



SQL QUERY SOLUTION ON EMPLOYEE PROMOTION DATA



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INTRODUCTION

Emerald Technologies is a multinational mobile telecommunications company, operating in many African and Asian countries providing wireless communication services, with its head office located in Lagos Nigeria.

The company operate extensive mobile networks to support connectivity. Emerald Technologies play a crucial role in global telecommunications infrastructure, enabling seamless communication and internet access for million of users.

PROBLEM OVERVIEW

As of December 2022, the company recorded 1 Billion subscribers, making it the 3rd largest mobile network operator in the world, and the largest in Africa/Asia.

Due to the large number of employees, we currently have issues around promotion and performance rating in the company's head office.

As an experienced Data Scientist, I was consulted to provide an in-depth analysis of what is happening in Emerald Technologies using SQL.



EDA ON EMPLOYEE DATA



Q1. How many employees do we have in the organization and what is the maximum length of service?

Total Employee	Max_length_of_service
1470	31

Knowing the total number of employee in the company and the maximum length of service, could help in recognizing and rewarding employees who have dedicated time to the company.

Q2. How many employees are there in each department?

Department	Employee_count
Sales & Marketing	446
Operations	291
Technology	198
Procurement	183
Analytics	153
Finance	74
HR	66
Legal	30
R&D	29

This table that shows the total number of employee in each department, can ensure that performance rating are fair and comparable across departments.

EDA ON EMPLOYEE DATA



Q3. What is the proportion of male to female employees?

Gender	Count
m	1069
f	401

This gender ratio could aid in setting and achieving diversity goals in the company.

Q4. Group Employee age into 5 categories (20 – 29, 30 – 39, 40-49, 50-59, >60). What age group has the highest and lowest employee?

Age Group	Employee Count
30-39	749
20-29	388
40-49	244
50-59	82
>60	7

The table showing the employees age group can be used to set realistic performance benchmarks and help in effective succession planning.

EDA ON EMPLOYEE DATA



Q5. Who has the highest average training score among all employees?

Employee_id	Highest_score
62212	97
70734	97

This table can help in identifying high performers in the company that will be suitable for promotions.

Q6. Which regions have the highest number of departures (employees who have left), and what are the corresponding departments?

Region	Department	Departures
region_2	Sales & Marketing	11
region_2	Finance	10
region_2	Operations	9
region_22	Operations	8
region_13	Sales & Marketing	7
region_26	Technology	7
region_7	Sales & Marketing	7
region_19	Sales & Marketing	6
region_2	Technology	6
region_20	Operations	6

Identifying regions and departments that have high attrition rates may uncover underlying issues like dissatisfaction with management, poor work environs and lack of growth. This analysis has a limit of 10 for better visualization.

EDA ON EMPLOYEE DATA



Q7. Who are the top 5 highest-earning employees in the 'Technology' department?

Employee_id	Department	Highest Earner
40814	Technology	19740
68267	Technology	19627
18640	Technology	19392
25879	Technology	19331
49192	Technology	19189

Understanding who the top 5 highest earners are can help establish benchmarks for high performance.

Q8. Who are the employees with awards in departments with more than 10 employees, and what are their department names?

Employee_id	Awards_Won	Department
45605	1	Sales & Marketing
70734	1	Procurement
53151	1	Operations
55735	1	Technology
14628	1	Sales & Marketing

Having data on award recipients allows for more informed decisions during promotion and performance reviews.

TAILORED DATA ANALYSIS ON EMPLOYEE PERFORMANCE



Q1. What is the average training score of employees in each department?

Department	Avg Training Score
R&D	85
Operations	61
Finance	60
HR	50
Legal	61
Analytics	85
Procurement	70
Sales & Marketing	50
Technology	80

This information helps in assessing whether an employee has the necessary competencies for promotion or needs further development.

Q2. What is the average previous year rating by department?

Department	Avg Previous Year Rating
R&D	4
Operations	4
Finance	4
HR	3
Legal	3
Analytics	4
Procurement	3
Sales & Marketing	3
Technology	3

This data can support promotion decisions, ensuring that high performers are recognized and advanced.

TAILORED DATA ANALYSIS ON EMPLOYEE PERFORMANCE



Q3. What is the average training score of employees by education type?

Education	Avg Training Score Edu Type
NULL	58
Below Secondary	66
Bachelor's	63
Master's & above	65

This table gives us an overview on the average scores of employees that have been trained and their education type.

Q4. Group Average training score into grades (A,B,C,D,E,F) and what grade had the highest and lowest number of employees

Training Grade	Employee Count
E	442
B	278
D	276
F	253
C	200
A	21

From the average training score, it shows that 442 employees were graded E while 21 employees were graded A .

TAILORED DATA ANALYSIS ON EMPLOYEE PERFORMANCE



Q5. Which three departments have the highest average job satisfaction among employees with a Bachelor's degree?

Department	Education	Avg Job Satisfaction
Legal	Bachelor's	3
Sales & Marketing	Bachelor's	3
Technology	Bachelor's	3

This table shows the 3 departments with a Bachelor’s degree that has expressed their job satisfaction in the company.

Q6. What is the average previous year rating by recruitment channel?

Recruitment_channel	Avg Rating Channel
other	3
referred	4
sourcing	3

This table shows that from the previous year, the most rated channel for recruitment was ‘Referred Channel’. Where an employee has been referred by others.

TAILORED DATA ANALYSIS ON EMPLOYEE PERFORMANCE



Q7. Based on the age group created what is the average previous year rating and average training score.

Age Group	Avg Prev Year Rating	Avg Training Score
40-49	3	62
>60	3	61
30-39	3	63
50-59	4	65
20-29	3	64

This table shows the average training score from the previous year among employee within several age groups..

Q8. What is the average age of male and female employees, and how many employees are there for each gender?

Gender	Avg Age	Employee Count
f	48	2
f	32	20
f	42	9
m	30	63
m	25	25
f	52	3
m	21	1
m	27	57
f	44	4
f	22	2

This table shows the average age of employees in the company. From the count just 1 employee is within the age of 21, 2 employees falls within the average age of 44 & 48, respectively.

TAILORED DATA ANALYSIS ON EMPLOYEE PERFORMANCE



Q9. Who are the top 5 highest-earning employees with
a Job Level of 3 or higher?

Employee_id	Monthly Income	Job Level
69413	19999	5
54360	19973	5
31515	19943	5
48813	19926	5
61412	19859	5

The table above shows the id number, monthly income received and level they have achieved in the company

BUISNESS IMPACT

Issues around employee promotion and performance rating in multinational company like this can significantly impact the business in various ways. Here are some detailed positive impacts if issues like this are addressed properly.

1. **Improved Productivity and Performance:** When employees understand that their performance is accurately assessed and rewarded, they are likely to put in more effort and perform better. This leads to higher overall productivity for the company.
2. **Employee Development:** Transparent performance reviews and promotion criteria highlight areas where employees can improve, leading to targeted development programs. This helps in building a more skilled and competent workforce.
3. **Increased Employee Retention Rates:** A clear and just promotion path creates a sense of career progression in within the company. Employees are more likely to stay where they see opportunities for growth and advancement.
4. **Alignment with Company Goals:** A well-structured performance rating system aligns individual employee goals with company's strategic objectives. When employees understand how their performance impacts the company's success, they are more likely to contribute effectively towards those goals.
5. **Strengthened Work Culture:** When there is a fair and transparent process, it promotes a culture of trust and integrity. Employees are more likely to feel sense of belonging and loyalty to the company, enhancing an overall work culture.

CONCLUSION

In conclusion, by leveraging SQL for an in-depth analysis, the company can identify and address issues in employee promotion and performance, leading to improved morale, productivity, and overall business performance. These can be done by using the insights from the SQL analysis to make informed decision about revising promotion and performance rating policies, the company can also implement transparent criteria for promotions and performance evaluations to ensure fairness and equity, provide training programs to address performance gaps and prepare employees for promotion opportunities and conduct regular audits using SQL analysis to continuously monitor and improve promotion and performance rating processes.



THANK YOU

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