

- Reward repeat customers, especially those buying top-selling items daily like Americano with Milk and Latte.
- Implement point-based or tiered rewards to drive long-term customer retention.

9. Adjust Inventory Based on Seasonal Demand

- Stock Hot Chocolate more in winter and Latte in Autumn to prevent shortages.
- Reduce stock of less popular items during off-season to minimize wastage.

10. Analyze Customer Segments

- Identify high-spending customers or frequent buyers.
- Offer personalized promotions, e.g., discounts on their preferred coffee or free upgrades.

11. Promote Premium Pricing Strategically

- Hot Chocolate commands the highest average price; advertise it as a premium product.
- Encourage upselling by pairing premium items with standard coffees.

12. Enhance Marketing for Slow Days

- Focus promotions on weekends or low-performing weekdays to balance revenue.
- Use social media or in-store campaigns highlighting special offers on these days.

13. Track Repeat Purchase Patterns

- Leverage data showing Americano with Milk and Latte dominate daily sales.
- Encourage trial of other coffees through "buy 1, try 1" offers to diversify customer preferences.

14. Improve Customer Experience During Peak Hours

- Reduce wait times during 10 AM and Night shifts by increasing staff and optimizing workflow.
- Ensure quality consistency and timely service to maintain high customer satisfaction.

15. Use Data for Future Product Launches

- Seasonal and time-based insights can guide new flavors or limited-edition coffees.
- Test products in high-performing hours or seasons to maximize initial uptake.

16. Implement Data-Driven Forecasting

- Use historical sales trends to predict demand by coffee type, time, and season.
- Helps in planning stock, staffing, and reducing wastage.

17. Personalize Customer Experience

- Track individual preferences and suggest drinks based on past purchases.
- Offer personalized discounts or custom combos to increase loyalty.