



Product Analytics and Metrics: Tracking Plans, Funnels, Cohorts and A/B Testing



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Introduction:

Digital product teams and public e-service owners collect millions of user events, yet many still cannot say whether a release improved retention, why users abandon onboarding or which feature is worth keeping. Tracking is inconsistent, dashboards show vanity counts and experiments end without a trustworthy verdict. This Core Concept course builds practical product analytics and metrics skills, from metric frameworks and event instrumentation to funnel, cohort and A/B testing analysis. Participants produce a Product Metrics Framework, Tracking Plan and Experiment Design for a case app.

Course Objectives:

- Define a North Star metric, its input metrics and HEART signals for a digital product or public e-service
- Specify an event tracking plan with a consistent taxonomy, event properties and a data layer ready for instrumentation
- Analyse conversion funnels, cohort retention and feature adoption to locate where and why users drop off
- Measure activation and time-to-value and segment users by behaviour to target product improvements
- Design A/B tests with a clear hypothesis, calculated sample size, significance criteria and guardrail metrics, and read the results correctly
- Build a Product Metrics Framework, Tracking Plan and Experiment Design that a product team can run from

Target Audience:

- Product management staff who own feature decisions and success measures for apps and web products
 - Product and data analysis staff who build funnels, cohort tables and experiment readouts
 - Growth staff responsible for activation, retention and conversion targets
 - User experience research and design staff who combine behavioural data with usability evidence
 - Digital service owners who run citizen-facing e-services and track their take-up and completion
 - Engineering staff who implement event instrumentation and tag management
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Course Outline:

Day 1: Product Analytics Foundations and Current-State Review

- Product Analytics Stack: Event Analytics Platforms, Tag Managers and Customer Data Platforms
- Actionable Versus Vanity Metrics Diagnostic
- Product Data Maturity Assessment for Apps and Public E-Services
- Mixed-Method Insight: Pairing Surveys, Session Replays and Usability Findings with Event Data
- Current-State Metric Inventory and Tracking Gap Register

Day 2: Metric Frameworks and Tracking Architecture

- North Star Metric and Input Metric Tree Construction
- HEART Framework with Goals-Signals-Metrics Mapping
- AARRR Pirate Metrics Across the User Lifecycle
- Event Taxonomy and Naming Convention Rules for a Tracking Plan
- Data Layer Specification and Tag Management Instrumentation Workflow

Day 3: Funnel, Cohort and Engagement Analysis

- Conversion Funnel Build and Step Drop-Off Analysis
- Cohort Retention Tables and Retention Curve Interpretation
- Feature Adoption, Stickiness Ratio and Engagement Depth Analysis
- Behavioural Segmentation and Power User Identification
- Activation Milestones and Time-to-Value Measurement for Product-Led Growth

Day 4: Experimentation, Data Quality and Privacy Risks

- A/B Test Hypothesis Statements and Primary Metric Selection
- Sample Size, Minimum Detectable Effect and Statistical Significance Calculation
- Guardrail Metrics, CUPED Variance Reduction and Test Choice by Metric Type
- Experiment Pitfalls: Early Peeking, Sample Ratio Mismatch, Novelty Effects and Segment Reversals
- Consent Capture, Data Minimisation and Privacy-Safe Event Collection

Day 5: Modelling Build: Metrics Framework, Tracking Plan and Experiment

- Case App Brief: Diagnosing a Stalled Onboarding Funnel
 - Metric Tree and HEART Scorecard Build for the Case App
 - Tracking Plan Workbook with Event Properties and QA Checklist
 - Experiment Design Document with Sample Size Workbook and Guardrails
 - Product Dashboard Mock-Up and Metric Review Presentation
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Skills You Will Gain:

- Product Metric Design
- Event Instrumentation Planning
- Funnel Diagnostics
- Retention Cohort Analysis
- Behavioural Segmentation
- Experiment Design and Readout
- Product Dashboard Reporting
- Privacy-Aware Data Collection

Why Attend This Course:

- Leave with a Product Metrics Framework, Tracking Plan and Experiment Design built and reviewed during the course
- Settle debates about a release or feature with funnel, cohort and experiment evidence instead of opinion
- Stop shipping tests that end inconclusive by sizing them properly before launch
- Give engineers a tracking specification they can implement without guesswork or rework

Conclusion:

Product decisions improve when every team member knows which metric matters, how it is tracked and how a change will be tested. The course moves from the analytics stack and current-state review, through metric frameworks and tracking architecture, to funnel, cohort and engagement analysis, and then to experiment design, data quality and privacy. The final day brings this together in a modelling build that produces a Product Metrics Framework, Tracking Plan and Experiment Design ready for the next product review.
