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INTRODUCTION

PURPOSE OF THE REPORT

This report provides insights into the key workforce trends using HR data. It explores patterns in attrition, job performance, income and employee engagement. The goal is to support HR managers in making informed, people-focused decisions.

BASIC ANALYSIS

(1) AVERAGE MONTHLY INCOME OF EMPLOYEES GROUPED BY JOB ROLE

```
49  -- AVERAGE MONTHLY INCOME OF EMPLOYEES GROUPED BY JOB ROLE
50  • SELECT Job_role,
51         avg(Monthly_income) AS AM_INCOME
52  from Hr_att
53  group by Job_role;
54
```

Result Grid	
Filter Rows:	Export: Wrap Cell Content:
Job_role	AM_INCOME
▶ Sales Executive	6924.2791
Research Scientist	3239.9726
Laboratory Technician	3237.1699
Manufacturing Director	7295.1379
Healthcare Representative	7528.7634
Manager	17181.6765
Sales Representative	2626.0000
Research Director	16033.5500
Human Resources	4235.7500

Managers have an average monthly income of **₦17,182**, followed by **Research Director** with an average monthly income of **₦16,032**. Health Care Representative, Manufacturing Director, Sales Executive and others earning an average salary below **₦8,000** monthly.

(2) NO OF EMPLOYEES IN EACH DEPARTMENT

```
55  -- HOW MANY EMPLOYEES ARE IN EACH DEPARTMENT
56  •  Select department,
57      count(*) as Employees
58      from Hr_att
59      Group by Department;
```

department	Employees
Sales	446
Research & Development	961
Human Resources	63

Research & Development has the most employees with **961**, then **Sales** with **446** employees, **Human Resources** has the least with **63** employees.

(3) COUNT OF EMPLOYEES WHO WORK OVERTIME VS EMPLOYEES WHO DO NOT

```
61  -- COUNT OF EMPLOYEES WHO WORK OVERTIME VS EMPLOYEES WHO DO NOT
62  •  Select Over_time,
63      Count(*) as OT
64      from Hr_att
65      Group by Over_time;
```

Over_time	OT
Yes	416
No	1054

1054 employees work overtime, while **416** do not.

(4) AVERAGE DISTANCE FROM HOME OF EMPLOYEES WHO LEFT THE COMPANY (ATTRIBUTION = 'YES')

```
67 -- AVERAGE DISTANCE FROM HOME OF EMPLOYEES WHO LEFT THE COMPANY (ATTRIBUTION = YES)
68 • select avg(distance_from_home)
69 as AVDFH
70 from Hr_att
71 where Attrition = 'yes';
```

Result Grid	Filter Rows:	Exports:	Wrap Cell Content:
AVDFH			
10.6329			

The **Average Distance from Home of Employees** who left the Company is **10.63**.

(5) HIGHEST AND LOWEST DAILY RATE PER BUSINESS TRAVEL CATEGORY

```
73 -- HIGHEST AND LOWEST DAILY RATE PER BUSINESS TRAVEL CATEGORY
74 • Select Business_travel,
75 max(daily_rate) as HDR,
76 min(daily_rate) as LDR
77 from Hr_att
78 group by Business_Travel;
```

Result Grid	Filter Rows:	Exports:	Wrap Cell Content:
Business_travel	HDR	LDR	
Travel_Rarely	1498	102	
Travel_Frequently	1499	109	
Non-Travel	1496	105	

Those who **Travel Rarely** have a **High Daily Rate** of **₦1498** and a **Low Daily Rate** of **₦102**.

- **Frequent Travelers** have a **High Daily Rate** of **₦1499** and a **Low Daily Rate** of **₦109**.
- **Non-Travelers** have a **High Daily Rate** of **₦1496** and a **Low Daily Rate** of **₦105**.

GROUPED ANALYSIS

(1) EMPLOYEES BY EDUCATION FIELD AND AVERAGE TOTAL WORKING YEARS

```
89  -- GROUP EMPLOYEES BY EDUCATION FIELD & CALCULATE AVERAGE TOTAL WORKING HOURS
90  • select Education_field,
91      avg(total_working_years) as Avg_TWY
92  from Hr_att
93  group by Education_field;
94
```

Education_field	Avg_TWY
Life Sciences	11.2459
Other	10.3537
Medical	11.5647
Marketing	11.8553
Technical Degree	10.2500
Human Resources	11.5926

Marketing Field have the **highest** Total Working Years with **11.85**, followed by;

- **Human Resources** with **11.59**.
- **Medical** with **11.56**.
- **Life Sciences** **11.24**.
- **Technical Degree** and **Others** have an average of **less than 10** Total Working Years.

(2) AVERAGE YEARS AT COMPANY PER MARITAL STATUS AND GENDER

```
87  -- WHAT IS THE AVERAGE YEARS AT COMPANY PER MARITAL STATUS AND GENDER
88  • Select Marital_status,
89      avg(case when Gender = 'male' Then years_at_company end) as M_AYAC,
90      avg(case when Gender = 'female' Then years_at_company end) as F_AYAC
91  from hr_att
92  group by Marital_status;
93
```

Marital_status	M_AYAC	F_AYAC
Single	6.4133	6.3216
Married	7.0025	7.7574
Divorced	7.1619	7.5556

The average years at company for **Divorced Males** is **7.16**, while **Females** is **7.56**

- **Married Males** **7.00** and **Females** **7.76**.

- **Single Males 6.41** and **Females 6.32.**

(3) TOTAL NUMBER OF EMPLOYEES PER JOB LEVEL AND WORK LIFE BALANCE

```

94  -- WHAT IS THE TOTAL NUMBER OF EMPLOYEES PER JOB LEVEL AND WORK LIFE BALANCE
95  • SELECT
96      Job_Level,
97      SUM(CASE WHEN Work_Life_Balance = 1 THEN 1 ELSE 0 END) AS WLB_1,
98      SUM(CASE WHEN Work_Life_Balance = 2 THEN 1 ELSE 0 END) AS WLB_2,
99      SUM(CASE WHEN Work_Life_Balance = 3 THEN 1 ELSE 0 END) AS WLB_3,
100     SUM(CASE WHEN Work_Life_Balance = 4 THEN 1 ELSE 0 END) AS WLB_4
101  FROM
102     hr_att
103  GROUP BY
104     Job_Level
105  ORDER BY
106     Job_Level;

```

Job_Level	WLB_1	WLB_2	WLB_3	WLB_4
1	35	135	323	50
2	27	118	329	60
3	12	46	135	25
4	5	29	61	11
5	1	16	45	7

Most employees in **lower job levels** report **moderate work-life balance**, with levels **2** and **3** being the **most common**. **Higher job levels** have **fewer employees**, and their work-life balance ratings are more **evenly distributed**.

This suggests that work-life balance **slightly improves** with **seniority** but remains a **concern across levels**.

(4) THE AVERAGE % SALARY HIKE PER PERFORMANCE RATING

```

108  -- CALCULATE THE AVERAGE % SALARY HIKE PER PERFORMANCE RATING
109  • Select Performance_rating,
110     avg(percent_salary_hike) as Avg_Psh
111  from Hr_att
112  group by performance_rating;
113

```

Performance_rating	Avg_Psh
3	14.003215434083602
4	21.849557522123895

Performance rating is a key factor in determining the percent salary hike. **Higher rated** employees are **rewarded with larger raises** to encourage performance and retain top talent.

(5) TOTAL MONTHLY INCOME OF EMPLOYEES WITH STOCK OPTION LEVEL > 0 GROUPED BY DEPARTMENT

```
101  -- FIND THE TOTAL MONTHLY INCOME OF EMPLOYEES WITH STOCK OPTION LEVEL GREATER THAN 0, GROUPED BY DEPARTMENT
102  • select department,
103      sum(monthly_income) as TMI
104  from hr_att
105  where stock_option_level > 0
106  group by department;
```

Result Grid	Filter Rows:	Exports	Wrap Cell Content:
department	TMI		
▶ Research & Development	3580029		
Sales	1804677		
Human Resources	269891		

The Total Monthly Income of employees with Stock Option Level greater than 0, by department is as follows:

- Research & Development – **₦3,580,029.**
- Sales – **₦1,804,677.**
- Human Resources - **₦269,891.**

FILTERED QUERY

(1) EMPLOYEES WHO HAVE WORKED FOR MORE THAN 10 YEARS WITH NO PROMOTION

```

109 -- LIST ALL EMPLOYEES WHO HAVE MORE THAN 10 YEARS AT THE COMPANY AND HAVE NEVER BEEN PROMOTED (YEARS SINCE LAST PROMOTION = 0)
110 • select *
111   from hr_att
112  where years_at_company > 10
113        and years_since_last_promotion = 0;
114

```

Age	Attrition	Business_Travel	Daily_Rate	Department	Distance_From_Home	Education	Education_Field	Employee_Count	Employee_Number	Environment_Satisfaction	Gender	Hourly_Rate	Job_Involvement
45	No	Travel_Rarely	194	Research & Development	9	3	Life Sciences	1	206	2	Male	60	3
41	No	Travel_Rarely	334	Sales	2	4	Life Sciences	1	410	4	Male	88	3
35	No	Travel_Rarely	1296	Research & Development	5	4	Technical Degree	1	464	3	Male	62	3
31	No	Travel_Rarely	1274	Research & Development	9	1	Life Sciences	1	581	3	Male	33	3
49	No	Travel_Rarely	1245	Research & Development	18	4	Life Sciences	1	638	4	Male	58	2
41	No	Travel_Frequently	840	Research & Development	9	3	Medical	1	999	1	Male	64	3
50	No	Non-Travel	145	Sales	1	3	Life Sciences	1	1040	4	Female	95	3
34	No	Travel_Rarely	216	Sales	1	4	Marketing	1	1047	2	Male	75	4
36	No	Non-Travel	217	Research & Development	18	4	Life Sciences	1	1133	1	Male	78	3
36	No	Travel_Frequently	469	Research & Development	3	3	Technical Degree	1	1257	3	Male	46	3
46	No	Travel_Rarely	168	Sales	4	2	Marketing	1	1280	4	Female	33	2
51	No	Travel_Rarely	770	Human Resources	5	3	Life Sciences	1	1352	3	Male	84	3
42	No	Travel_Rarely	1147	Human Resources	10	3	Human Resources	1	1408	3	Female	31	3
46	No	Travel_Rarely	563	Sales	1	4	Life Sciences	1	1602	4	Male	56	4
34	No	Non-Travel	1375	Sales	10	3	Life Sciences	1	1774	4	Male	87	3
38	No	Travel_Frequently	1394	Research & Development	8	3	Medical	1	1937	4	Female	58	2
41	No	Travel_Rarely	582	Research & Development	28	4	Life Sciences	1	2034	1	Female	60	2

Over **17** employees have worked for more 10 years in the company and have **Never Been Promoted**.

(2) EMPLOYEES WITH MORE THAN 3 TRAINING TIMES LAST YEAR AND WORK LIFE BALANCE LESS THAN (<) 2

```

115 -- WHICH EMPLOYEES HAVE MORE THAN 3 TRAINING TIMES LAST YEAR AND WORK LIFE BALANCE LESS THAN 2
116 • select *
117   from hr_att
118  where training_times_last_year > 3
119        and work_life_balance < 2;

```

Age	Attrition	Business_Travel	Daily_Rate	Department	Distance_From_Home	Education	Education_Field	Employee_Count	Employee_Number	Environment_Satisfaction	Gender	Hourly_Rate	Job_Involvement
54	No	Travel_Rarely	1217	Research & Development	2	4	Technical Degree	1	127	1	Female	60	3
40	No	Non-Travel	1151	Research & Development	9	5	Life Sciences	1	26	4	Male	63	2
51	No	Travel_Rarely	1469	Research & Development	8	4	Life Sciences	1	296	2	Male	81	2
28	Yes	Travel_Rarely	529	Research & Development	2	4	Life Sciences	1	364	1	Male	79	3
26	No	Travel_Frequently	1479	Research & Development	1	3	Life Sciences	1	384	3	Female	84	3
31	No	Travel_Rarely	480	Research & Development	7	2	Medical	1	524	2	Female	31	3
60	No	Travel_Rarely	422	Research & Development	7	3	Life Sciences	1	549	1	Female	41	3
29	Yes	Travel_Frequently	115	Sales	13	3	Technical Degree	1	1487	1	Female	51	3
33	No	Travel_Rarely	1242	Sales	8	4	Life Sciences	1	1560	1	Male	46	3
34	No	Travel_Rarely	479	Research & Development	7	4	Medical	1	1577	1	Male	35	3
46	No	Travel_Rarely	563	Sales	1	4	Life Sciences	1	1602	4	Male	56	4
37	Yes	Travel_Rarely	370	Research & Development	10	4	Medical	1	1809	4	Male	58	3
18	No	Non-Travel	1431	Research & Development	14	3	Medical	1	1839	2	Female	33	3
56	Yes	Travel_Rarely	310	Research & Development	7	2	Technical Degree	1	2032	4	Male	72	3

Fourteen (14) employees have more than three (3) Training Times Last Year and a Work Life Balance less than two (2).

(3) EMPLOYEES WITH A JOB SATISFACTION LESS THAN 3 IN SALES OR RESEARCH & DEVELOPMENT

```

120 -- FIND ALL EMPLOYEES WHOSE JOB SATISFACTION IS LESS THAN 3 AND WHO ARE IN SALES OR RESEARCH & DEVELOPMENT
121 * SELECT *
122 FROM Hr_att
123 WHERE Job_Satisfaction < 3
124 AND Department IN ('Sales', 'Research & Development');

```

Age	Attrition	Business_Travel	Daily_Rate	Department	Distance_From_Home	Education	Education_Field	Employee_Count	Employee_Number	Environment_Satisfaction
49	No	Travel_Frequently	279	Research & Development	8	1	Life Sciences	1	2	3
27	No	Travel_Rarely	591	Research & Development	2	1	Medical	1	7	1
59	No	Travel_Rarely	1324	Research & Development	3	3	Medical	1	10	3
35	No	Travel_Rarely	809	Research & Development	16	3	Medical	1	14	1
29	No	Travel_Rarely	1389	Research & Development	21	4	Life Sciences	1	20	2
32	No	Travel_Rarely	334	Research & Development	5	2	Life Sciences	1	21	1
36	Yes	Travel_Rarely	1218	Sales	9	4	Life Sciences	1	27	3
34	No	Travel_Rarely	419	Research & Development	7	4	Life Sciences	1	28	1
34	Yes	Travel_Rarely	699	Research & Development	6	1	Medical	1	31	2
32	Yes	Travel_Frequently	1125	Research & Development	16	1	Life Sciences	1	33	2
42	No	Travel_Rarely	691	Sales	8	4	Marketing	1	35	3
46	No	Travel_Rarely	705	Sales	2	4	Marketing	1	38	2
36	No	Travel_Rarely	852	Research & Development	5	4	Life Sciences	1	51	2
33	No	Travel_Frequently	1141	Sales	1	3	Life Sciences	1	52	3
27	No	Travel_Rarely	1240	Research & Development	2	4	Life Sciences	1	54	4
37	No	Travel_Rarely	408	Research & Development	19	2	Life Sciences	1	61	2
44	No	Travel_Rarely	1488	Sales	1	5	Marketing	1	68	2
35	No	Non-Travel	1097	Research & Development	11	2	Medical	1	70	3
35	No	Travel_Frequently	853	Sales	18	5	Life Sciences	1	74	2
35	No	Travel_Rarely	1142	Research & Development	23	4	Medical	1	75	3
50	No	Travel_Rarely	1435	Sales	25	3	Life Sciences	1	81	1

Over Five Hundred and Thirty-Eight (538) employees in either Sales or Research & Development have a job satisfaction of less than three (3).

(4) EMPLOYEES EARNING MORE THAN THE AVERAGE MONTHLY INCOME

```

122 -- SHOW DETAILS OF EMPLOYEES EARNING MORE THAN THE AVERAGE MONTHLY INCOME
123 * select *
124 from hr_att
125 where monthly_income > (
126     select avg(monthly_income)
127     from hr_att
128 );
129 -- ANOTHER QUERY --
130 * select avg(monthly_income) as AMI
131 from hr_att; -- AMI = 6503
132
133 * select *
134 from hr_att
135 where monthly_income > 6503;
136

```

Age	Attrition	Business_Travel	Daily_Rate	Department	Distance_From_Home	Education	Education_Field	Employee_Count	Employee_Number	Environment_Satisfaction	Gender	Hourly_Rate	Job_Involvement
38	No	Travel_Frequently	216	Research & Development	23	3	Life Sciences	1	12	4	Male	44	2
29	No	Travel_Rarely	1389	Research & Development	21	4	Life Sciences	1	20	2	Female	51	4
53	No	Travel_Rarely	1219	Sales	2	4	Life Sciences	1	23	1	Female	78	2
34	No	Travel_Rarely	419	Research & Development	7	4	Life Sciences	1	28	1	Female	53	3
53	No	Travel_Rarely	1282	Research & Development	5	3	Other	1	32	3	Female	58	3
42	No	Travel_Rarely	691	Sales	8	4	Marketing	1	35	3	Male	48	3
44	No	Travel_Rarely	477	Research & Development	7	4	Medical	1	36	1	Female	42	2
46	No	Travel_Rarely	705	Sales	2	4	Marketing	1	38	2	Female	83	3
27	No	Travel_Frequently	994	Sales	8	3	Life Sciences	1	55	4	Male	37	3
41	Yes	Travel_Rarely	1360	Research & Development	12	3	Technical Degree	1	58	2	Female	49	3
35	No	Non-Travel	1097	Research & Development	11	2	Medical	1	70	3	Male	79	2

Four Hundred and Ninety-Three (493) employees, earn more than the Average Monthly Income of Six Thousand, Five Hundred and Three (₦6503).

TRENDS AND INSIGHTS

(1) IS JOB INVOLVEMENT ASSOCIATED WITH HIGHER PERFORMANCE RATING?

```
138 -- WHAT IS THE CORRELATION BETWEEN JOB INVOLVEMENT AND PERFORMANCE RATING
139 • select job_involvement,
140        avg(performance_rating) as APR
141    from hr_att
142   group by Job_involvement
143   order by job_involvement;
***
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	job_involvement	APR			
▶	1	3.2048192771084336			
	2	3.1546666666666665			
	3	3.1509216589861753			
	4	3.138888888888889			

Employees with **higher job involvement** tend to have a **slightly better performance rating**. The **average rating only rises a little**, reaching **3.21** at **highest involvement level**. This suggests a **Mild** connection, but it is **not a strong or consistent trend**.

(2) EDUCATION FIELD WITH THE HIGHEST AVERAGE ENVIRONMENT SATISFACTION.

```
145 -- WHICH EDUCATION FIELD HAS THE HIGHEST ENVIRONMENT SATISFACTION
146 • select education_field,
147        avg(environment_satisfaction) as AES
148    from hr_att
149   Group by Education_field
150   order by AES desc
151   limit 1;
***
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	education_field	AES			
▶	Other	3.0122			

Other Education Fields has the Highest Average Environment Satisfaction **with 3.01**.

(3) DISTRIBUTION OF ATTRIBUTION BY AGE GROUP

```
153  -- WHAT IS THE DISTRIBUTION OF ATTRIBUTION BY AGE GROUP
154  • SELECT
155  CASE
156  WHEN Age < 30 THEN '<30'
157  WHEN Age BETWEEN 30 AND 50 THEN '30-50'
158  ELSE '>50'
159  END AS Age_Group,
160  Attrition,
161  COUNT(*) AS Num_Employees
162  FROM
163  hr_att
164  GROUP BY
165  Age_Group,
166  Attrition
167  ORDER BY
168  Age_Group, Attrition;
169
```

Age_Group	Attrition	Num_Employees
<30	No	235
<30	Yes	91
>50	No	125
>50	Yes	18
30-50	No	873
30-50	Yes	128

Attrition is **highest** among employees **under thirty (30)**, showing that younger staff are more likely to leave.

It **drops** in the **thirty (30) – fifty (50) group**, suggesting **more stability** in **mid-career employees**. Employees **over fifty (50)** have the **lowest** attrition, likely due to **job security & nearing retirement**.

(4) EMPLOYEES WHO FREQUENTLY TRAVEL VS RARELY & THE AVERAGE YEARS WITH CURR MANAGER

```
170 -- COMPARE THE NUMBER OF EMPLOYEES WHO TRAVEL FREQUENTLY VS RARELY AND THEIR AVERAGE YEARS WITH CURR MANAGER
171 • SELECT
172     Business_Travel,
173     COUNT(*) AS Num_E,
174     ROUND(AVG(Years_with_CurrManager), 2) AS aycm
175 FROM
176     hr_att
177 GROUP BY
178     Business_Travel
179 ORDER BY
180     Num_E DESC;
181
182
```

Business_Travel	Num_E	aycm
Travel_Rarely	1043	4.07
Travel_Frequently	277	4.22
Non-Travel	150	4.30

The number of employees who **Travel Rarely** are **1043**, with an average year with curr manager of **4.07**.

- **Travel Frequently** are **277** with an average year with curr manager of **4.22**.
- **Non-Travel** with **150** employees and average of **4.30** years with curr manager.

(5) AVERAGE HOURLY RATE FOR EMPLOYEES WHO HAVED CHANGED COMPANIES MORE THAN TWICE (2 TIMES).

```
182 -- FIND THE AVERAGE HOURLY RATE FOR EMPLOYEES WHO HAVE CHANGED COMPANIES MORE THAN TWICE
183 • SELECT
184     ROUND(AVG(Hourly_Rate), 2) AS Avg_HR
185 FROM
186     hr_att
187 WHERE
188     Num_Companies_Worked > 2;
```

Avg_HR
66.45

Employees who have changed companies more than twice (two times), have an average hourly rate of **66.45**.

ADVANCED SUBQUERY

TOP 5 HIGHEST EARNERS IN THE COMPANY BASED ON THE MONTHLY INCOME AND JOB ROLES & DEPARTMENT.

```
194      -- WHO ARE THE 5 HIGHEST EARNERS IN THE COMPANY BASED ON MONTHLY INCOME AND WHAT ARE THEIR JOB ROLES AND DEPARTMENTS
195      SELECT
196      Employee_Number, Job_Role, Department, Monthly_Income
197      FROM
198      hr_att
199      ORDER BY
200      Monthly_Income DESC
201      LIMIT 5;
202
```

Employee_Number	Job_Role	Department	Monthly_Income
259	Manager	Research & Development	19999
1035	Research Director	Research & Development	19973
1191	Manager	Research & Development	19943
226	Manager	Research & Development	19926
787	Manager	Research & Development	19859

The top 5 earners all come from **Research & Development** department. With job roles and employee number as follows:

- Employee number **259** – **Manager** is the top earner in the company with a monthly income of **₦19,999**.
- Employee number **1035** – **Research Director** is the second top earner with **₦19,973**.
- Employee number **1191** – **Manager**, third top earner with **₦19,943**.
- Employee Number **226** – **Manager** **₦19,926**.
- Employee Number **787** – **Manager** **₦19,859**.