

HR Analytics with Generative AI Applications

Introduction

HR decisions increasingly require evidence-based insights to guide talent strategy, optimize costs, and align people practices with business goals. This HR Analytics course provides a structured, statistics-first pathway: from understanding data types and data quality, through descriptive and diagnostic analysis, to predictive and prescriptive techniques and the responsible use of generative AI. Across five days of hands-on practice, participants will learn how to clean, analyse, visualise, interpret, and communicate people data in ways that directly support better workforce and business decisions.

Program Objectives

- Build confidence in handling HR data, from identifying data types and sources to cleaning datasets and assessing data quality.
- Master essential descriptive techniques, including central tendency, variability, distributions, and univariate/bivariate analysis for core HR metrics.
- Apply key diagnostic tools to understand drivers behind outcomes such as attrition, pay differences, and training effectiveness.
- Understand and experiment with predictive techniques such as linear and logistic regression and simple time-series analysis.
- Use visualisation and storytelling to turn analytical results into compelling narratives and presentations for senior leaders.
- Leverage generative AI appropriately while maintaining human judgment, data privacy, and awareness of AI limitations.

Intended Learning Outcomes (ILO)

Upon completion, participants will be able to:

- ✓ Explain the evolution of HR analytics, the four phases of HR analytics impact, and the four levels of analytics.
- ✓ Identify, calculate, and interpret key HR metrics across staffing, talent acquisition, total rewards, learning & development, performance management, and talent management.
- ✓ Classify HR variables correctly, assess data quality, clean HR datasets, and apply basic statistical concepts including measures of central tendency, spread, and distribution.
- ✓ Perform univariate and bivariate analyses using appropriate visualisations to explore patterns and relationships in HR data, and apply basic statistical tests to answer diagnostic questions.
- ✓ Build and interpret simple predictive models and convert predictions into prescriptive, prioritised HR actions such as targeted interventions or budget allocation.
- ✓ Use generative AI tools to support HR analytics workflows while recognising their limitations and ensuring responsible, human-led decision-making.



KEN HUANG

Ken is a seasoned HR leader with a non-traditional path into the field. With a Bachelor's degree in Mechanical Engineering and a Master's degree in Data Science, he began his career in startups and rotated across multiple functions, including product manager, digital marketer, before transitioning into HR. Over the past several years, he has worked with multiple industry-leading, high-growth companies, progressing from HRBP to HR Director, where he built and led teams and supported a globally distributed workforce. He believes HR delivers its greatest impact by breaking conventional thinking and staying relentlessly problem-focused. In the era of AI transformation, he actively explores how HR can engage more effectively with technology to unlock unprecedented value for organizations.



DR. KEITH CHAU

Dr. Keith Chau Senior Consultant, School of Professional Education and Executive Development, The Hong Kong Polytechnic University, brings 20 years of expertise in talent management, corporate strategy, and performance. He advises CEOs across industries, conducts in-house training, and consults on staff engagement, design thinking, emotional marketing, and succession planning for private and public sectors in Hong Kong, Macau, and China.

1	HR ANALYTICS & DATA FOUNDATIONS			
	Module 1: What Is HR Analytics & Why It Matters • Role of HR analytics in workforce and business decisions • Four phases / four levels of analytics impact • Tool landscape: Excel, Power BI, Tableau, Python • Introduction to GenAI and the rise of AI in people analytics	Module 2: Employer Branding as a Strategic Asset • Numerical vs categorical variables in HR • Typical HR data sources • Cleaning basics and documentation / data dictionary habits • People data and cloud LLMs: Common pitfalls with sensitive people data	Module 3: Two lanes of analytics tooling • Structured data: statistics and predictive models • Text and comments: Natural Language Processing with AI	Module 4: Central tendency, spread, distributions • Measures of centre and spread • AI-assisted charts generation • Histograms and boxplots • Use cases: pay, tenure, time-to-hire
2	DESCRIPTIVE HR ANALYTICS & CORE METRIC			
	Module 5: Staffing, recruitment, C&B • Key metrics and cases • Univariate and bivariate views • Segments and cross-domain links • AI-assisted executive summary and accuracy check	Module 6: L&D, performance, talent • Key metrics and cases • Fairness and calibration in performance signals • AI-enabled ratings and review tools	Module 7: Visualization and narrative hygiene • Chart choice and storyline for leaders • AI-generated slide titles and talk tracks • Challenging generated narratives without raw sensitive data	
3	DIAGNOSTIC HR ANALYTICS & STATISTICAL TESTS			
	Module 8: Diagnostics and hypothesis testing basics • Introduction to hypothesis test • Relationship types: numeric-numeric, categorical-categorical, mixed • Correlation and non-causation	Module 9: Diagnostic Case Studies Across HR Functions • Voluntary turnover: associated factors • Hiring sources and quality of hire • Pay gap after grade control • Training and test-score change • Metric definitions and defensible claims • Confounding, omitted variables, proxy risk	Module 10: Unstructured text as HR data • Comments and surveys: PII and aggregation • Themes and sentiment as support to quantitative diagnosis	
4	PREDICTIVE & PRESCRIPTIVE HR ANALYTICS			
	Module 11: Introduction to Predictive Analytics in HR • Linear and logistic regression • Simple explainable models vs complex black boxes	Module 12: Time Series & Workforce Planning • Trend, seasonality, stationarity • Headcount demand forecast • AI assisted forecasting	Module 13: From Predictive to Prescriptive • From "What may happen" to "What should we do." • Generative brainstorming of interventions with AI • Human-in-the-loop documentation for recommendations	
5	CLOSER LOOK ON GENAI APPLICATIONS IN HR ANALYTICS			
	Module 14: Closer look on GenAI Applications in HR Analytics • Generative AI: landscape and vocabulary • How generative AI changes HR analytics workflows • Applications in analysis, communication, and text • Limitations, evaluation, and responsible use • Data security best practices and vendor considerations			

Remark: Participants are required to bring their own laptop for specific lessons.

DATE 9/1 | 16/1 | 23/1 | 30/1 | 13/2/2027 (All Saturdays)

TIME 10:00-17:00

VENUE PolyU Hung Hom Bay Campus | PolyU Main Campus

MEDIUM OF INSTRUCTION

Cantonese supplemented with English

COURSE FEE \$8,900 ▶ **\$7,900** **Early Bird**

(Enroll on or before 9/12/2026 to enjoy the early bird discounts at HK\$ 7,900)

TARGET AUDIENCE

HR professionals and managers from various industries interested in HR Analytics with Generative AI applications.

CERTIFICATION

Students who have attended at least 80% of the course will be presented with a Certificate awarded by PolyU SPEED. Additionally, students can apply for membership with the Institute of Administrative Management through the Talent Management Development Association.

ENQUIRY

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