

# Power BI - lesson 22


## Lesson 22 – DAX Practice (HR Analytics)

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### 1. Top Performer Identification by Department

**Logic:** Find the employee with the max Performance\_Score per department.

```
Top Performer ID =  
VAR MaxPerf =  
    CALCULATE (  
        MAX ( Employee_Performance[Performance_Score] ),  
        ALLEXCEPT ( Employee_Performance, Employee_Performance[Departme  
nt] )  
    )  
RETURN  
    MAXX (  
        FILTER (  
            Employee_Performance,  
            Employee_Performance[Performance_Score] = MaxPerf  
        ),  
        Employee_Performance[Employment_id]  
    )
```

 **Caveat:** If multiple employees tie, this will return just one ID (the max by default).

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### 2. Year-over-Year Promotion Growth

**Logic:** Compare total promotions this year vs last year.

```

Promotions YoY % =
VAR CurrentYearPromotions =
    CALCULATE ( SUM ( Employee_Performance[Promotions] ), YEAR ( Employee_Performance[Hire_Date] ) )
VAR LastYearPromotions =
    CALCULATE ( SUM ( Employee_Performance[Promotions] ), DATEADD ( Employee_Performance[Hire_Date], -1, YEAR ) )
RETURN
    DIVIDE ( CurrentYearPromotions - LastYearPromotions, LastYearPromotions )

```

### 3. Average Salary of Employees Who Resigned Within 2 Years

```

Avg Salary Resigned <2yrs =
CALCULATE (
    AVERAGE ( Employee_Performance[Monthly_Salary] ),
    Employee_Performance[Resigned] = "Yes",
    Employee_Performance[Years_at_company] <= 2
)

```

### 4. Rank Employees by Satisfaction Score Within Department

#### Option 1 – Calculated Column

```

Satisfaction Rank =
RANKX (
    FILTER ( Employee_Performance, Employee_Performance[Department] = EARLIER ( Employee_Performance[Department] ) ),
    Employee_Performance[Employee_Satisfaction_Score],
    ,
    DESC
)

```

)

### Option 2 – Measure (works inside visuals):

```
Satisfaction Rank Measure =  
RANKX (  
    ALL ( Employee_Performance ),  
    CALCULATE ( MAX ( Employee_Performance[Employee_Satisfaction_Score]  
    ) ),  
    ,  
    DESC,  
    DENSE  
)
```

## 5. Correlation Between Training Hours and Performance

⚠ Power BI has no built-in correlation. Use the Pearson formula.

```
Correlation Training vs Performance =  
VAR AvgX = AVERAGE ( Employee_Performance[Training_Hours] )  
VAR AvgY = AVERAGE ( Employee_Performance[Performance_Score] )  
VAR Numerator =  
    SUMX (  
        Employee_Performance,  
        ( Employee_Performance[Training_Hours] - AvgX )  
        * ( Employee_Performance[Performance_Score] - AvgY )  
    )  
VAR Denominator =  
    SQRT (  
        SUMX ( Employee_Performance, ( Employee_Performance[Training_Hours] - AvgX ) ^ 2 )  
        * SUMX ( Employee_Performance, ( Employee_Performance[Performance_Score] - AvgY ) ^ 2 )  
    )
```

```
)
RETURN
DIVIDE ( Numerator, Denominator )
```

## 6. % of Employees Doing Remote Work Frequently

```
% Remote Work Frequent =
DIVIDE (
    CALCULATE (
        COUNTROWS ( Employee_Performance ),
        Employee_Performance[Remote_Work_Frequency] IN { "Weekly", "Daily"
    }
),
    COUNTROWS ( Employee_Performance )
)
```

## 7. Employees With Consistently High Performance Over Tenure

⚠ Since we don't have year-level scores, we **approximate** by assuming current score represents each year.

```
High Performer Consistent =
IF (
    Employee_Performance[Performance_Score] >= 4
    && Employee_Performance[Years_at_company] >= 1,
    "Yes",
    "No"
)
```

✅ If real yearly scores existed, you'd use `MINX` across each year instead.

## 8. Department-Wise Salary Budget Utilization

Suppose you create a **Budget** table:

Department | Budget

```
Salary Cost = SUM ( Employee_Performance[Monthly_Salary] )
```

```
Budget Utilization % =  
DIVIDE (  
    [Salary Cost],  
    RELATED ( Department_Budget[Budget] )  
)
```

## 9. Attrition Risk Index

```
Attrition Risk =  
SWITCH (  
    TRUE (),  
    Employee_Performance[Employee_Satisfaction_Score] < 3  
        && Employee_Performance[Overtime_Hours] > 10  
        && Employee_Performance[Sick_Days] > 5, "High",  
    Employee_Performance[Employee_Satisfaction_Score] < 4, "Medium",  
    "Low"  
)
```

## 10. Identify Overworked but Unpromoted Employees

```
Overworked Unpromoted =  
CALCULATE (  
    COUNTROWS ( Employee_Performance ),  
    Employee_Performance[Work_Hours_per_Week] > 45,  
    Employee_Performance[Overtime_Hours] > 5,
```

```
Employee_Performance[Promotions] = 0  
)
```