WORKFORCE HR ANALYTICS AT BLM CORP WITH POSTGRESQL
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PROJECT OVERVIEW

BLM Corp is a rapidly growing technology company operating in the software and hardware sectors. The company's management sought to use data-driven decision-making to address critical HR challenges:

- Rising employee turnover
- Inconsistent performance across departments
- Salary disparities leading to dissatisfaction

To support organizational growth, the goal was to analyze workforce data using POSTGRESQL and derive insights to:

- Strengthen employee retention
- Improve performance management
- Ensure fair compensation structures

KEY PERFORMANCE INDICATORS (KPIS)

METRIC	VALUE
Total Salary Expense	$4,850,000.00
Total Employee Exits	28
Overall Turnover Rate	46.67%
Employees Earning Above $80K	26

EMPLOYEE RETENTION ANALYSIS

The analysis revealed that employee exits peaked during Sept 2024, Nov 2024, Jan 2025, and Apr 2025, each with 4 exits. Retention grew consistently from 2015 (4 employees) to 2023 (52 employees) — indicating strong hiring and retention strategies. However, a sharp decline from 52 to 32 employees (2024–2025) signaled an urgent retention challenge.

LONGEST-SERVING EMPLOYEES

David Moore leads with 10 years of service, followed by Frank Smith, Jane Brown, John Johnson, and John Doe (each with 9 years). This demonstrates stability and satisfaction among senior staff, despite recent turnover spikes.

DEPARTMENTAL TURNOVER (2024)

DEPARTMENT	TURNOVER RATE	% OF TOTAL EXITS
Engineering	50	38%
Marketing	42.86	33%
HR	27.27	21%
Sales	10.34	8%

Engineering and Marketing were the most affected departments — requiring focused retention efforts.

PERFORMANCE ANALYSIS

71 employees scored below 3.5, highlighting widespread underperformance. Only 9 employees scored above 5.0, showing a gap between expectations and actual results. High-risk employees (performance score <4.0) totaled 145, while 215 employees were rated with no risk.

PERFORMANCE BY DEPARTMENT

DEPARTMENT	AVG. PERFORMANCE SCORE	COMMENT
Marketing	4.13	Highest performing department
Engineering	4.10	Moderate stability
HR	4.05	Slightly below engineering
Sales	4.00	Lowest overall performance

Marketing had the highest average score, but Engineering's lower scores highlight technical skill gaps.

SALARY ANALYSIS

DEPARTMENT	AVG. SALARY ($)	OBSERVATION
Sales	84,285.71	Highest salary but not the highest performers
HR	81,818.18	Moderate salary-performance alignment
Engineering	80,000.00	Technical but not highly compensated
Marketing	77,857.14	Highest performance, lowest salary

There is no positive correlation between salary and performance. Top-performing teams (e.g., Marketing) earn less than lower-performing departments (e.g., Sales). This misalignment may cause dissatisfaction and drive turnover.

ATTENDANCE & EXIT REASONS

Attendance analysis revealed 55% absenteeism — 33 absent vs 27 present employees, indicating a major reliability and productivity issue.

Top exit reasons:
• Personal reasons (11 employees)
• Found another job (7 employees)
• Career growth and job switch were significant motivators.

INSIGHTS SUMMARY

• Retention peaked in 2023 but dropped drastically in 2024–2025.
• Senior employees show stability, but mid-level turnover is increasing.
• Engineering and Marketing suffer the highest turnover.
• Marketing outperforms others yet receives the lowest pay.
• Sales earns the most but contributes less to performance metrics.
• High absenteeism (55%) affects productivity.

RECOMMENDATIONS

• Investigate Root Causes: Use employee surveys and exit interviews to uncover real reasons for turnover and absenteeism.
• Enhance HR Policies: Strengthen attendance and performance evaluation frameworks.
• Offer Flexibility: Introduce remote/hybrid work and wellness programs to improve satisfaction.
• Pay for Performance: Align salary structures with departmental results; reward high performers fairly.
• Recognize & Retain Talent: Implement incentive programs for consistent performers.
• Mentorship Programs: Engage long-serving employees to mentor new hires.
• Improved Onboarding: Ensure new employees integrate quickly into the company culture.
• Monitor Early Signals: Use data analytics tools to flag performance or attendance issues in real time.

TOOLS & METHODOLOGY

Database: PostgreSQL
Techniques: Joins, Aggregations, CTEs, Window Functions, CASE statements
Outputs: Charts and Queries in PowerPoint
Focus Areas: Retention, Performance, Salary, and Attendance

CONCLUSION

This capstone project demonstrates how SQL-based HR analytics can uncover deep workforce insights. By leveraging employee data effectively, BLM Corp can design targeted HR strategies, optimize compensation, and improve long-term retention.