

Exploratory Data Analysis



SCHOLARLY
WRITINGS

Exploratory Data Analysis

Variable Analysis

A. Type of Training Received by Employees

Table 1: *Training received by employees*

Type	Count of employees that received that training
GROUP	41
NONE	13
ONLINE	46
Total	100

Figure 1: *Types of employee training*

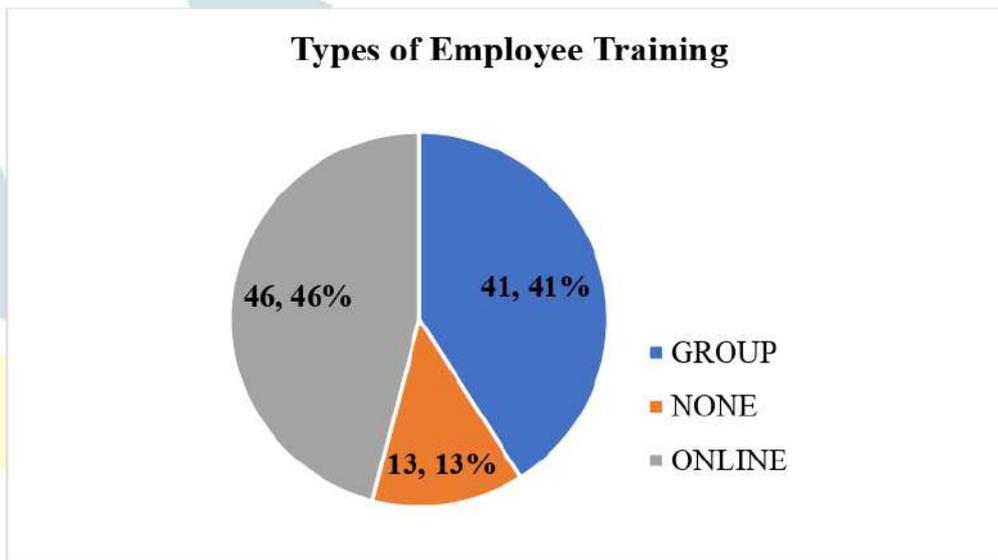


Table 1 and Figure 1 show that 46% of the employees received online training and 41% received group training. The other 13% of the employees did not receive any training. Online platforms led in training employees because of their wider reach.

B. Number of Sales Calls Made

Table 2: *Descriptive statistics*

Calls	
Mean	158.86
Standard Error	1.849708
Median	157.5
Mode	146
Standard Deviation	18.49708
Sample Variance	342.1418
Range	82
Minimum	116
Maximum	198

Figure 2: *Boxplot for number of calls*

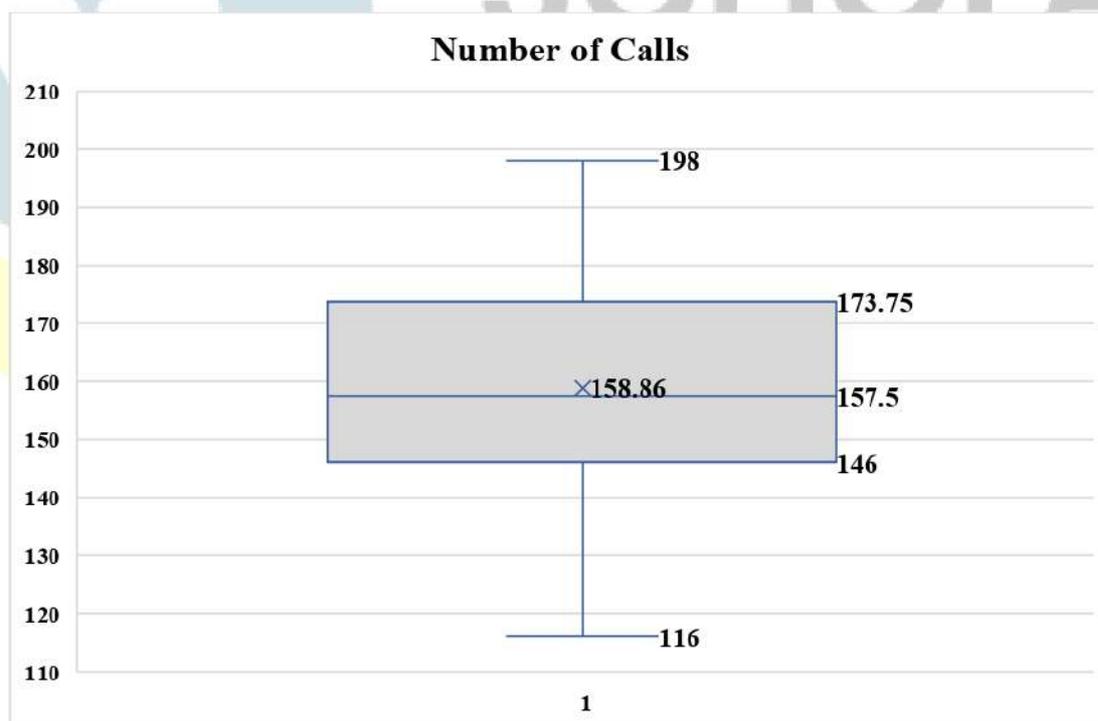


Figure 3: *Frequency distribution of calls per employee*

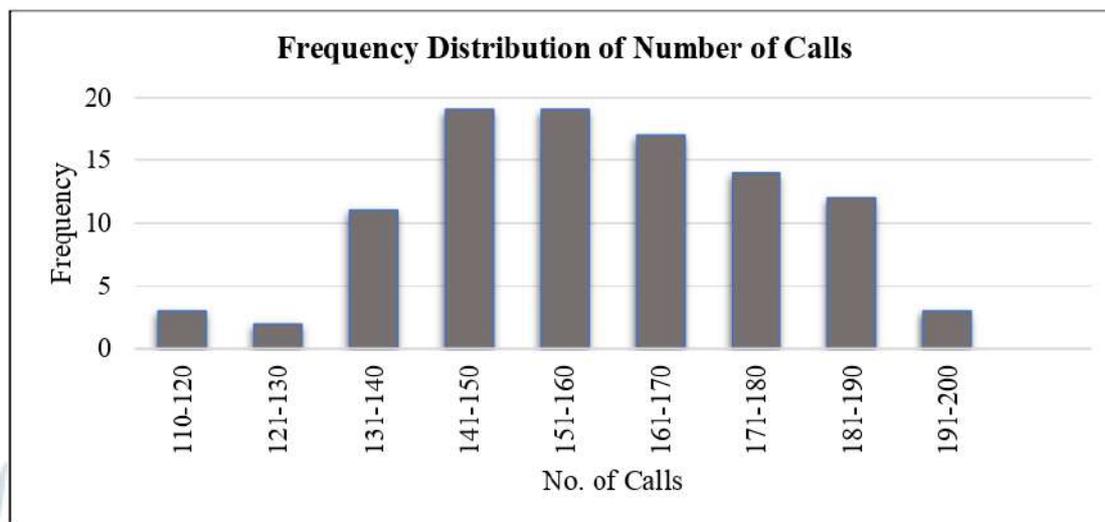


Table 2 and Figure 2 reveal that employees averaged 158.86 calls during the week. The median number of calls is 157.5 with the range starting from 116 calls to 198 calls. The distribution of the number of calls by each employee closely resembles a normal distribution model illustrated in Figure 3.

C. Number of Sales Made

Figure 4: Scatter diagram of sales by employees

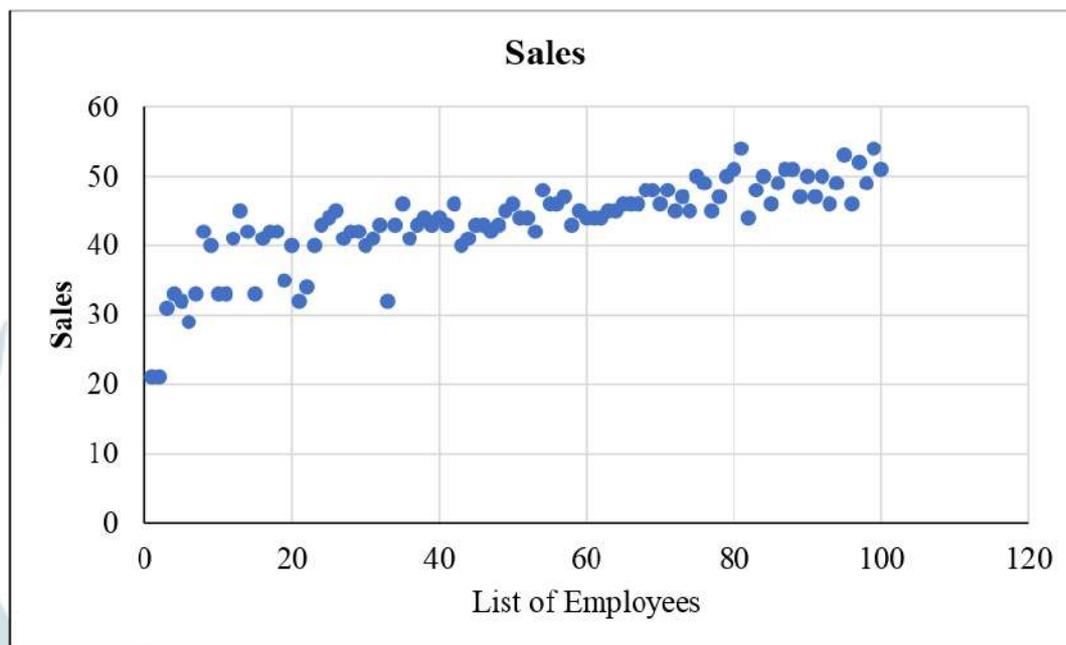


Table 3: Descriptive statistics

Sales	
Mean	43.35
Standard Error	0.620097
Median	44
Mode	46
Standard Deviation	6.200969
Sample Variance	38.45202
Range	33
Minimum	21
Maximum	54

Figure 5: *Frequency distribution of sales by each employee*

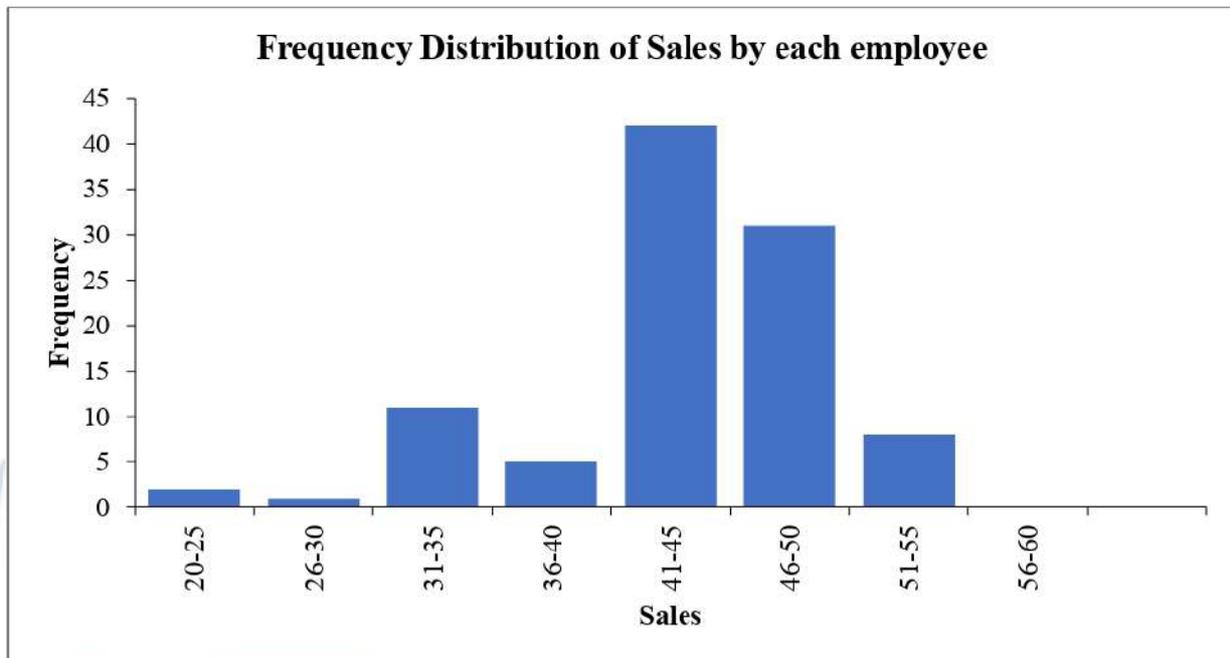


Figure 4 and Table 3 reveal the distribution of sales made by individual employees.

Employees averaged 43.35 in sales. The sales ranged from 21 to 54. Figure 5 illustrates that 73% of employees had sales averaging between 41 and 50. Notably, 42% of employees made between 41 and 45 in sales.

D. Sales and Types of Training Received

Table 4: *Sales and type of training*

Types of training received	Average of Sales
GROUP	41.34
NONE	40.46
ONLINE	45.96
Grand average	43.35

Figure 6: Average of sales and types of training received

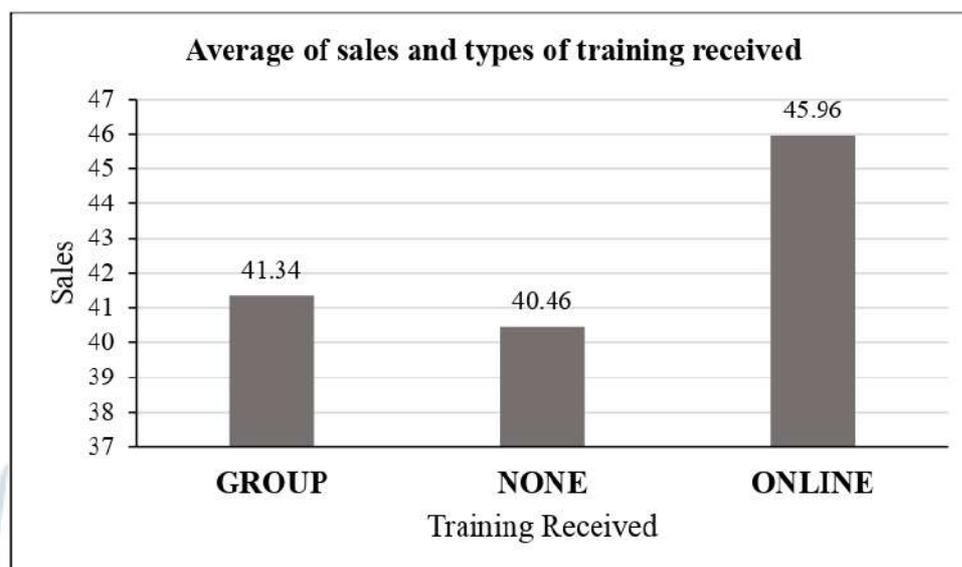


Table 4 reveals that employees had an average of 43.35 in sales. Based on training, online-trained employees averaged 45.96. Those who took part in group training averaged 41.34.

The untrained averaged 41.34. Figure 6 shows that online training delivered more sales. It supported the increased adoption of online training for sales agents.

E. Length of Calls and Number of Sales

Table 5: Correlation analysis

	<i>Sales</i>	<i>Calls</i>
Calls (X1)	1	
Sales (Y)	0.836078	1

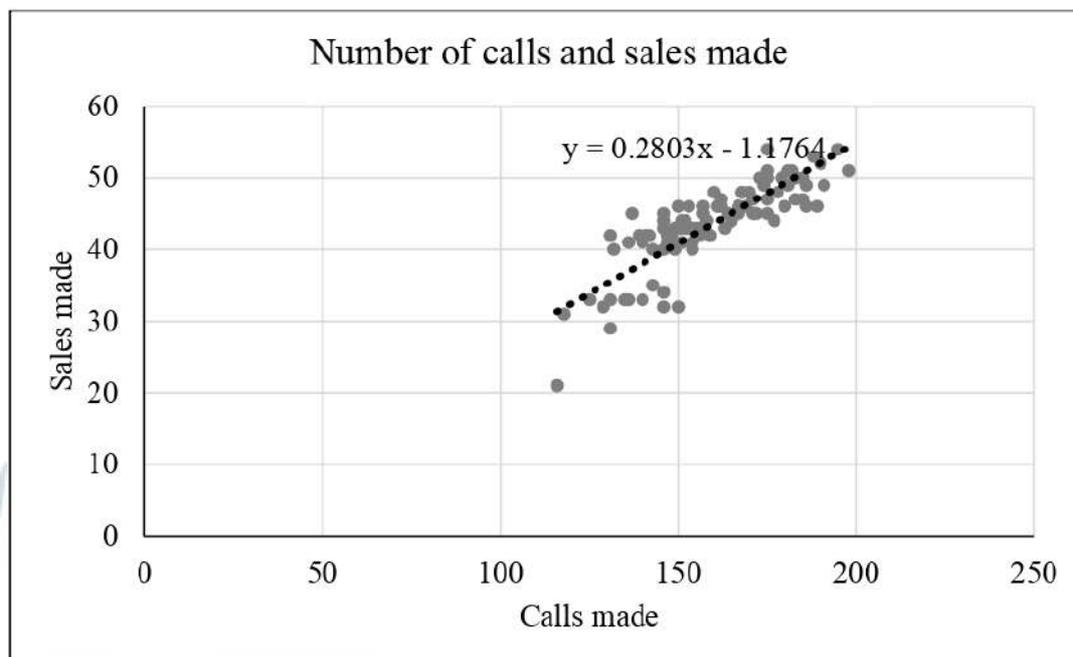
Figure 7: *Number of calls and sales made*

Table 5 indicates the number of calls made and the sales made by each employee share a strong correlation (0.84). Figure 7 shows the trend. These reveal that increasing the number of calls translated to more sales.

F. Length of Calls and Years of Experience

Table 6: *Years of experience and length of call*

Years	Average of Time
0	15.93
1	14.91
2	16.45
3	15.06
4	14.85
5	16.78
Total Average	15.53

Figure 8: *Length of calls and years of experience*

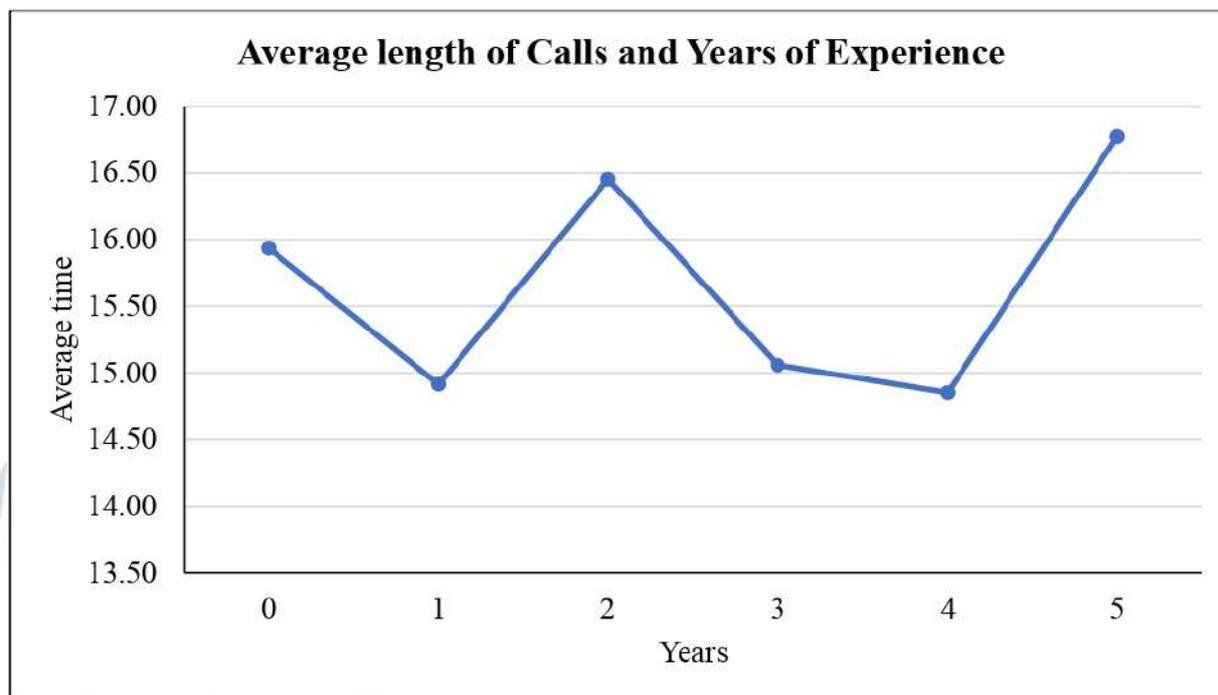


Table 6 shows that that the average length of calls did not assume a definite trend based on experience. It challenges the hypothesis that experience influences the length of calls. Figure 8 illustrates the oscillations suggesting no relationship between experience and the average length of sales calls.

G. Conclusion

The results reveal that online platforms are the primary channel of sales training. The calls that a sales agent make, the more their sales. However, experience does not influence the length of calls. Adopting online training and incentivizing employees to increase the number of sales calls can help boot performance.