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# Payment Failure Intelligence System



Deep Failure Analysis



Recommendations

## Business Insights

Payment failures are driven by peak-hour load and UPI instability, with failure rates nearly doubling during high-traffic windows.

Failure rates spike during peak days, indicating load-driven instability rather than random errors

UPI shows highest failure rate, despite being the most used method → major risk area



117K

Total Transactions



9.98%

Overall Failure Rate



₹ 4.84M

Revenue Loss Due to Failures

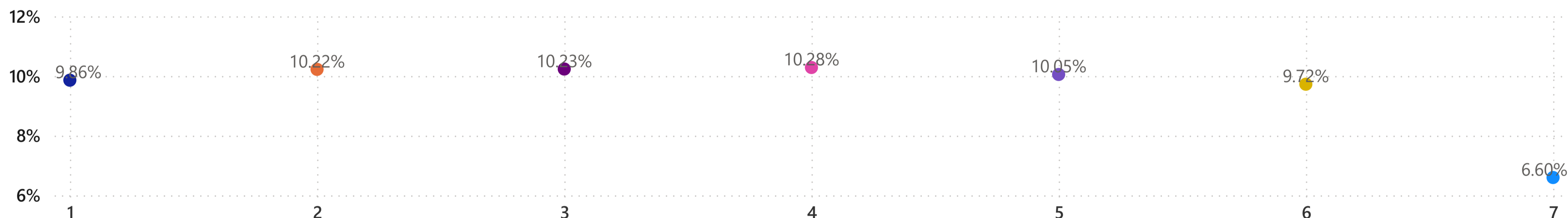


15.59%

Peak Hour Failure Rate

Failure Rate Trend Over Time

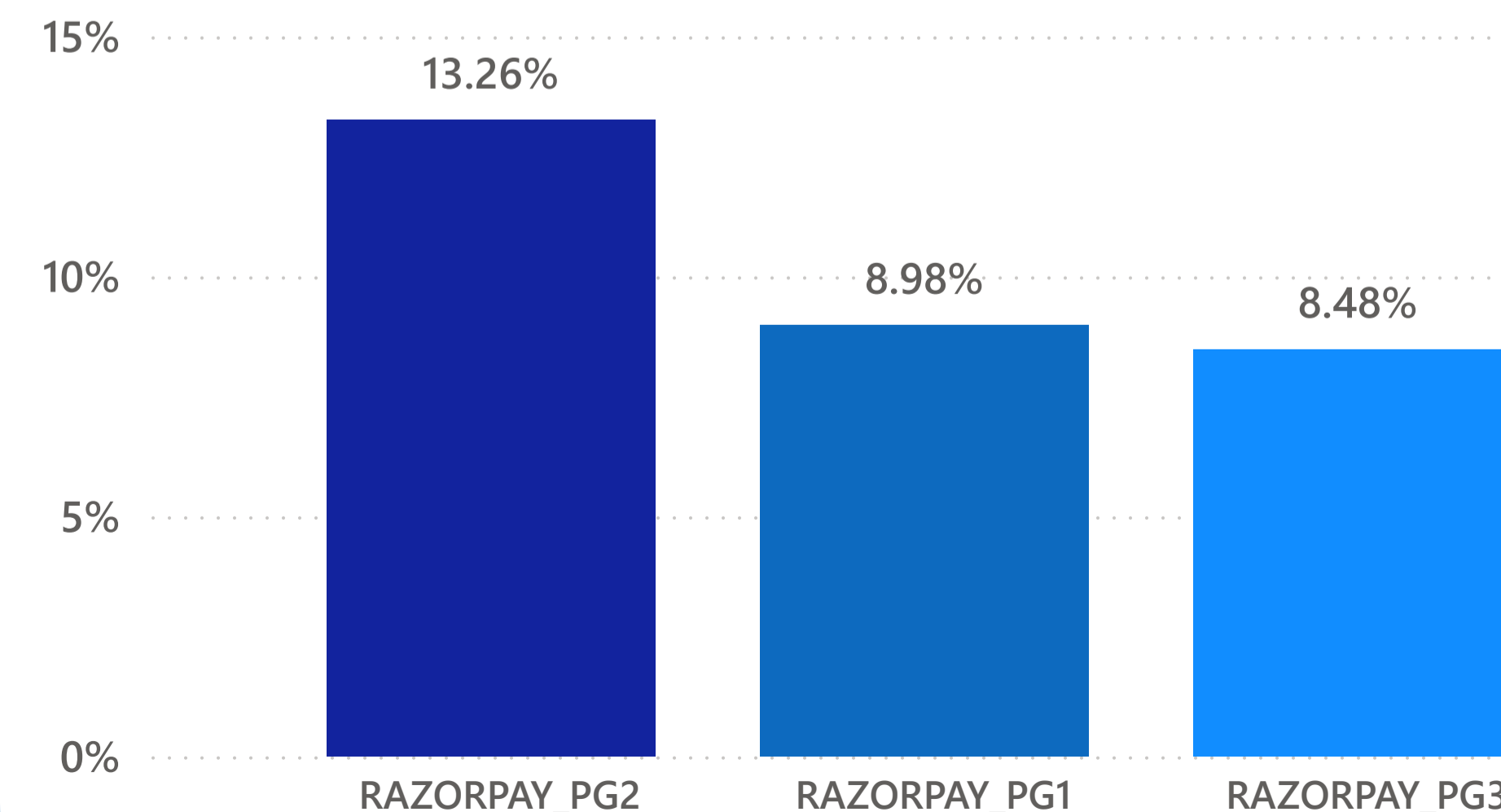
Day Name ● Sunday ● Monday ● Tuesday ● Wednesday ● Thursday ● Friday ● Saturday



Failure Rate by Payment Method



Gateway Failure Rate Comparison





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Recommendations

## Business Insights

**Peak Load Stress:** Failures cluster heavily during peak windows (12–2 PM & 8–10 PM), proving system stress rather than random errors.

**Targeted Fixes:** Key technical errors (Timeouts/Bank issues) drive the majority of failures; solving these offers the highest ROI.

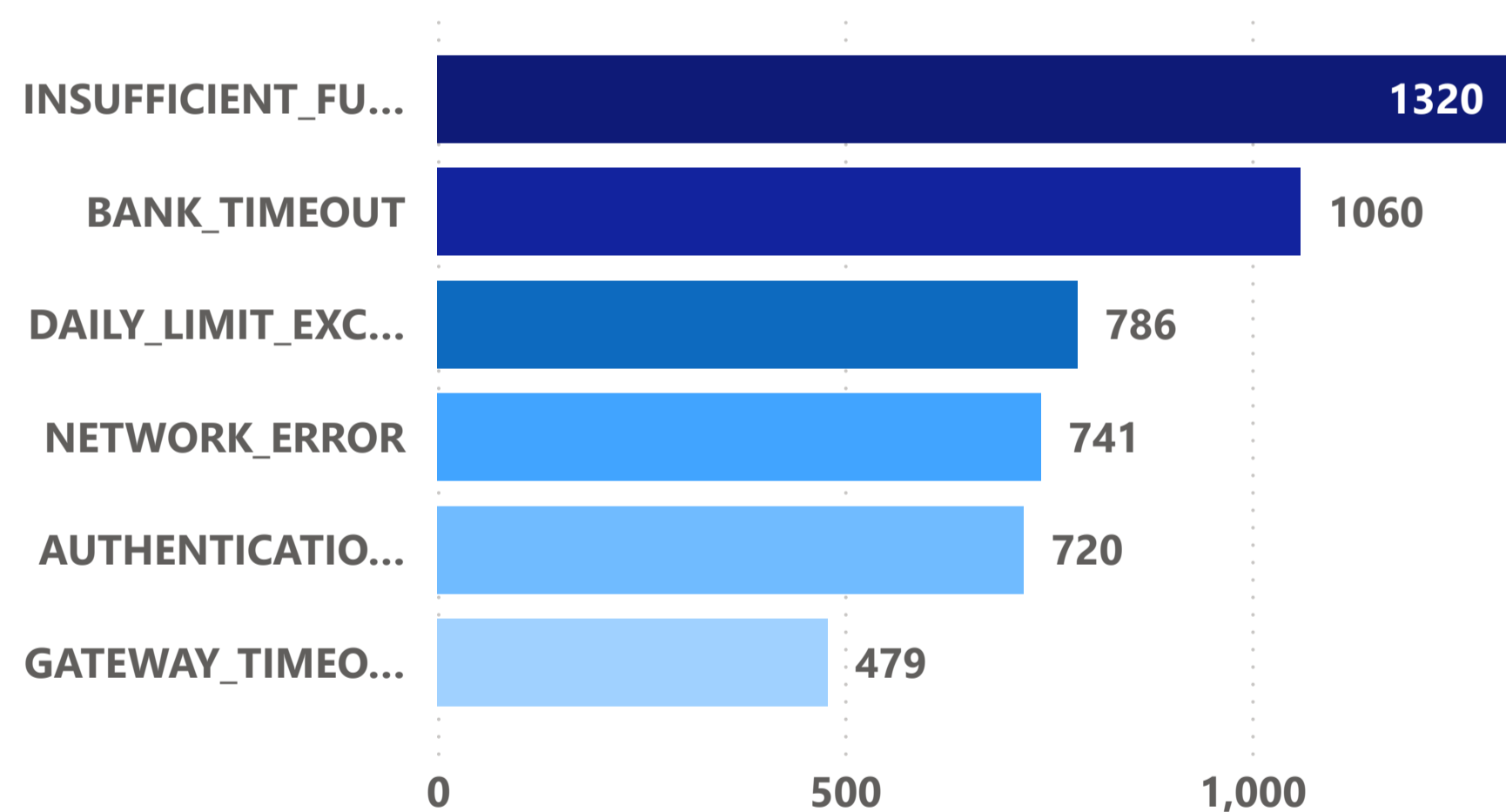
**Infrastructure Gaps:** High peak-hour failure density confirms hardware/network limitations are the primary bottlenecks.

**Revenue at Risk:** High-value transaction failures amplify financial leakage, making their reliability a top business priority.

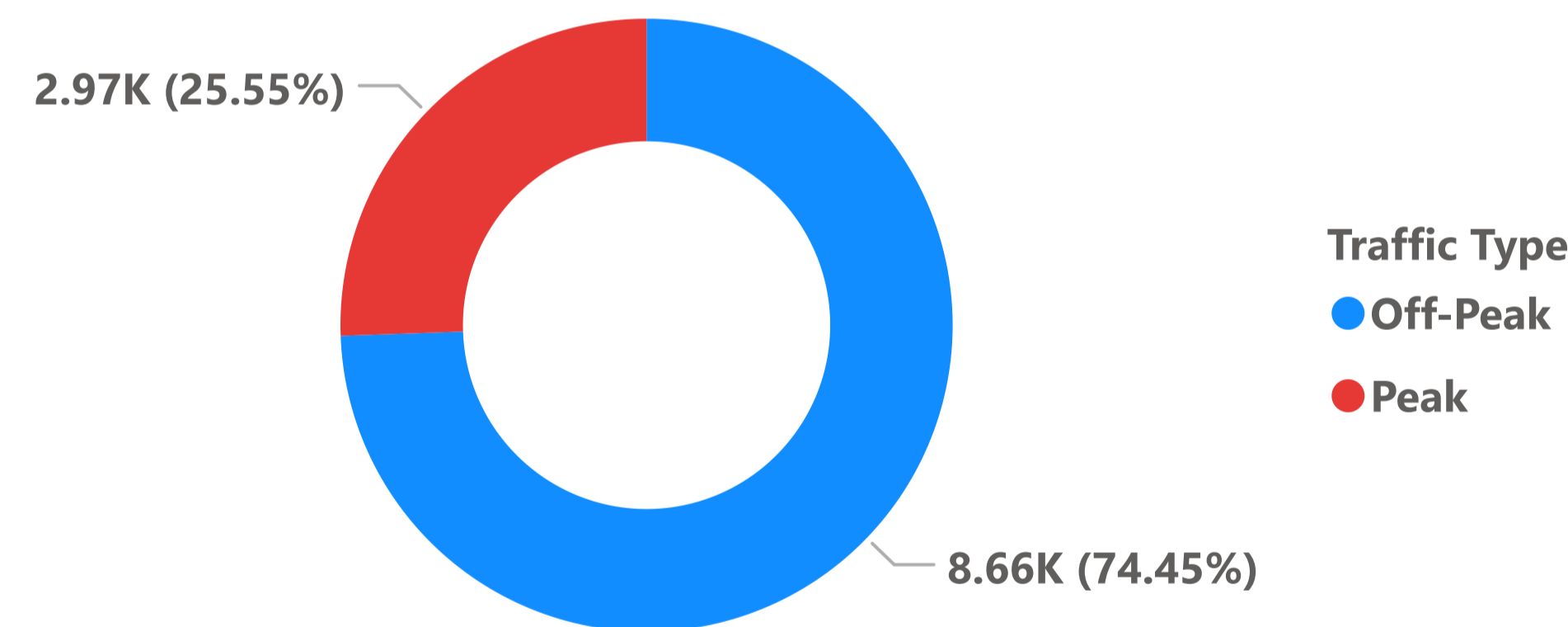
### Failure Hotspots (Day vs Hour)

Day Name	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Sunday	6.75%	7.19%	5.45%	7.39%																
Monday	7.12%	6.36%	8.22%	6.74%	7.09%	6.35%	7.15%	6.76%	7.32%	6.50%	8.04%	5.53%	12.96%	11.89%	8.26%	6.47%	8.17%	7.40%	20.05%	14.1%
Tuesday	6.61%	7.62%	7.57%	6.23%	6.74%	8.30%	7.84%	7.16%	7.20%	8.05%	8.61%	6.94%	12.83%	14.84%	6.57%	8.29%	5.82%	5.50%	18.89%	18.6%
Wednesday	6.47%	8.21%	6.13%	8.50%	6.46%	9.40%	6.13%	6.32%	6.11%	9.16%	6.52%	7.26%	12.53%	15.45%	8.05%	7.63%	7.82%	8.69%	18.58%	18.2%
Thursday	8.26%	6.71%	8.00%	6.35%	7.80%	6.16%	8.73%	6.94%	6.73%	6.76%	9.34%	6.02%	12.28%	13.73%	8.72%	9.05%	7.89%	7.33%	18.55%	19.0%
Friday	5.84%	7.15%	7.64%	6.85%	6.25%	5.90%	8.77%	6.98%	7.59%	8.45%	7.65%	6.80%	14.65%	13.92%	6.82%	6.92%	9.63%	7.20%	17.29%	16.1%
Saturday	6.27%	8.16%	7.31%	7.36%	6.66%	7.97%	6.87%	7.79%	6.01%	6.16%	5.58%	7.78%	13.66%	12.52%	6.94%	6.44%	9.41%	7.68%	16.99%	19.0%
<b>Total</b>	<b>6.77%</b>	<b>7.35%</b>	<b>7.18%</b>	<b>7.05%</b>	<b>6.83%</b>	<b>7.31%</b>	<b>7.59%</b>	<b>6.99%</b>	<b>6.83%</b>	<b>7.51%</b>	<b>7.65%</b>	<b>6.74%</b>	<b>13.17%</b>	<b>13.73%</b>	<b>7.57%</b>	<b>7.46%</b>	<b>8.11%</b>	<b>7.30%</b>	<b>18.42%</b>	<b>17.5%</b>

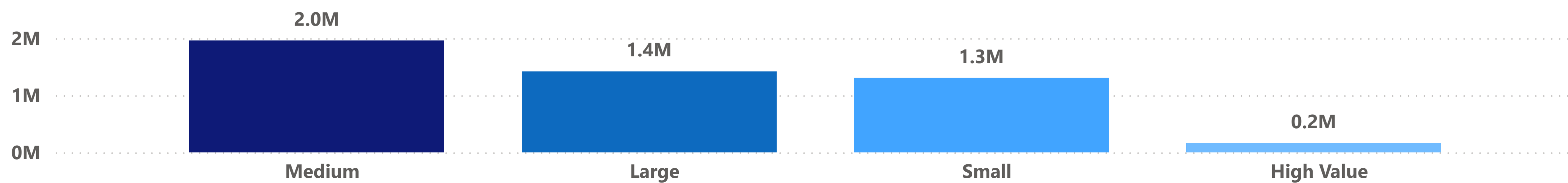
### Top Failure Reasons



### Failure Distribution: Peak vs Off-Peak



### Revenue Loss by Transaction Size





Recommendations

# Action Plan to Reduce Payment Failures



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Deep Failure Analysis

## Data-driven recommendations to reduce failure rate and recover lost revenue

**Smart Retry for Failed Transactions :** Automatically retry failed transactions (especially timeouts) within seconds to recover temporary failures.

**Impact:**

**Recover ~20–30% of failed transactions**

**Infrastructure Scaling During Peak Hours :** Increase server capacity and optimize load handling during high-traffic windows (12–2 PM, 8–10 PM).

**Impact:**

**Reduce peak failure rate significantly**

**Optimize High-Risk Payment Methods :** Improve UPI handling or route high-value transactions to more reliable methods.

**Impact:**

**Reduce failure concentration in critical channels**

**Implement Gateway Failover System:** Automatically switch to backup gateway when primary fails or slows down.

**Impact:**

**Minimize downtime-related failures**

**Improve User Retry Experience:** Notify users instantly and provide one-click retry options.

**Impact:**

**Recover abandoned failed transactions**