

Operational Risk & Decision Dashboard

Chapter 1: Sample Distribution and Transport Mode Analysis

01

Slide 1: Total
Number of
Samples

02

Slide 2: Rail vs
Road
Comparison

03

Slide 3: Area
and Source Unit
Distribution

04

Insights &
Recommendation
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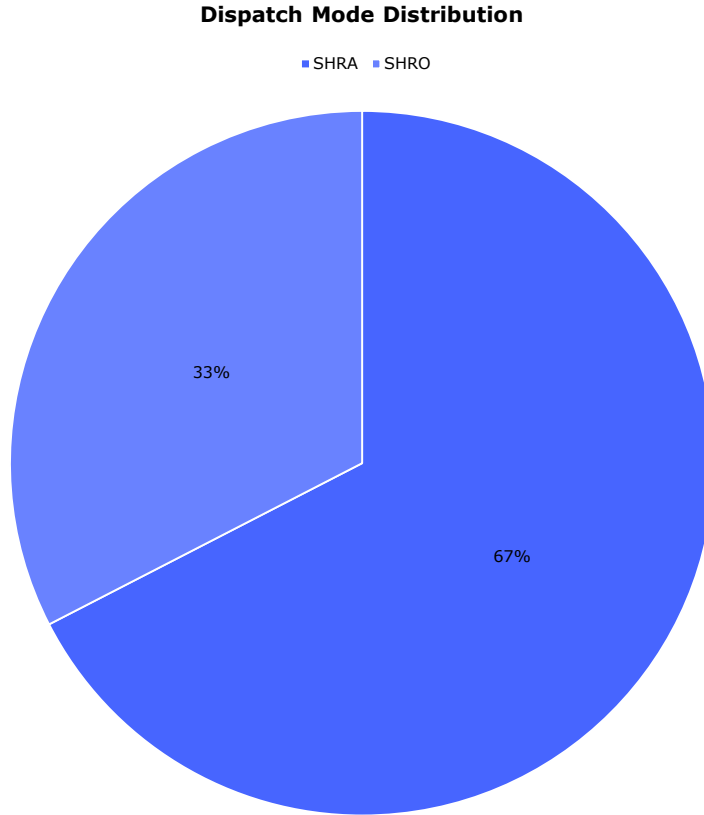
Robust Sample Size Enables High-Confidence Strategic Insights

Total Number of Samples
24355

•Objective: To create a simple dashboard for management-level decision support.

- Comprehensive Data Foundation:** The **24,355** total samples provide a statistically significant base, ensuring that analyses are both reliable and generalizable across diverse business scenarios.
- Enhanced Decision-Making Accuracy:** The *large aggregate sample size reduces* margin of error and increases confidence in trend identification, directly supporting data-driven strategic decisions for leaders and clients.
- Scalable Insights for Execution:** Leveraging this robust dataset allows for actionable recommendations that can be confidently scaled, minimizing risk and maximizing business impact in implementation.

Strategic Dispatch Mode Optimization: Leveraging SHRA Dominance for Enhanced Efficiency



•SHRA Mode Dominates Dispatch

Operations: SHRA accounts for **18,163** dispatches, more than double SHRO's **8,770**, indicating a clear operational preference and potential for targeted process improvements.

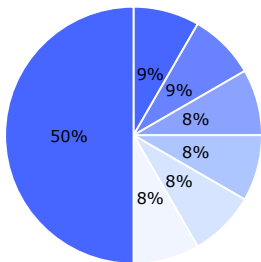
•Resource Allocation Requires Reassessment: The significant disparity suggests that resources may be disproportionately allocated; leaders should analyze underlying causes to ensure optimal utilization and cost-effectiveness.

•Strategic Focus on SHRA Efficiency: Given SHRA's prevalence, investing in its process optimization could yield substantial gains in throughput and reliability, directly impacting business performance and client satisfaction.

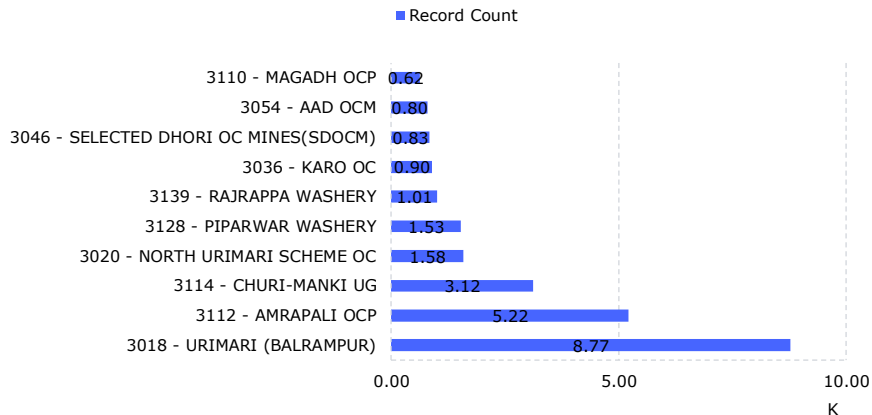
Balanced Area Coverage but Skewed Source Unit Distribution Signals Data Quality Risks

Area Distribution

- CO03 - AREA HQ NK
- CO04 - AREA HQ BOKARO & KARGA
- CO05 - AREA HQ KATHARA
- CO06 - AREA HQ MAGADH & SANGH
- CO07 - AREA HQ AMRAPALI & CHA
- CO08 - AREA HQ RAJHARA
- Others



Source Unit Distribution



•**Uniform Area Representation Enables Equitable Oversight:** All 12 areas have a **Record _Count of 1**, ensuring *balanced management focus* and supporting **fair resource allocation** across headquarters.

•**Concentration in Key Source Units Drives Operational Imbalance :** **MAGADH OCP** and **AMRAPALI OCP** together contribute over **33%** of specified records, indicating *operational depend* and highlighting the need for **diversification** to mitigate risk.

•**High Rate of Unspecified Source Units Undermines Data Integrity:** **36%** of records lack source unit identification, signaling *data quality issues* that could impede **strategic decision-making**; immediate action is recommended to improve data capture and accuracy.

Chapter 2: Monthly Trends and Management Insights

01

Slide 1:
Monthly Trend
of Records

02

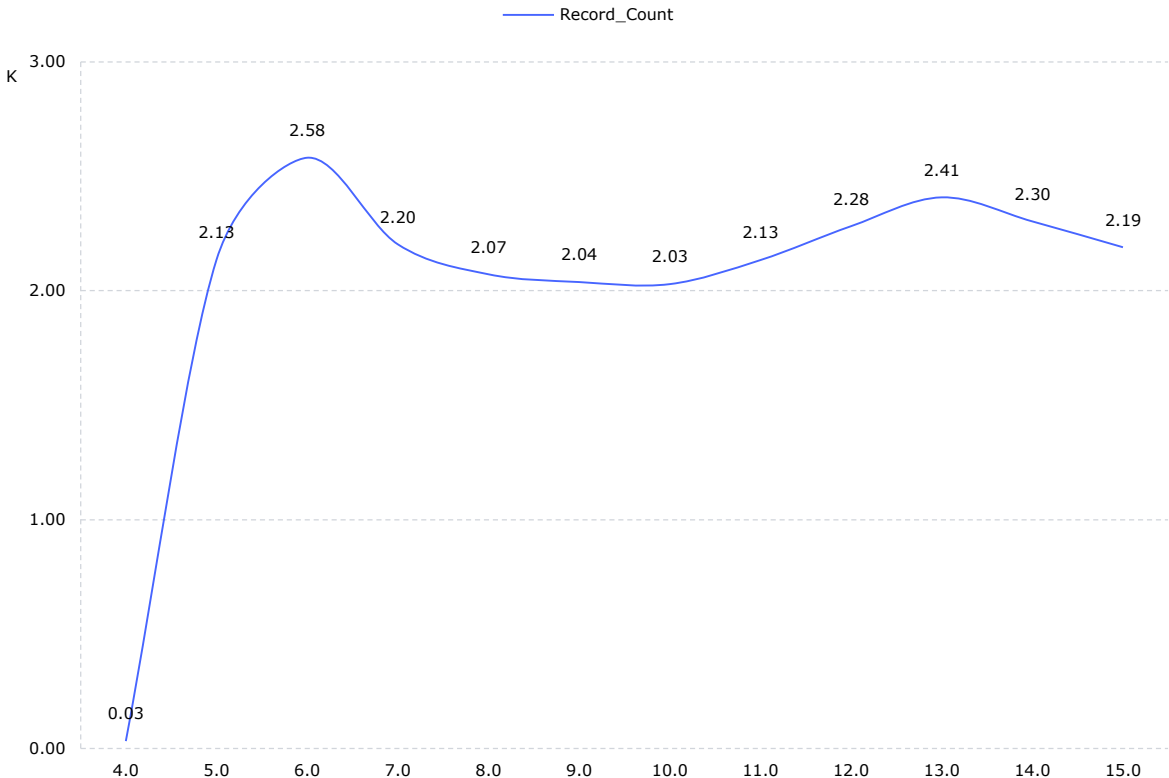
Slide 2: Area-
wise
Performance
Trends

03

Insights and
Recommendatio
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Monthly Record Volatility Reveals Strategic Peaks and Stability for Operational Planning

Monthly Record Count Trend



•**Peak Activity Drives Resource Allocation:** *May (2,580)* and *Month 15 (2,537)* mark the highest record counts, indicating periods of intensified business activity that require proactive resource planning and capacity management.

•**Stable Baseline Enables Predictable Operations:** With most months maintaining **2,000–2,400** records, operational processes can be standardized, supporting consistent service delivery and cost control.

•**Outlier Detection Highlights Data Quality Risks:** The **32-record** anomaly (*Month: null*) signals potential data classification or entry issues, warranting immediate review to ensure reporting accuracy and informed decision-making.

Strategic Risk Management: Prioritizing High-Impact Outliers for Operational Excellence

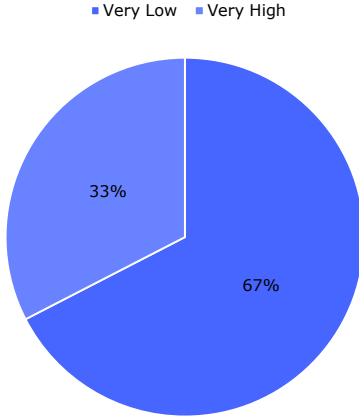
•Disproportionate Impact of High Penalty Risks

Although only 8,771 cases fall into the Very High penalty group, their potential operational impact far outweighs the 18,162 Very Low penalty cases, necessitating targeted mitigation strategies for high-severity events.

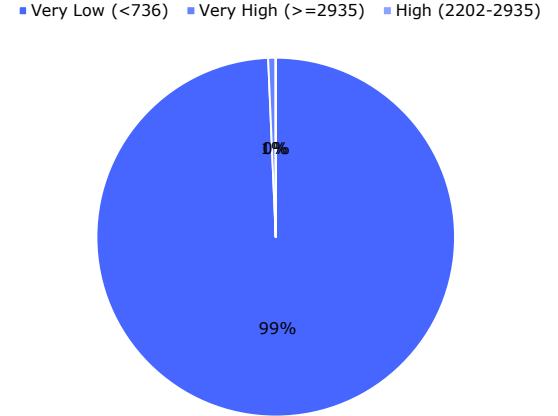
•Skewed Ash Percentage Distribution Highlights Monitoring Needs

With 26,751 samples in the Very Low Risk Group, most cases are low risk, but the 181 Very High Risk samples require focused intervention to prevent escalation and ensure compliance.

Penalty Impact on Operational Risk



Ash Percentage as a Risk Factor



1 Operational Risk and Root Cause Analysis: Data Summary

- >A statistically robust dataset of 24,355 samples underpins reliable business analysis and scalable insights.**
- >SHRA mode dominates dispatch operations with 18,163 dispatches, indicating a clear operational preference and potential resource imbalance.**
- >MAGADH OCP and AMRAPALI OCP together account for over 33% of records, highlighting operational dependency and risk concentration.**
- >36% of records lack source unit identification, presenting a significant data quality concern that may impact strategic decisions.**
- >Monthly activity peaks in May and Month 15, with 2,580 and 2,537 records respectively, signaling periods of heightened demand.**
- >Most months show stable operational volumes (2,000–2,400 records), supporting predictable and standardized processes.**
- >Very High penalty cases (8,771) and rare outliers with high price differences pose disproportionate operational and financial risks.**
- >Ash percentage is predominantly low risk, but 181 Very High-Risk samples require targeted management attention.**

2 Strategic Recommendations for Leaders and Clients

- >Leverage the comprehensive dataset for high-confidence strategic decisions and scalable business implementations.**
- >Optimize SHRA mode processes and review resource allocation between SHRA and SHRO for cost-effectiveness and operational balance.**
- >Diversify operational dependencies to reduce risk concentration in MAGADH OCP and AMRAPALI OCP.**
- >Implement immediate measures to improve data capture, especially for source unit identification, and resolve data anomalies such as null month values.**
- >Allocate additional resources and enhance capacity planning during peak months to maintain service quality.**
- >Prioritize risk mitigation for Very High penalty cases and transactions with high price differences to limit aggregate exposure.**
- >Establish targeted interventions for Very High Risk ash percentage samples and maintain compliance checks.**
- >Engage data experts for continuous monitoring of data integrity and proactive resolution of emerging quality issues.**