

STUDY CASE DATA ANALYST

# **TALENT MATCH INTELLIGENCE** **— DATA ANALYST CASE STUDY**

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*Deck*

Finding What Makes High Performers Successful



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# BUSINESS UNDERSTANDING



## PROBLEM

Company X is developing a Talent Match Intelligence System to help leaders identify what makes top-performing employees successful and find individuals who share those characteristics for succession planning.



## GOALS

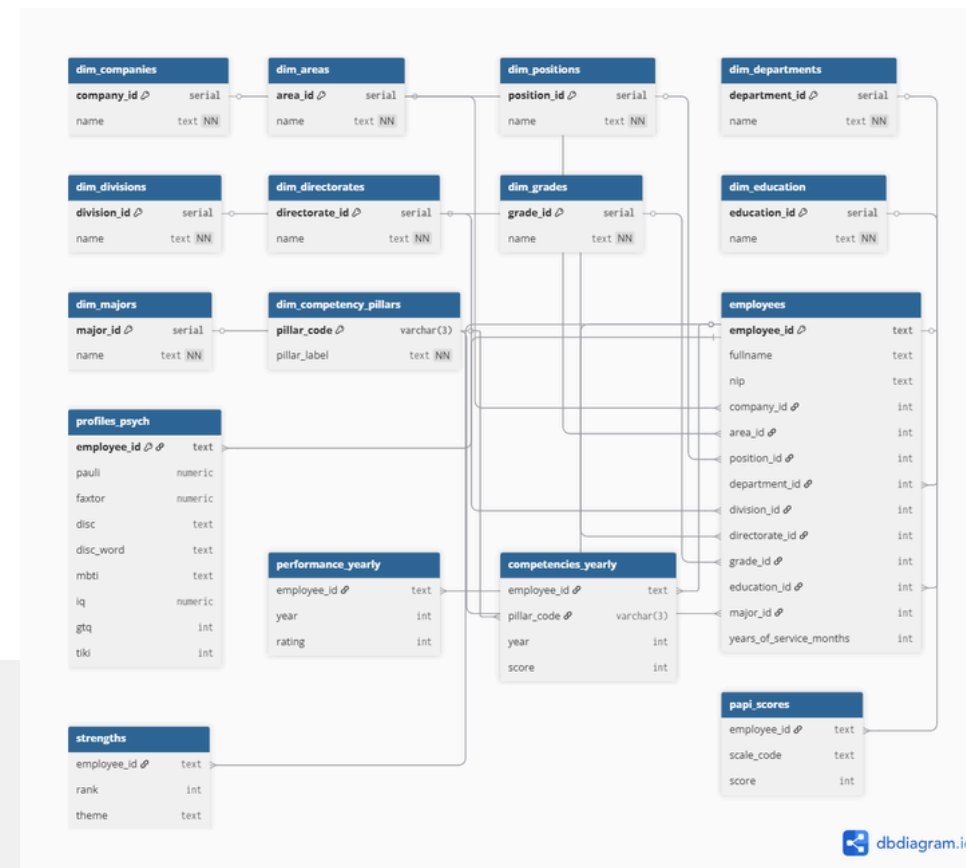
Enable HR to evaluate talent fit and design better development programs using data.



## OBJECTIVES

- Analyze patterns among employees with performance rating = 5.
- Build an explainable Success Formula using SQL logic.
- Develop a dynamic AI dashboard to visualize results and generate job insights.

# DATASET SUMMARY & TECHNOLOGY STACK

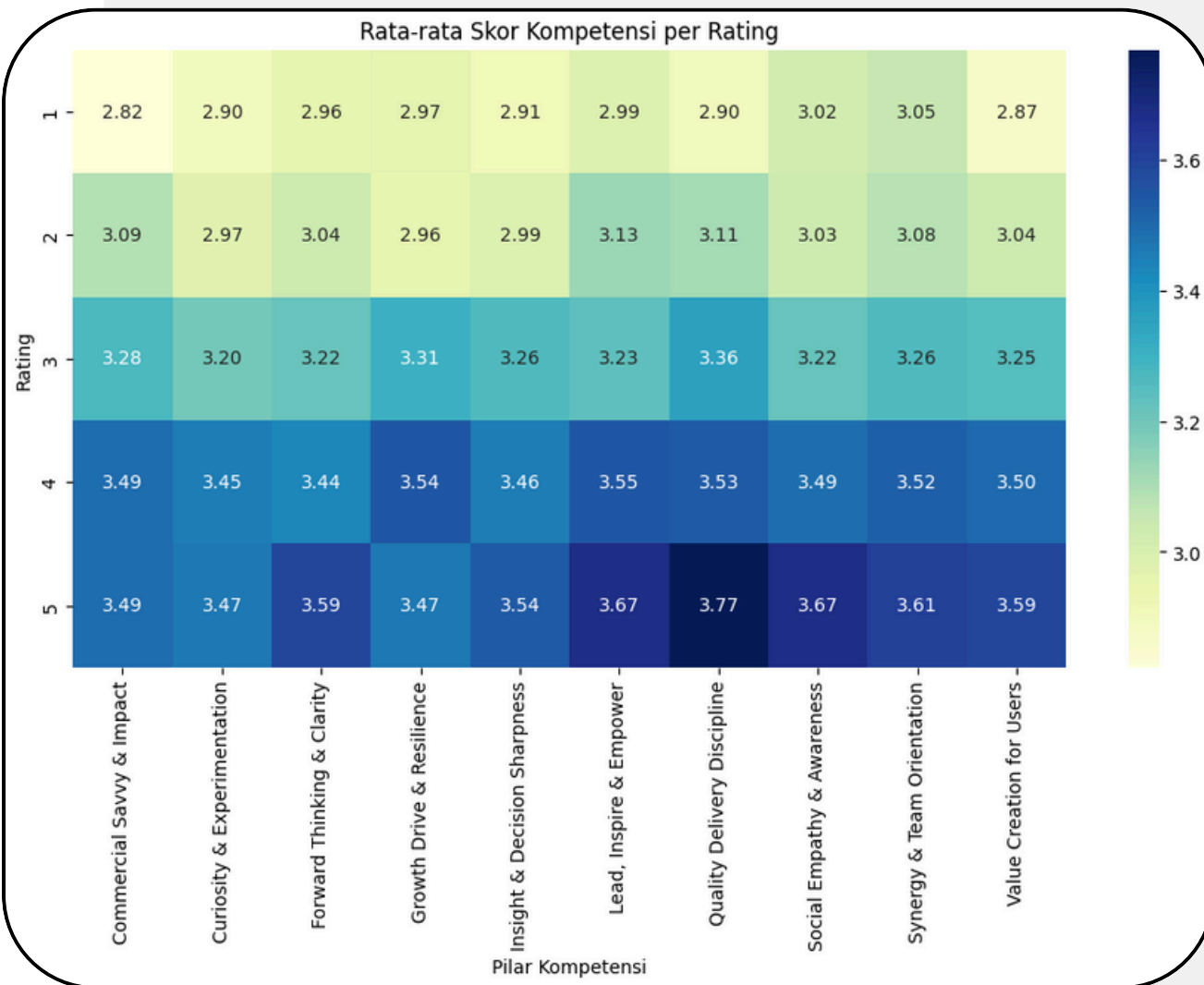


## OVERVIEW

- The dataset contains five core tables:
- employees – employee profiles & context
  - competencies\_yearly – 10 competency pillars
  - profiles\_psych – IQ, GTQ, Pauli, TIKI
  - papi\_scores – 20 work-style indicators
  - strengths – top behavioral themes
- Target variable: performance\_yearly. rating (1–5)

## TECHNOLOGY STACK





## 03 FINDING WHAT DRIVES TOP PERFORMANCE

### EXPLORATION OF RATING-5 EMPLOYEES REVEALED DISTINCT PATTERNS

- The heatmap visualizes the average competency scores per performance rating at Company X.
- Employees with rating 5 consistently achieve higher scores across all competency pillars.
- The largest gaps appear in:
  - Quality Delivery Discipline (3.77)
  - Insight & Decision Sharpness (3.67)
  - Social Empathy & Awareness (3.67)
- These patterns indicate that strategic thinking, execution discipline, and social awareness are key traits distinguishing high performers.

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# TRANSLATING INSIGHTS INTO SQL LOGIC

```
SELECT
  e.employee_id,
  c.QDD, c.LIE, c.SEA, c.STO, c.FTC,
  p.gtq AS GTQ,
  p.BehavioralFit,
  ROUND(
    (0.25 * COALESCE(c.QDD, 0)) + -- Decision Making (Competency)
    (0.20 * COALESCE(c.LIE, 0)) + -- Leadership Execution
    (0.20 * COALESCE(c.SEA, 0)) + -- Self Awareness
    (0.15 * COALESCE(c.STO, 0)) + -- Strategic Orientation
    (0.10 * COALESCE(c.FTC, 0)) + -- Fast Time to Close
    (0.05 * COALESCE(p.gtq, 0)) + -- Cognitive Ability
    (0.05 * COALESCE(p.BehavioralFit, 0)) -- Behavioral Fit
  ,2) AS SuccessScore
```

THE  
SUCCESS  
FORMULA

This SQL aggregates competency and psychometric scores into a single SuccessScore (0–100). Output is stored in Study\_Case\_DA.success\_score table for visualization and ranking.

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# TALENT BENCHMARK INTEGRATION

```
CREATE TABLE IF NOT EXISTS `rakamin-st  
  job_vacancy_id STRING,  
  role_name STRING,  
  job_level STRING,  
  role_purpose STRING,  
  benchmark_employee_ids ARRAY<STRING>  
  created_at TIMESTAMP  
);
```

## TALENT BENCHMARK

A table talent\_benchmarks was built to capture runtime user inputs:

- role\_name, job\_level, role\_purpose
- benchmark\_employee\_ids (list of top performers)
- created\_at timestamp

When a user creates a new benchmark through the dashboard:

1. Record input to talent\_benchmarks
2. Recalculate baselines in BigQuery using selected employees
3. Generate updated SuccessScore rankings instantly

# STREAMLIT + BIGQUERY DASHBOARD

Create AI Talent Profile & Benchmark Comparison

Role Name (e.g. Data Analyst)

Job Level

Junior

Role Purpose

Describe this role purpose here...

Benchmark Employee IDs (pisahkan dengan koma, contoh: EMP100221, EMP101186, EMP101683)

Generate Profile & Insights

FORM AI  
TALENT PROFILE  
& BENCHMARK  
COMPARISON

RANKING & INSIGHT FOR TALENT DECISIONS.

OPENROUTER\_API\_KEY terdeteksi: sk-or-v1-4...

AI Talent App — Step 3 Dashboard 🚀

Menampilkan hasil perhitungan Success Score dari Step 2

Data berhasil diambil dari BigQuery!

Top 50 Employee by Success Score

employee_id	QDQ	LIE	SEA	STO	FTC	GTQ	BehavioralFit	SuccessScore	
21 EMP101836		5	99	5	5	5	39	85	29.5
22 EMP101863		4	5	99	5	5	40	85	29.3
23 EMP101748		5	5	99	5	5	34	85	29.25
24 EMP100050		5	99	5	5	5	32	85	29.15
25 EMP100031		5	5	99	4	5	35	85	29.15
26 EMP100425		5	99	5	5	5	28	85	28.95
27 EMP100144		5	4	99	5	5	32	85	28.95
28 EMP101099		5	99	5	4	5	30	85	28.9
29 EMP101374		5	99	4	4	5	31	85	28.75
30 EMP100070		4	99	4	5	3	36	85	28.7

SuccessScore

- TOP 50 RANKING BY SUCCESSSCORE
- KPI CARDS: AVG SCORE & TOP COMPETENCY
- BAR CHART: SUCCESSSCORE DISTRIBUTION
- FORM: CREATE & SAVE BENCHMARK DYNAMICALLY



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# AI-GENERATED JOB PROFILE (OPENROUTER GPT)

## ☺ AI-Generated Job Profile

### Profil Pekerjaan: Data Analyst (Junior)

#### 1. Job Requirements

##### Skill Teknis:

- Pemahaman dasar tentang analisis data dan metodologi statistik.
- Kemampuan menggunakan alat analisis seperti Microsoft Excel, Google Sheets, atau perangkat lunak analitik lainnya.
- Pengalaman dengan SQL untuk mengelola dan mengquery database.
- Familiaritas dengan bahasa pemrograman seperti Python atau R untuk pemrosesan data.
- Pengetahuan dasar tentang alat visualisasi data seperti Tableau atau Power BI.

##### Skill Non-Teknis:

- Kemampuan untuk bekerja dalam tim dan berkolaborasi dengan berbagai pemangku kepentingan.
- Pemahaman yang baik tentang kebutuhan bisnis dan bagaimana data dapat membantu dalam pengambilan keputusan.
- Kemampuan untuk belajar dengan cepat dan beradaptasi dengan teknologi dan alat baru.

#### 2. Job Description

Sebagai Data Analyst Junior, Anda bertanggung jawab untuk membangun dan memelihara pipeline data yang efisien. Tugas Anda meliputi pengumpulan, pembersihan, dan pengolahan data, serta menganalisis data untuk mengidentifikasi tren dan kebutuhan analitis mereka dan menyediakan wawasan yang mendukung keputusan strategis. Anda juga akan bertanggung jawab untuk membuat laporan dan visualisasi yang mudah dipahami.

#### 3. Key Competencies

## THE OPENROUTER GPT MODEL ANALYZES BENCHMARK PATTERNS AND PRODUCES:

- CONCISE JOB DESCRIPTION & PURPOSE
- CORE COMPETENCIES AND BEHAVIORAL TRAITS OF TOP PERFORMERS
- KEY FOCUS AREAS FOR DEVELOPMENT PLANNING





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## RESULTS & BUSINESS VALUE



GENERATED DATA-DRIVEN SUCCESSSCORE RANKINGS FOR ALL EMPLOYEES.



IDENTIFIED TOP PERFORMERS AND HIGH-POTENTIAL SUCCESSORS.



QUANTIFIED COMPETENCY GAPS FOR TARGETED TRAINING.

### BUSINESS IMPACT:

COMPANY X CAN MOVE FROM SUBJECTIVE REVIEWS TO OBJECTIVE, EXPLAINABLE TALENT EVALUATION — ENABLING SUCCESSION PLANNING AND LEADERSHIP PIPELINE DEVELOPMENT.

# ADDITIONAL FILE



## GitHub Repository

All source codes, SQL scripts, and Streamlit app:

👉 <https://github.com/achmadarifin31/talent-match-intelligence.git>

(Includes /sql, /app, /reports, and documentation in README)



## Google Colab Notebook (Exploratory Analysis)

Full exploratory notebook used for Step-1 Success Pattern Discovery:

👉 [colab.research.google.com/drive/1pFJnN7hCbllWqZsN5msHPhcRI-F0jxAY](https://colab.research.google.com/drive/1pFJnN7hCbllWqZsN5msHPhcRI-F0jxAY)



# THANK

*You!*

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