

DATA ANALYTICS FOR E- PAYMENT OPTIMIZATION



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TRAINING CENTER



Introduction

The Data Analytics for E-Payment Optimization Training Course equips payment and analytics professionals to turn transaction data into measurable performance gains. Every electronic payment leaves a data trail: authorisation, routing, fees, latency, and outcome. Analysed properly, that trail reveals where cost builds, where failures cluster, and where customers abandon. This course covers the full analytical path from payment data models to dashboard delivery. It explains authorisation rate analysis, routing optimisation, and fraud analytics. Furthermore, it applies SQL, Python, and visualisation tools to real payment problems. As a result, participants learn to improve payment performance on evidence.

Data Analytics for E-Payment Optimization Course Objectives

- Explain e-payment data models and the transaction lifecycle stages.
- Extract and prepare payment data using SQL and Python.
- Define and monitor payment KPIs including authorisation and success rates.
- Analyse declines, failure reasons, and retry behaviour patterns.
- Optimise payment routing, cost per transaction, and scheme selection.
- Evaluate checkout funnels, drop-off points, and conversion behaviour.
- Apply fraud analytics, velocity checks, and false positive reduction.
- Segment payment behaviour by channel, device, geography, and customer type.
- Build payment dashboards and alerting on exception thresholds.
- Design A/B tests and measure the impact of optimisation changes.

Course Methodology

- Interactive lectures with real e-payment analytics case studies.

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- Hands-on data preparation and query exercises using SQL and Python.
- Dashboard design workshops with payment KPI frameworks.
- Optimisation experiment design and results interpretation practice.
- Structured peer discussion with facilitator feedback on analytics findings.

Who Should Take This Course

- Payment operations and performance analysts.
- Data analysts and business intelligence professionals.
- E-commerce and digital channel managers.
- Fraud and risk analytics specialists.
- Product managers for payment platforms.
- Fintech and payment service provider staff.

Data Analytics for E-Payment Optimization Course Outlines

Day 1: E-Payment Data Foundations

- The e-payment transaction lifecycle and its data points.
- Authorisation, clearing, and settlement data structures.
- Data sources: gateways, acquirers, schemes, and internal systems.
- Data quality issues: reconciliation gaps, missing fields, and duplicates.
- Payment data models and keys for joining datasets.
- Data governance, privacy, and PCI DSS considerations.
- Case study: how one merchant improved authorisation rates with better data.





Day 2: Payment KPI Definition and Analysis

- Authorisation rate, success rate, and decline rate definitions.
- Decline reason codes and their interpretation limits.
- Cost per transaction, interchange, and scheme fee analysis.
- Latency, timeout, and response time measurement.
- Retry logic and its effect on success and cost.
- Cohort and trend analysis of payment performance.
- Workshop: computing payment KPIs from a transaction dataset.

Day 3: Routing, Cost, and Conversion Optimization

- Payment routing rules and smart routing strategies.
- Acquirer and scheme selection by corridor and instrument.
- Cost optimisation without harming success rates.
- Checkout funnel analysis and drop-off diagnostics.
- Device, channel, and geography segmentation.
- A/B testing design for payment changes.
- Workshop: designing a routing optimisation experiment.

Day 4: Fraud Analytics and Risk Signals

- Fraud typologies in electronic payments.
- Velocity checks, device fingerprinting, and behavioural signals.
- Rule-based systems versus machine learning models.
- False positive reduction and customer friction balancing.
- Chargeback analytics and dispute pattern analysis.

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- 3-D Secure and authentication impact analysis.
- Workshop: building fraud detection rules from transaction data.

Day 5: Dashboards, Reporting, and Continuous Improvement

- Dashboard design principles for payment performance.
- KPI hierarchies, drill-downs, and exception alerts.
- Automated reporting and data refresh routines.
- Root cause analysis on payment incidents.
- Presenting findings and recommendations to stakeholders.
- Building a payment optimisation roadmap.
- Course review, assessment, and action planning.

Conclusion

By successfully completing Data Analytics for E-Payment Optimization, participants will gain a thorough understanding of payment data structures, performance KPIs, routing and cost optimisation, fraud analytics, and dashboard reporting. They will also acquire practical skills in data preparation, KPI analysis, experiment design, and root cause investigation. In addition, the course prepares them to improve payment performance measurably. Gentex Training Center delivers this programme with a strong focus on applied payment analytics and measurable optimisation results.

FAQs for Data Analytics for E-Payment Optimization course





Q1 What is the "Data Analytics for E-Payment Optimization" course about?

It is a five-day programme on using data to improve electronic payment performance. It covers payment transaction data structures, KPI definition, decline and retry analysis, routing and cost optimisation, funnel and conversion diagnostics, fraud analytics, and dashboard reporting.

Q2 What are the key benefits of the "Data Analytics for E-Payment Optimization" course?

Participants learn to find the specific drivers of payment failure and cost instead of guessing. The course raises authorisation and success rates, lowers cost per transaction, reduces checkout abandonment, balances fraud controls against customer friction, and gives teams clear dashboards for tracking improvement over time.

Q3 What skills will I gain from the "Data Analytics for E-Payment Optimization" course?

Participants gain payment data preparation and querying with SQL and Python, payment KPI definition and decline analysis, routing, cost and conversion optimisation, and fraud analytics with dashboard reporting and experiment design. These four skills cover the full payment analytics workflow.



Q4 What tools, methods, or standards are covered in the "Data Analytics for E-Payment Optimization" course?

The course covers payment data models and joining keys, SQL and Python for data preparation, authorisation, success and decline rate definitions, decline reason codes, cost per transaction and interchange analysis, latency measurement, retry logic analysis, smart routing rules, checkout funnel analysis, device fingerprinting and velocity checks, machine learning fraud models, chargeback analysis, 3-D Secure impact analysis, dashboard design, exception alerting, A/B testing, and PCI DSS and data privacy considerations.

Q5 How is the "Data Analytics for E-Payment Optimization" course applied in real-world practice?

Participants apply the methods to live payment datasets. They build KPI reports, investigate decline spikes, redesign routing rules, run checkout funnel diagnostics, tune fraud rules, and publish dashboards with alerts. Many leave with reusable queries and a prioritised optimisation roadmap for their payment channels.