HR ANALYTICS REPORT

Company Overview

This report provides strategic insights into workforce dynamics, including attrition, diversity, employee engagement, training effectiveness, recruitment pipeline, and predictive analytics. It draws from integrated HR datasets and interactive dashboards developed in Power BI and Streamlit.

EXECUTIVE SUMMARY

Metric	Value
Total Employees	300
Active Employees	255
Attrition Rate	15.00%
Average Tenure	5.18 years
Average Engagement Score	3.18 / 5.0
Average Performance Score	2.98 / 5.0
Total Job Applications	1,828
Open Positions	100
Filled Positions	73

Engagement Report

Department	Avg Engagement Score
HR	3.37
Engineering	3.24
Sales	3.21
Marketing	3.17
Finance	3.14
Operations	3.00

-Overall Average: 3.18

-Insight: HR and Engineering lead in engagement; Operations lags and may require leadership/managerial

Attrition Analysis

Attrition Rate: 15%
Active Employees: 255 out of 300
Key Insights:
-Most attrition is voluntary.
-Employees with < 2 years tenure are more likely to leave.
-Engineering and Operations departments report higher attrition levels.

Predictive Analytics

.**Average Performance Score**: 2.98
.**Attrition Risk Categories**:
    -High Risk: ~5% (based on predictive model threshold > 0.7
    -Medium Risk: ~25%
    -Low Risk: ~70%
,**Visuals**: Distribution chart of predicted attrition risk and engagement-performance correlation.

Diversity Insights

By Department

Department	Headcount
Engineering	72
Operations	70
Sales	53
Marketing	42
HR	41
Finance	22

By Location

Location	Count
NYC	114
Chicago	98
Remote	59
Austin	29

. **Gender and Ethnicity breakdowns** are visualized through bar and pie charts to promote inclusivity and equity tracking.

Training Effectiveness

Metric	Value
Total Trainings Conducted	1301
Avg Training Hours	4.26
Avg Skill Improvement Score	19.13
Avg Pre/Post-Test Improvement	19.13
Application on the Job	53.27

Top 5 Courses:

Course	Completed
1.Conflict Resolution	102
2.Sales Negotiation	100
3.Financial Analysis	99
4.Effective Presentations	98
5.Python for Beginners	98

Recruitment Insights

Metric	Value
Applications	1,828
Open Positions	100
Filled Positions	73
Average Time to Fill	[X] days

.Application Stages: Tracked by stage (Applied, Screened, Interviewed, Hired)
Sources: Job boards, referrals, and direct applications

User Directory (Admin View)

Provides a secure, downloadable listing of all current employees, roles, departments, and status for internal audit or compliance
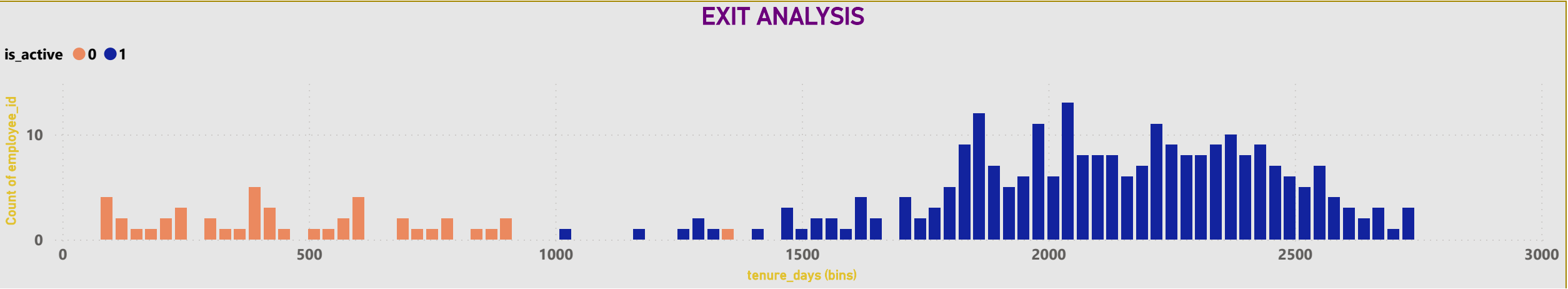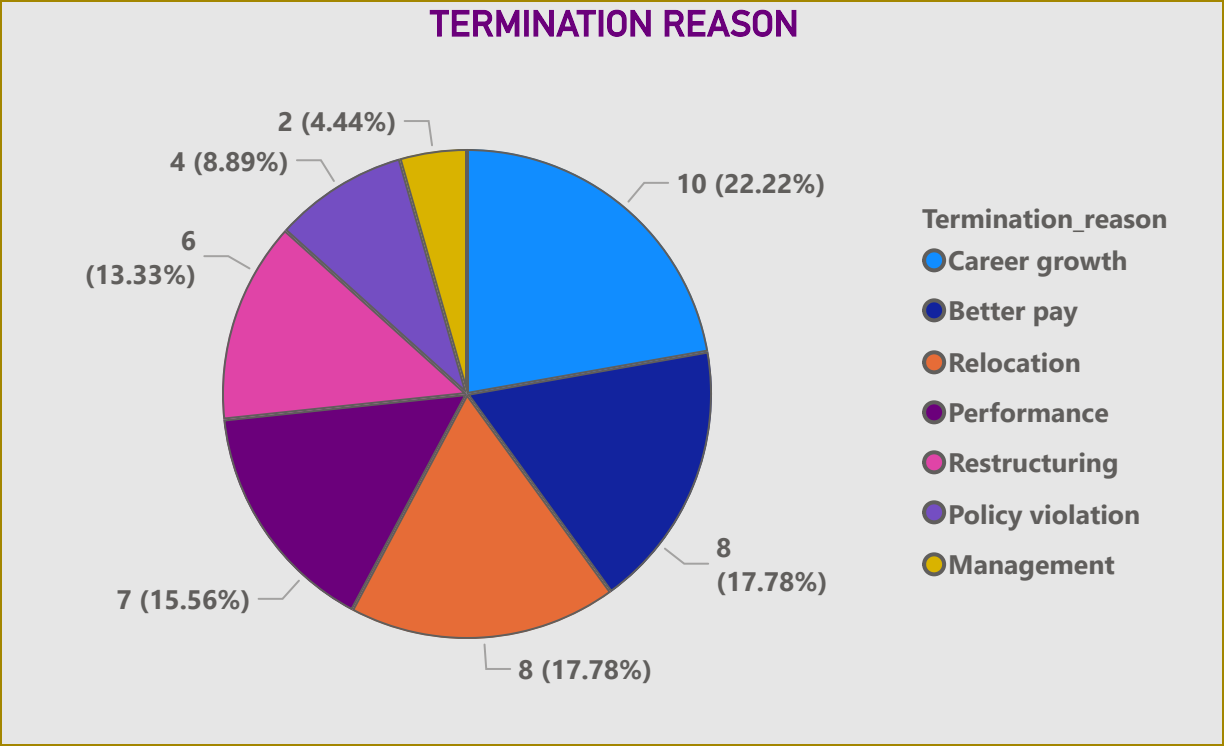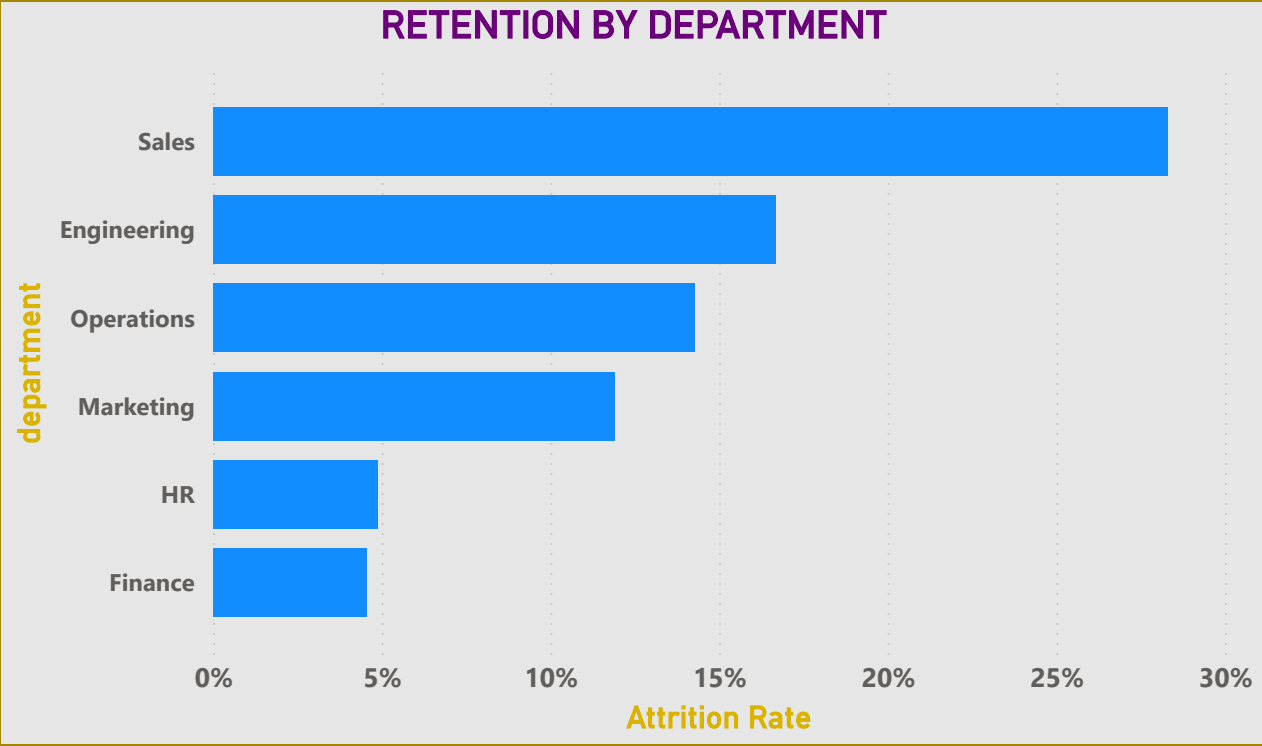
Deployment & Access

🔗 **Live Dashboard:** https://hr-analytics-a7nokletpuvsu8yk8ri9pw.streamlit.app/

💼 **GitHub Repository:** https://github.com/MillicentPatrick/HR-Analytics

Recommendations

1.Focus on Employee Retention: Target departments with high turnover.
2.Enhance Engagement: Prioritize departments with sub-3 engagement scores.
3.Review Recruitment Sources: Optimize channels with low conversion.
4.Monitor High-Risk Employees: Intervene early via engagement and performance trends.
5.Continue Diversity Tracking: Expand demographic dimensions for equity analysis.

ATTRITTION DASHBOARD

RETENTION BY DEPARTMENT

Attrition Rate (x-axis): 0%, 5%, 10%, 15%, 20%, 25%, 30%

department (y-axis): Sales, Engineering, Operations, Marketing, HR, Finance

TERMINATION REASON

- 10 (22.22%)
- 8 (17.78%)
- 8 (17.78%)
- 7 (15.56%)
- 6 (13.33%)
- 4 (8.89%)
- 2 (4.44%)

Termination_reason
- Career growth
- Better pay
- Relocation
- Performance
- Restructuring
- Policy violation
- Management

EXIT ANALYSIS

is_active 0 1

Count of employee_id (y-axis): 0, 10

tenure_days (bins) (x-axis): 0, 500, 1000, 1500, 2000, 2500, 3000

TRAINING EFFECTIVENESS

SKILL IMPROVEMENT BY COURSE

Training Effectiveness by Course
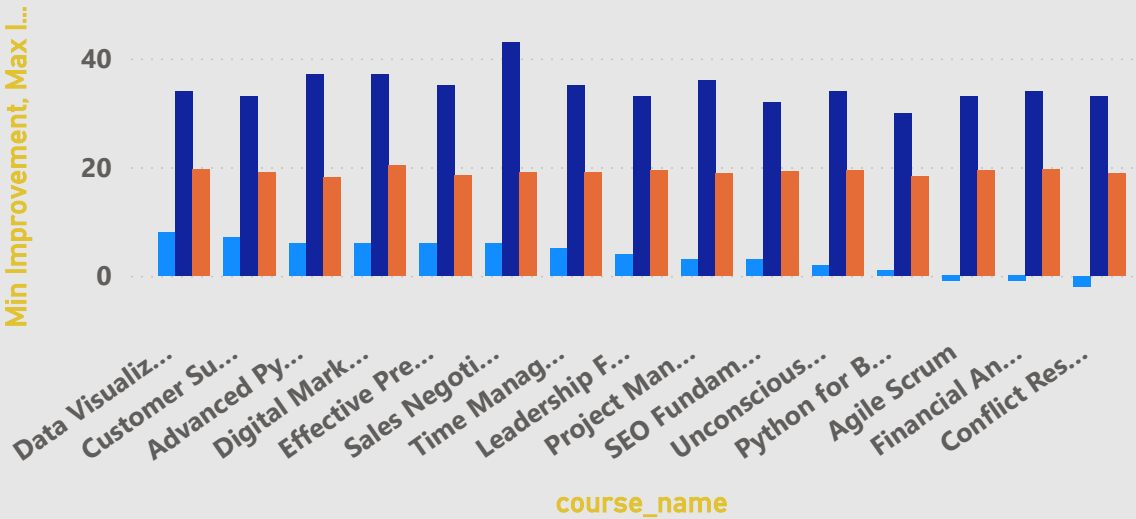

TRAINING UTILIZATION
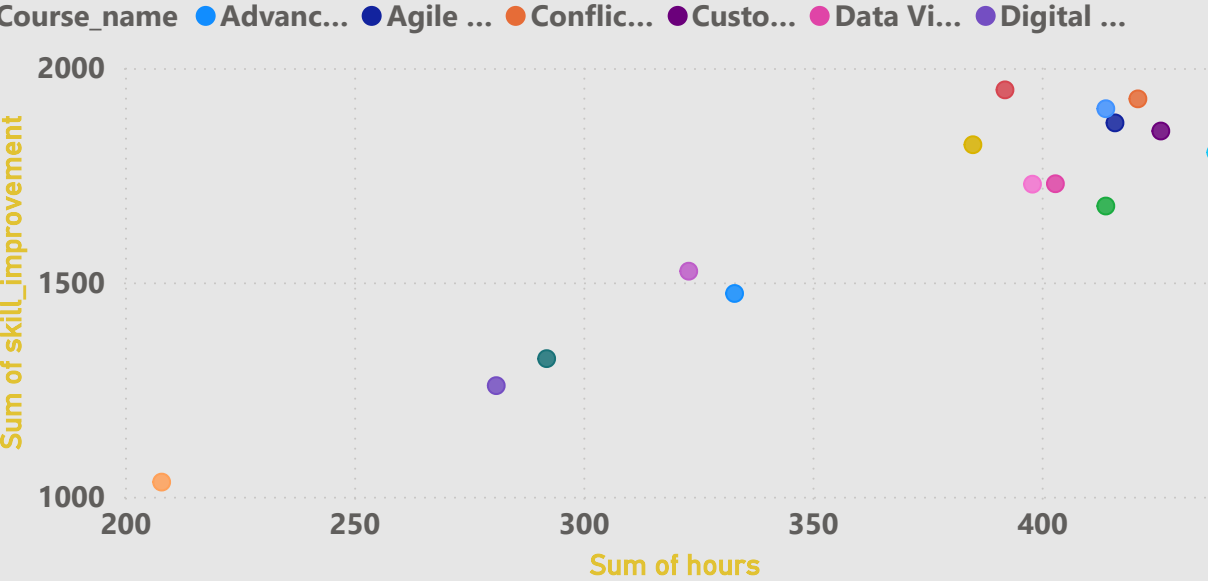

70.00%

53.27%

0.00%   100.00%
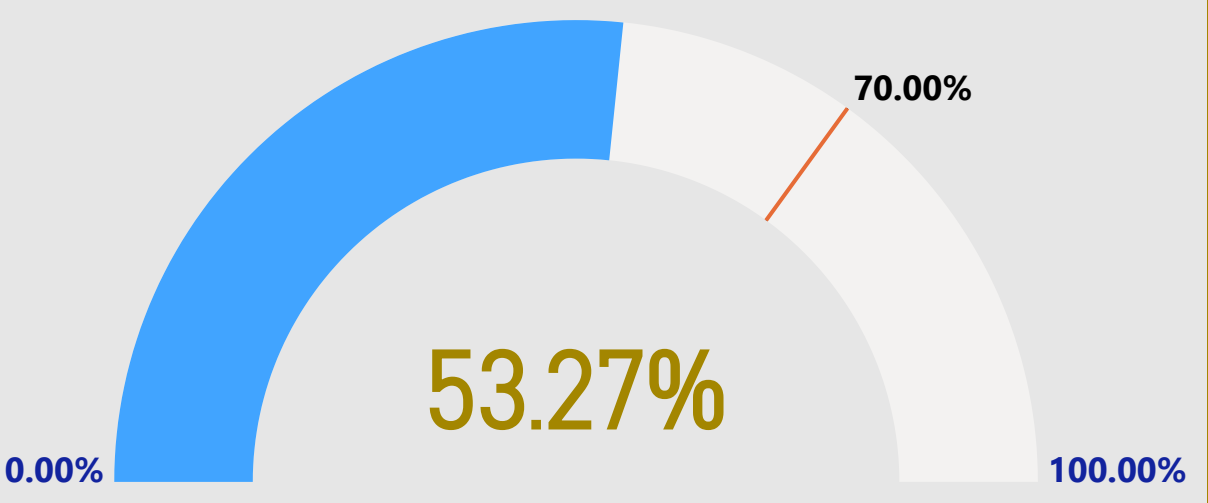
MIN/MAX IMPROVEMENT BY COURSE

● Min Improvement ● Max Improvement ● Avg Improvement

SKILL IMPROVEMENT IN RELATION TO COURSE PARTICIPATION
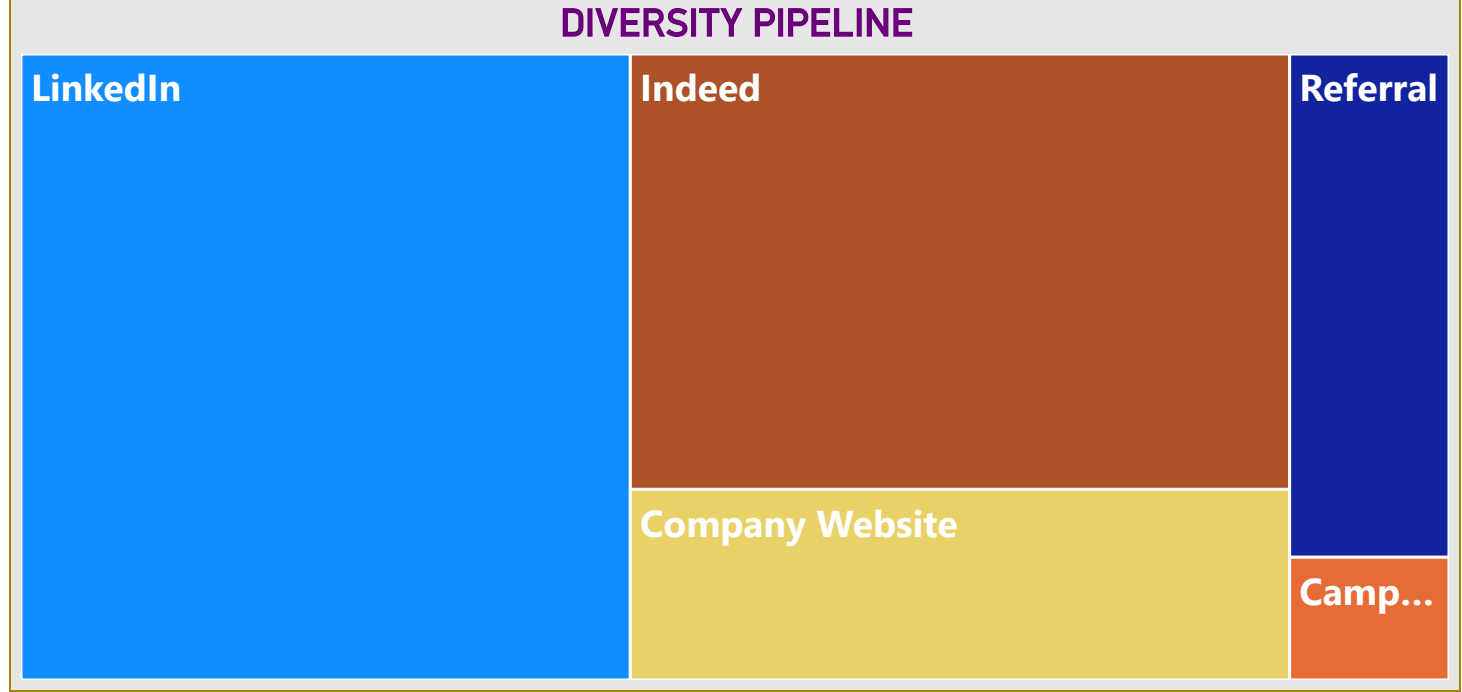
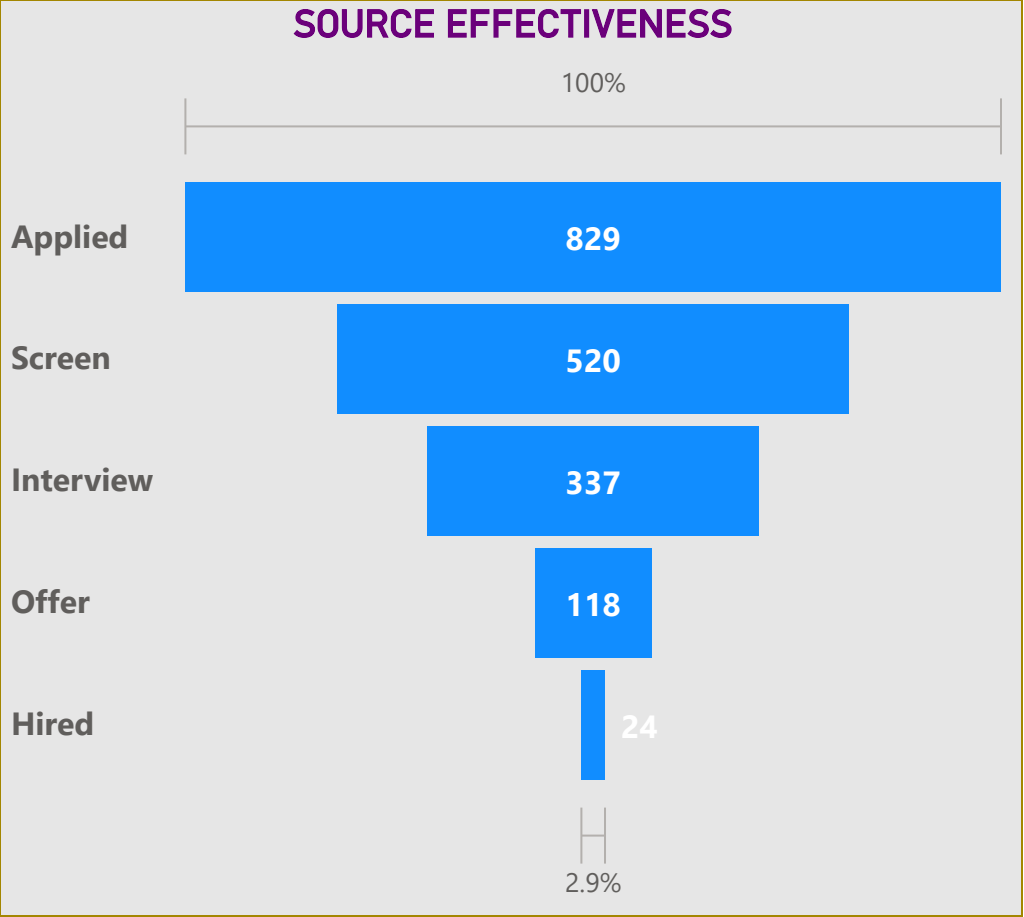Course_name ● Advanc... ● Agile ... ● Conflic... ● Custo... ● Data Vi... ● Digital ...

RECRUITMENT   METRICS

TIME TO FILL BY ROLE

Department ● Engineering ● Finance ● HR ● Marketing ● Operations ● Sales

Sum of days_to_fill

40

30

20

10

0

0   5   10   15   20   25   30

Day

DIVERSITY PIPELINE

LinkedIn

Indeed

Referral

Company Website

Camp...

DEPARTMENT

☐ **Engineering**

☐ **Finance**

☐ **HR**

☐ **Marketing**

SOURCE EFFECTIVENESS

100%

Applied	829
Screen	520
Interview	337
Offer	118
Hired	24

2.9%
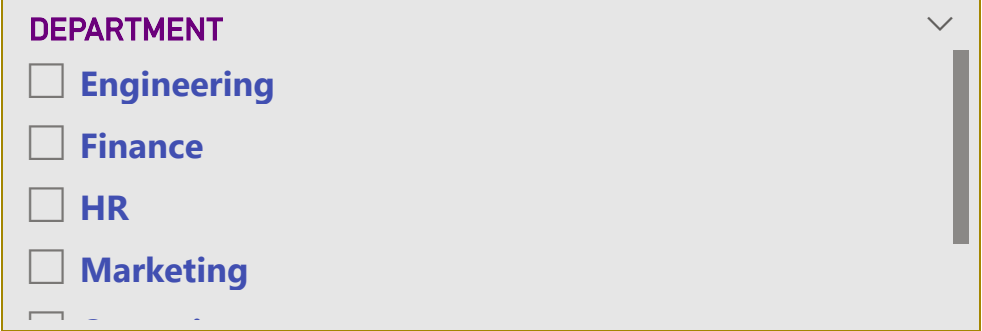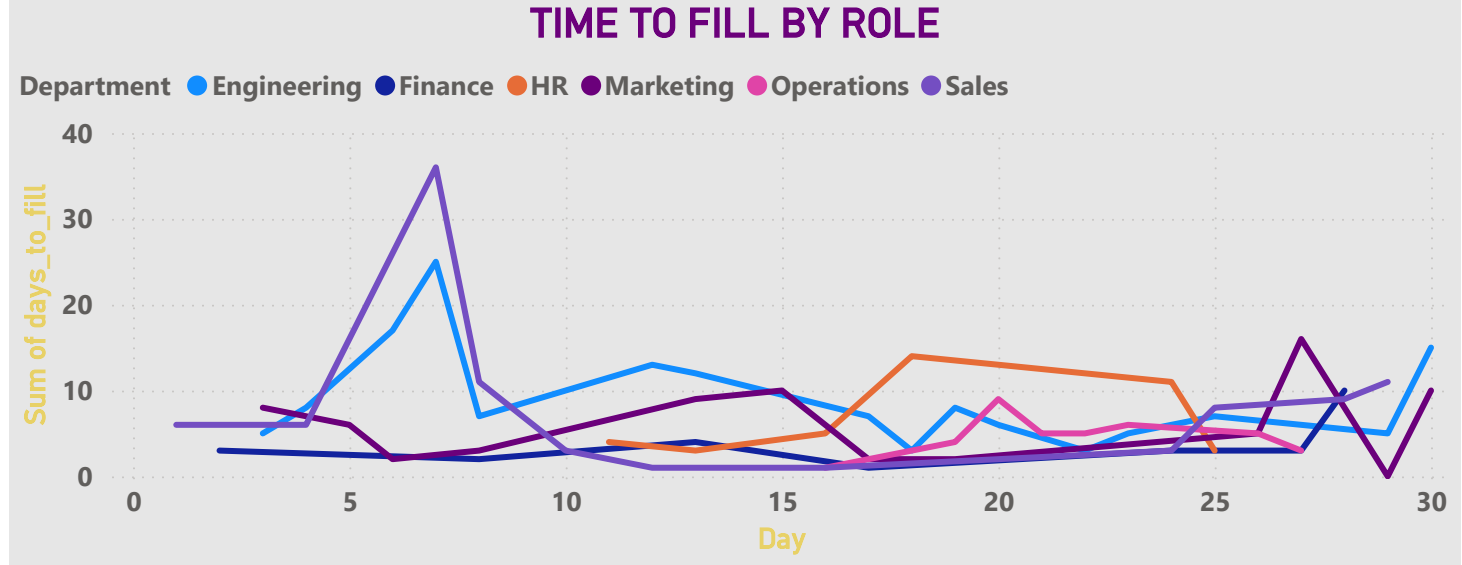
DIVERSITY & INCLUSION

Count of employee_id by ethnicity

23 (7.67%)

48 (16%)

54 (18%)

175 (58.33%)

ethnicity
- White
- Black
- Asian
- Hispanic
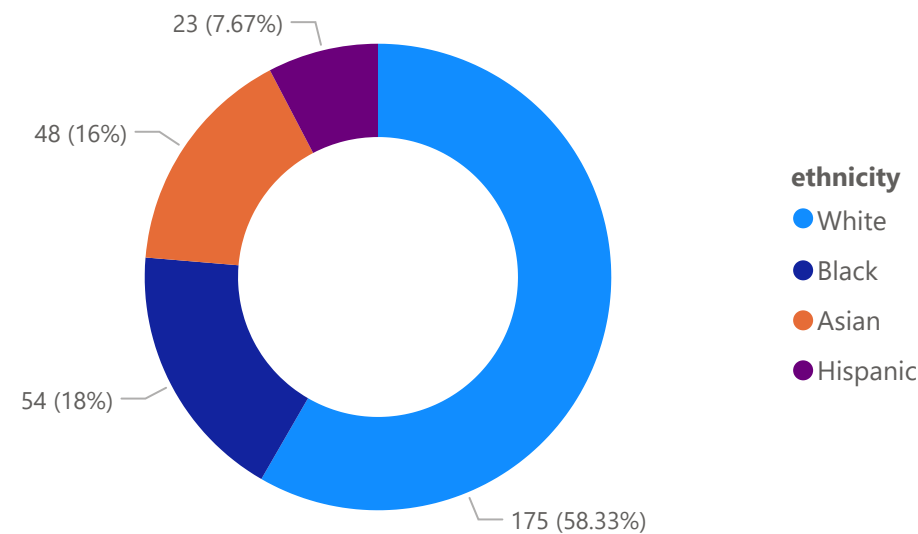
Promotion Score and Count of gender by ethnicity and department

department ● Engineering ● Finance ● HR ● Marketing ● Operations ● Sales — Count of gender
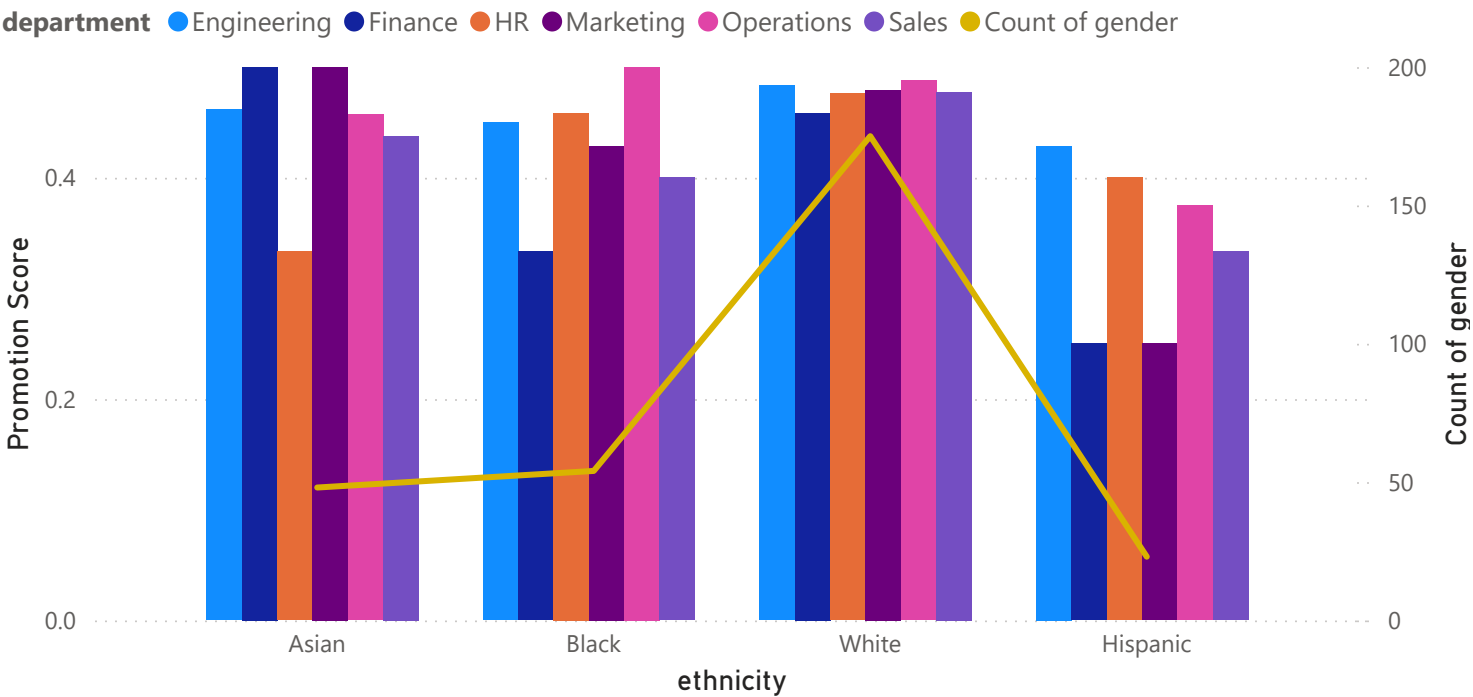
gender	Engineering	Finance	HR	Marketing	Operations	Sales	**Total**
Female	123082.79	91961.40	87887.56	128551.67	79345.03	145560.50	**109052.32**
Male	119585.00	102127.20	83504.29	128813.27	83979.59	120091.55	**107949.78**
Other	121377.00	73948.00	69250.50	203004.00			**104593.57**
Total	**120995.03**	**94944.64**	**85481.71**	**130486.29**	**82059.56**	**131624.66**	108352.91