

Data-Driven Case Study On Rental Assets

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OBJECTIVE

The goal of this case study is to analyze Rentkar's asset data to improve unit economics, optimize asset performance, and guide strategic decisions related to repairs, vendor performance, and expansion.



APPROACH

- Data Cleaning & Exploratory Data Analysis
- Metric Modelling
- Decision-Driven Insights

EXPLORATORY DATA ANALYSIS

Performed data cleaning by handling missing values and standardizing fields. Explored patterns in asset usage, ROI, and vendor performance using interactive visuals in Power BI.

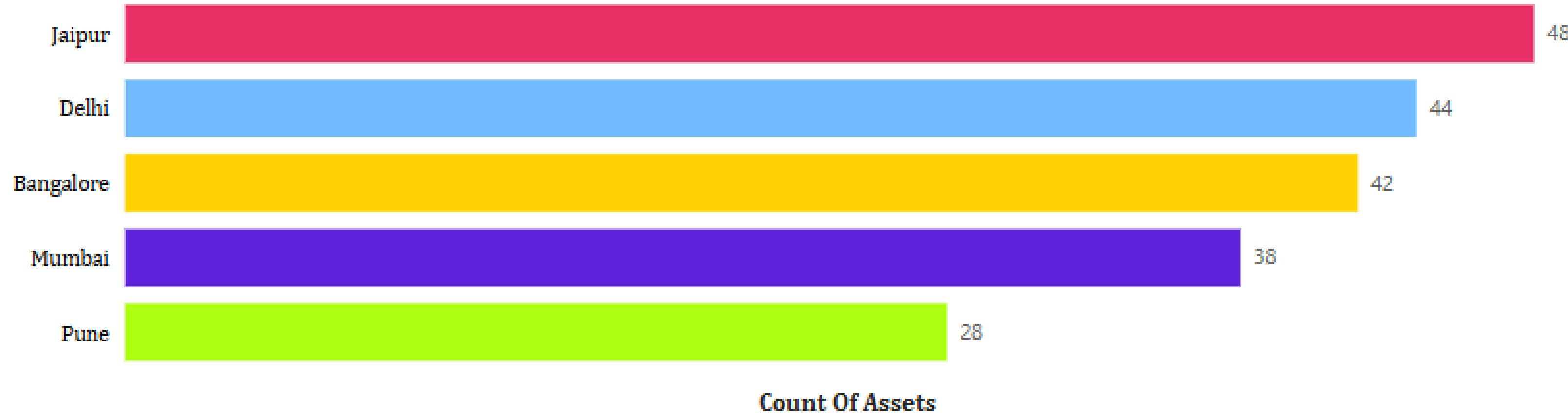
METRIC MODELLING

Developed key performance indicators such as Cost Recovery Rate, Asset downtime percentage and Asset Utilization by day to evaluate asset efficiency and financial outcomes across the business.

DECISION-DRIVEN INSIGHTS

Recommended whether to repair or replace underperforming assets, considering performance improvement, repair cost, and replacement value

EXPLORATORY DATA ANALYSIS:

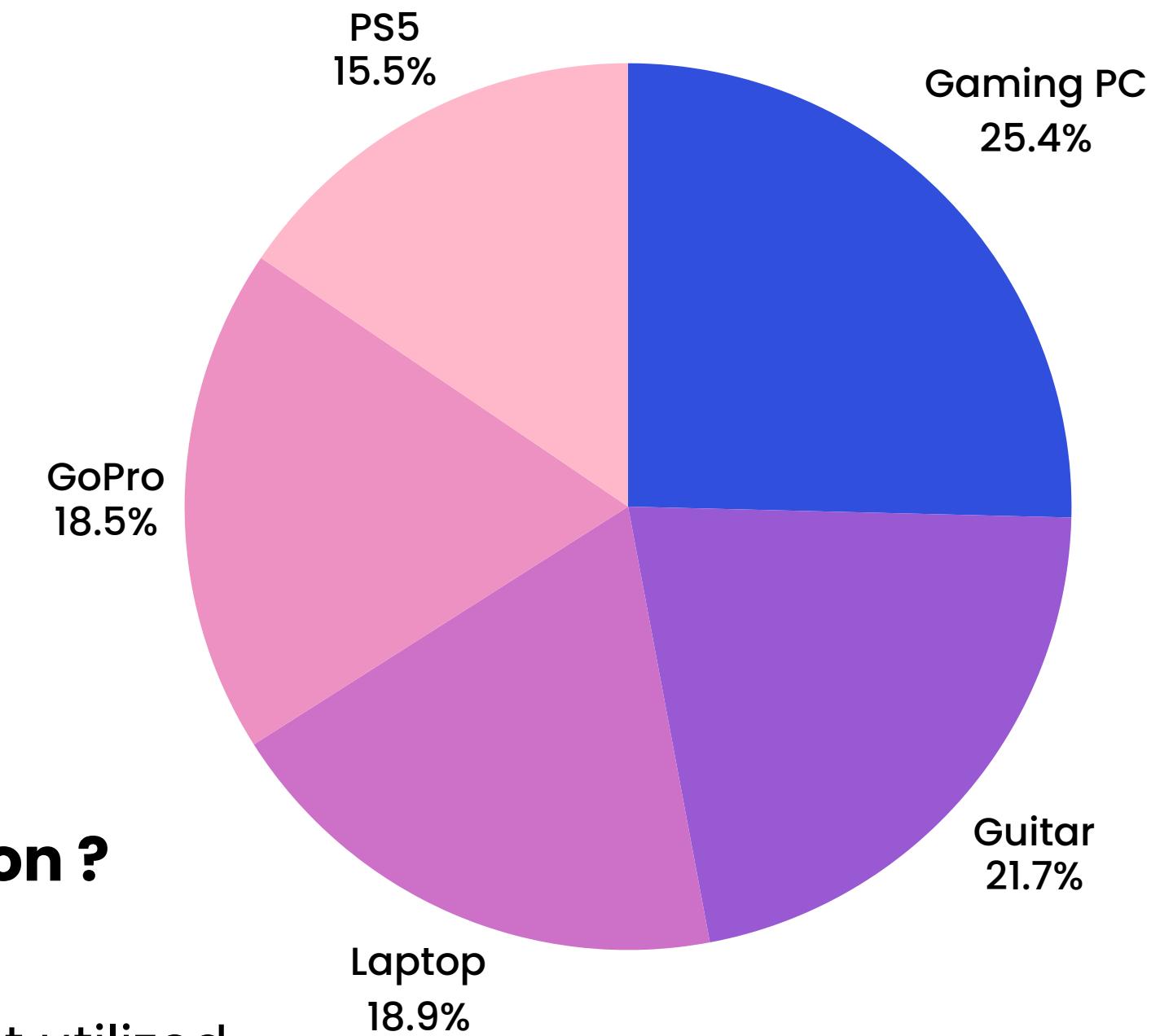


Which cities have the highest asset utilization?

Jaipur, Delhi, and Bangalore show the highest asset utilization, with Jaipur leading at 48 assets indicating strong demand and efficient deployment.

Which asset types deliver the best RoI?

Gaming PCs deliver the highest RoI at 25.4%, followed by Guitars (21.7%) and Laptops (18.9%). These asset types generate strong returns relative to their rental cost and are ideal candidates for further procurement and marketing focus.

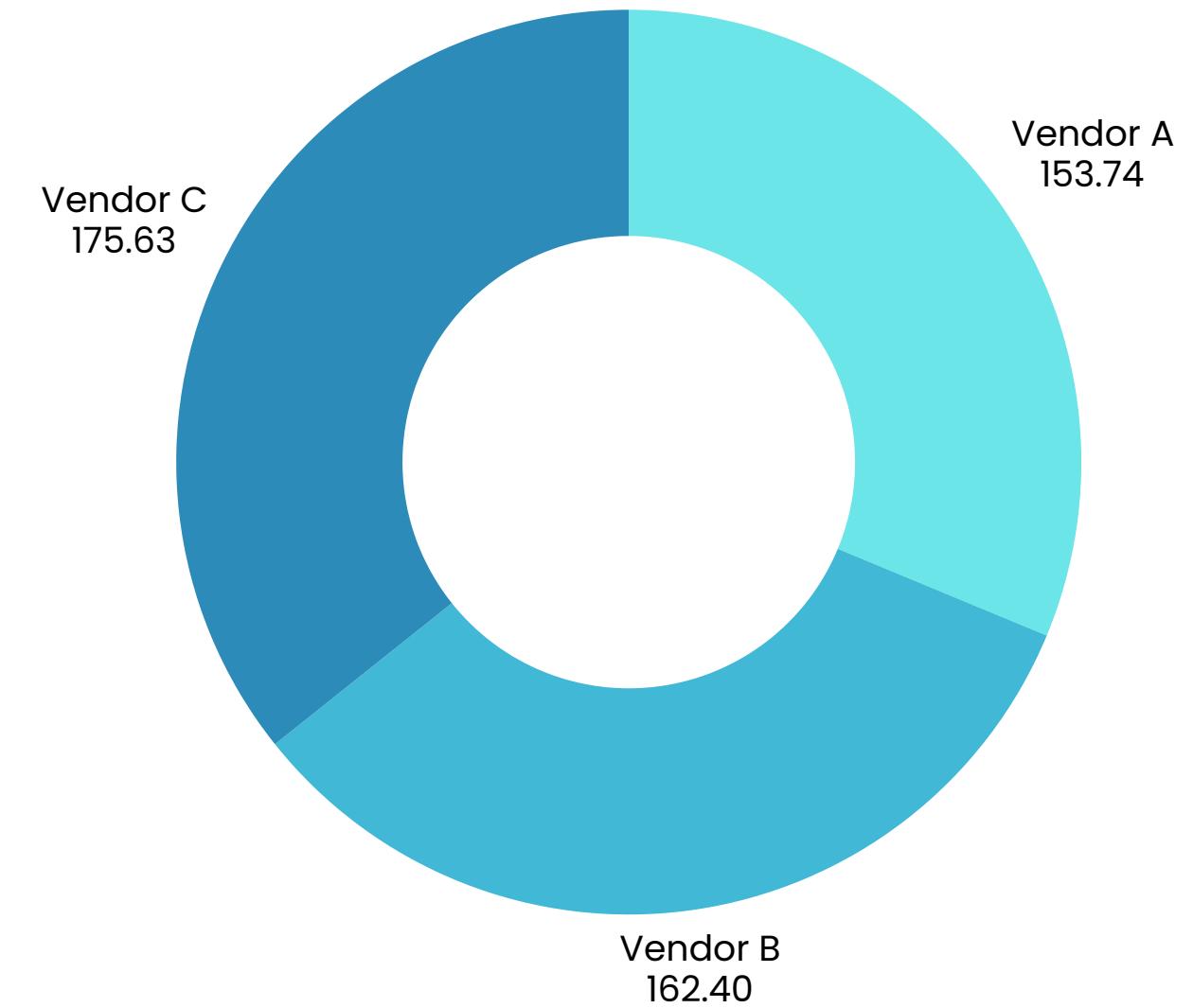


Are there any patterns in Asset underutilization ?

As per observation Delhi and Jaipur has the most underutilized assets and Bangalore has the the most utilized assets , further more trends can be derived like which asset specifically if the dataset size provided is large

Which Vendor Consistently offer better ROI ?

- Vendor C leads with the highest average ROI of 175.63%, indicating a strong performance in both asset utilization and revenue generation
- Vendor B comes next with an average ROI of 162.40%, showing decent performance but not as impactful as Vendor C.
- Vendor A has the lowest ROI average of 153.74% among the three, suggesting room for performance improvement.



What is the average lifecycle of an asset by type?

- PS5 assets show the highest average usage at 16.03 days, indicating strong demand and engagement.
- GoPro (15.50 days) and Guitar (14.63 days) also maintain high utilization.
- Laptops average 13.70 days, while Gaming PCs record the lowest average usage at 12.92 days.

METRIC MODELLING:

	Formula	Rationale	Example
Cost Recovery Rate	$CRR = \frac{AssetMonthlyRevenue}{AssetPurchaseCost} \times (100)$	Indicates how much of an asset's cost has been recovered. Helps identify high-performing or lagging assets.	If an asset cost ₹30,000 and has generated ₹24,000 in revenue: Recovery Rate = $(24,000 / 30,000) \times 100 = 80\%$
Asset Downtime %	$Downtime\% = \frac{(30 - UsageDays)}{30} \times (100)$	Measures asset idleness. Higher downtime = lost revenue. Use to identify underused or inactive assets.	If a camera was used for 21 out of 30 days: Utilization = $(30-21 / 30) \times 100 = 30\%$
Revenue per Asset-Day	$RPAD = \frac{AssetMonthlyRevenue}{UsageDays} \times (100)$	Shows how efficiently each day of usage generates income. Good for pricing strategy and utilization planning.	If monthly revenue is ₹3,000 and the asset was used for 20 days: Revenue per Asset-Day = $3,000 / 20 = ₹150/day$

ASSET OPTIMIZATION STRATEGY:

Underperforming Assets Snapshot:

- X% of total assets identified as underperforming
- Avg Repair Cost: ₹Y per asset
- Avg New Purchase Cost: ₹Z per asset

Comparison:

- Repair: +X% performance increase, ₹Y cost
- New Assets: +Z% performance increase, ₹W cost

Recommendation:

- Prioritize repairing underperforming assets if cost-effective and performance boost is significant
- Consider procuring new assets if repair costs are high or performance gains are limited

REPAIR

VS

REPLACE

THANK YOU !