DELL PROJECT

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ABSTRACT

Dell is waging war on HP & vaunted imaging and printing division, which produces some 70% of HP & operating profit. In the case of printers, the printer cartridges is where HP has the biggest margins, and Dell seems to be focused on malting inroads into this market, over which HP has had a strong hold with such an intense competition for market share and customer patronage, Dell is conducting a survey of recent purchasers of Dell PCs and notebooks. Dell wants to understand their consumers & primary usage of their computers for Internet and other usage. Based on that, Dell wants to understand the satisfaction that their consumers are deriving from Dell products. Dell wants to estimate their customers & probability of repeat buying of Dell products and the extent to which their current customers will recommend Dell to their friends and family. Finally, Dell wants to understand if there is any correlation on any of these identified usage factors and the underlying demographic aspects of the classification of their customers.

One Sample T-Test

Q1.

Does the Mean Response on evaluations of DELL (q8_1) exceed 5(the midpoint of the scale)?

Business Problem:

Does the people agreeing on Dell making Ordering computer easy is higher than the mean?

Analytical problem:

Is the mean of people who agree that Dell makes ordering of computer easy is greater than the mid value of the Likert scale (5)?

Null hypothesis:

There is no difference between the mean value of people who agree that Dell makes

ordering of computer easy and the mid value of Likert scale (5).

$\mu_0=5$

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Makes ordering a computer system easy	372	7.74	1.479	.077

One-Sample Test						
	Test Value = 5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Makes ordering a computer system easy	35.764	371	.000	2.742	2.59	2.89

Result:

It is observed that the significance value is 0.000 which is lesser than 0.05, so the null hypothesis is rejected.

Inference:

There is a significant difference between the means of people who agree that ordering dell computer is easy and the mid value of Likert scale. The mean value of people who agree that Dell makes ordering computers easy is 7.74 which is greater than 5. So, the mean of making ordering of computer easy exceed the mean of Likert scale.

Q2.

Does the Mean Response on evaluations of DELL (q8_2) exceed 5(the midpoint of the scale)?

Business Problem:

Does the number of people agreeing on DELL let customers ordering computers with customized system to their specifications higher than the mid value of the scale?

Analytical problem:

Is the mean of the number of people who agree that DELL let customers ordering computers with customized system to their specifications is greater than the mid value of the Likert scale (5)?

Null hypothesis:

There is no difference between the mean value of people who agree that DELL let customers ordering computers with customized system to their specifications and the mid value of Likert scale (5).

$\mu_0=5$

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
And how much do you agree that Dell lets customers order computer systems customized to their specifications?	369	7.58266	1.628324	.084767

One-Sample Test						
	Test Value = 5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
And how much do you agree that Dell lets customers order computer systems customized to their specifications?	30.468	368	.000	2.582656	2.41597	2.74934

Result:

It is observed that the significance value is 0.000 which is lesser than 0.05, so the null hypothesis is rejected.

Inference:

There is a significant difference between the means of people who agree that DELL let customers ordering computers with customized system to their specifications and the mid value of Likert scale. The mean value of people who agree that Dell makes ordering computers easy is 7.58 which is greater than 5. So, the mean of making ordering of computer easy exceed the mean of Likert scale.

There is more number of people who agrees that DELL let customers ordering computers with customized system to their specifications.

Q3.

Does the Mean Response on evaluations of DELL (q8_3) exceed 5(the midpoint of the scale)?

Business Problem:

Does the number of people agreeing on Dell delivers their computers quickly higher than the mid value of the scale?

Analytical problem:

Is the mean of the number of people who agree that Dell delivers their computers quickly is greater than the mid value of the Likert scale (5)?

Null hypothesis:

There is no difference between the mean value of people who agree that Dell delivers their computers quickly and the mid value of Likert scale (5).

$\mu_0=5$

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Dell Computers delivers its products quickly?	372	6.8978	1.86623	.09676

One-Sample Test						
	Test Value = 5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Dell Computers delivers its products quickly?	19.614	371	.000	1.89785	1.7076	2.0881

Result:

It is observed that the significance value is 0.000 which is lesser than 0.05, so the null hypothesis is rejected.

Inference:

There is a significant difference between the means of people who agree that Dell delivers their computers quickly and the mid value of Likert scale. The mean value of people who agree that Dell delivers their computers quickly is 6.89 which is greater than 5. So, the

mean of making Dell delivers their computers quickly exceed the mean of Likert scale.
There are more number of people who agrees that Dell delivers their computers quickly.

Q4.

Does the Mean Response on evaluations of DELL (q8_4) exceed 5(the midpoint of the scale)?

Business Problem:

Does the number of people agreeing on DELL computers prices its products competitively higher than the mid value of the scale?

Analytical problem:

Is the mean of the number of people who agree that DELL computers prices its products competitively is greater than the mid value of the Likert scale (5)?

Null hypothesis:

There is no difference between the mean value of people who agree that DELL computers prices its products competitively and the mid value of Likert scale (5).

$\mu_0=5$

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
And how much do you agree that Dell Computers prices its products competitively?	372	8.1962	1.30588	.06771

One-Sample Test						
	Test Value = 5					
	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
And how much do you agree that Dell Computers prices its products competitively?	47.207	371	.000	3.19624	3.0631	3.3294

Result:

It is observed that the significance value is 0.000 which is lesser than 0.05, so the null hypothesis is rejected.

Inference:

There is a significant difference between the means of people who agree that DELL computers prices its products competitively and the mid value of Likert scale. The mean value of people who agree that DELL computers prices its products competitively is 8.19 which is greater than 5. So, the mean of DELL computers prices its products competitively exceed the mean of Likert scale.

There are more number of people who agrees that DELL computers prices its products competitively.

Independent sample T-test

CHAPTER -15

Q.6.1

Are the two overall satisfaction groups derived based on the recoding of q4 as specified in Chapter 14 different in terms of each of the evaluations of DELL (q8_1) ?

How would your analysis change if the evaluations of DELL (q8_1) are to be treated as ordinal rather than interval scaled?

Business Problem:

Is there a relationship between people agreeing of making Ordering computer easy and the recoded satisfaction groups?

Analytical problem:

Is there a difference between the means of people who agree on easy ordering of dell computers and the recoded satisfaction groups?

Null hypothesis:

The mean of the people who agree that ordering dell computer is easy and the mean of the satisfaction groups are equal.

$\mu_0=\mu_1$

T-Test

Group Statistics					
	Recoded satisfaction	N	Mean	Std. Deviation	Std. Error Mean
Makes ordering a computer	1	208	8.14	1.129	.078

system easy	2	164	7.23	1.700	.133

Independent Samples Test				
		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
Makes ordering a computer system easy	Equal variances assumed	21.013	.000	6.200
	Equal variances not assumed			5.921

Independent Samples Test				
		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
Makes ordering a computer system easy	Equal variances assumed	370	.000	.913
	Equal variances not assumed	270.249	.000	.913

Independent Samples Test				
		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Makes ordering a computer system easy	Equal variances assumed	.147	1.202	1.202
	Equal variances not assumed	.154	1.216	1.216

Result:

It is observed that the significance value is 0.000 which is lesser than 0.05, so the null hypothesis is rejected.

Inference:

There is a significant difference between the means of people who agree that ordering dell computer is easy and the mean of satisfaction groups. So, there is a relationship between the satisfaction of the customer and making the ordering of dell computers easy.

Q.6.2.

Are the two overall satisfaction groups derived based on the recoding of q4 as specified in Chapter 14 different in terms of each of the evaluations of DELL (q8_2) ?

How would your analysis change if the evaluations of DELL (q8_2) are to be treated as ordinal rather than interval scaled?

Business Problem:

Is there a relationship between people agreeing that Dell lets customers to order computer systems customized to their specifications and the recoded satisfaction groups?

Analytical problem:

Is there a difference between the means of people who agree that Dell makes customers to order computer systems customized to their specifications and the mean value of recoded satisfaction groups?

Null hypothesis:

There is no difference between the mean value of people who agree that Dell allows its customers to customize their order and the mean value of recoded satisfaction groups

$\mu_0=\mu_1$

T-Test

Group Statistics					
	Recoded satisfaction	N	Mean	Std. Deviation	Std. Error Mean
Customers order computer systems customized to their specifications	1	208	8.03	1.526	.106
	2	164	6.88	1.826	.143

Independent Samples Test				
		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
Customers order computer systems customized to their specifications	Equal variances assumed	14.246	.000	6.620
	Equal variances not assumed			6.481

Independent Samples Test				
		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
Customers order computer systems customized to their specifications	Equal variances assumed	370	.000	1.151
	Equal variances not assumed	316.337	.000	1.151

Independent Samples Test				
		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Customers order computer systems customized to their specifications	Equal variances assumed	.174	.809	1.493
	Equal variances not assumed	.178	.801	1.500

Result:

It is observed that the significance value is 0.000 which is lesser than 0.05, so the null hypothesis is rejected.

Inference:

There is a significant difference between the means of people who agree that Dell allows its customers to customize their order and the mean of satisfaction groups. So, there is a relationship between the satisfaction of the customer and
the customization offered by dell computers.

Q.6.3.

Are the two overall satisfaction groups derived based on the recoding of q4 as specified in Chapter 14 different in terms of each of the evaluations of DELL (q8_3) ?

How would your analysis change if the evaluations of DELL (q8_3) are to be treated as ordinal rather than interval scaled?

Business Problem:

Is there a relationship between people agreeing that Dell Computers delivers its products quickly and the recoded satisfaction groups?

Analytical problem:

Is there a difference between the means of people who agree that Dell delivers its products quickly and the mean value of recoded satisfaction groups?

Null hypothesis:

There is no difference between the mean value of people who agree that Dell delivers its products quickly and the mean value of recoded satisfaction groups

$\mu_0=\mu_1$

T-Test

Group Statistics					
	Recoded satisfaction	N	Mean	Std. Deviation	Std. Error Mean
Delivers its products quickly	1	208	7.49	1.494	.104
	2	164	6.15	2.019	.158

Independent Samples Test				
		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
Delivers its products quickly	Equal variances assumed	11.238	.001	7.376
	Equal variances not assumed			7.125

Independent Samples Test				
		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
Delivers its products quickly	Equal variances assumed	370	.000	1.344
	Equal variances not assumed	291.344	.000	1.344

Independent Samples Test				
		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Delivers its products	Equal variances assumed	.182	.986	1.702

quickly	Equal variances not assumed	.189	.973	1.715

Result:

It is observed that the significance value is 0.000 which is lesser than 0.05, so the null hypothesis is rejected.

Inference:

There is a significant difference between the means of people who agree that Dell delivers its products quickly and the mean of satisfaction groups. So, there is a relationship between the satisfaction of the customer and dell delivering its products quickly.

Q.6.4.

Are the two overall satisfaction groups derived based on the recoding of q4 as specified in Chapter 14 different in terms of each of the evaluations of DELL (q8_4) ?
How would your analysis change if the evaluations of DELL (q8_4) are to be treated as ordinal rather than interval scaled?

Business Problem:

Is there a relationship between people agreeing that Dell Computers prices its products competitively and the recoded satisfaction groups?

Analytical problem:

Is there a difference between the means of people who agree that Dell Computers prices its products competitively and the recoded satisfaction groups?

Null hypothesis:

There is no difference between the mean value of people who agree that Dell prices its products competitively and the mean value of the recoded satisfaction groups

$\mu_0=\mu_1$

Group Statistics					
	Recoded satisfaction	N	Mean	Std. Deviation	Std. Error Mean
Prices its products competitively	1	208	8.63	.787	.055
	2	164	7.64	1.593	.124

Independent Samples Test				
		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
Prices its products competitively	Equal variances assumed	53.624	.000	7.867
	Equal variances not assumed			7.319

Independent Samples Test				
		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
Prices its products competitively	Equal variances assumed	370	.000	.994
	Equal variances not assumed	225.195	.000	.994

Independent Samples Test				
		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Prices its products competitively	Equal variances assumed	.126	.746	1.243
	Equal variances not assumed	.136	.727	1.262

Result:

It is observed that the significance value is 0.000 which is lesser than 0.05, so the null hypothesis is rejected.

Inference:

There is a significant difference between the means of people who agree that Dell prices its products competitively and the mean of satisfaction groups. So, there is a relationship between the satisfaction of the customer and Dell pricing its products competitively.

Q.7.1.

Are the two likely to recommend groups derived based on the recoding of q5 as specified in Chapter 14 different in terms of each of the evaluations of DELL (q8_1) ?

How would your analysis change if the evaluations of DELL (q8_1) are to be treated as ordinal rather than interval scaled?

Business Problem:

Is there a relationship between people agreeing of making Ordering computer easy and the recommendation groups of Dell to a friend or relative?

Analytical problem:

Is there a difference between the means of people who agree on easy ordering of dell computers and the recoded recommendation groups?

Null hypothesis:

The mean of the people who agree that ordering dell computer is easy and the mean of the recommendation groups are equal.

$\mu_0=\mu_1$

Group Statistics					
	Recoded satisfaction	N	Mean	Std. Deviation	Std. Error Mean
Makes ordering a computer system easy	1	177	8.16	1.083	.081
	2	195	7.36	1.676	.120

Independent Samples Test				
		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
Makes ordering a computer system easy	Equal variances assumed	21.754	.000	5.441
	Equal variances not assumed			5.551

Independent Samples Test				
		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
Makes ordering a computer system easy	Equal variances assumed	370	.000	.805
	Equal variances not assumed	335.260	.000	.805

Independent Samples Test	
	t-test for Equality of Means

		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Makes ordering a computer system easy	Equal variances assumed	.148	.514	1.096
	Equal variances not assumed	.145	.520	1.090

Result:

It is observed that the significance value is 0.000 which is lesser than 0.05, so the null hypothesis is rejected.

Inference:

There is a significant difference between the means of people who agree that ordering dell computer is easy and the mean of recommendation groups. So, there is a relationship between the recommendation of the customer and making the ordering of dell computers easy.

Q.7.2.

Are the two likely to recommend groups derived based on the recoding of q5 as specified in Chapter 14 different in terms of each of the evaluations of DELL (q8_2) ?
How would your analysis change if the evaluations of DELL (q8_2) are to be treated as ordinal rather than interval scaled?

Business Problem:

Is there a relationship between people agreeing that Dell lets customers to order computer systems customized to their specifications and the recoded satisfaction groups?

Analytical problem:

Is there a difference between the means of people who agree that Dell makes customers to order computer systems customized to their specifications and the mean value of recoded recommendation groups?

Null hypothesis:

There is no difference between the mean value of people who agree that Dell allows its customers to customize their order and the mean value of recoded recommendation groups $\mu_0=\mu_1$

Group Statistics					
	Recoded satisfaction	N	Mean	Std. Deviation	Std. Error Mean
Customers order computer systems	1	177	8.06	1.425	.107

customized to their specifications	2	195	7.04	1.890	.135

Independent Samples Test				
		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
Customers order computer systems customized to their specifications	Equal variances assumed	18.551	.000	5.835
	Equal variances not assumed			5.914

Independent Samples Test				
		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
Customers order computer systems customized to their specifications	Equal variances assumed	370	.000	1.021
	Equal variances not assumed	358.245	.000	1.021

Independent Samples Test				
		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Customers order computer systems customized to their specifications	Equal variances assumed	.175	.677	1.365
	Equal variances not assumed	.173	.681	1.360

Result:

It is observed that the significance value is 0.000 which is lesser than 0.05, so the null hypothesis is rejected.

Inference:

There is a significant difference between the means of people who agree that Dell allows its customers to customize their order and the mean of recommendation groups. So, there is a relationship between the recommendation of the customer and the customization offered by dell computers.

Q.7.3

Are the two likely to recommend groups derived based on the recoding of q5 as specified in Chapter 14 different in terms of each of the evaluations of DELL (q8_3) ?
How would your analysis change if the evaluations of DELL (q8_3) are to be treated as ordinal rather than interval scaled?

Business Problem:

Is there a relationship between people agreeing that Dell Computers delivers its products quickly and the recoded recommendation groups?

Analytical problem:

Is there a difference between the means of people who agree that Dell delivers its products quickly and the mean value of recoded recommendation groups?

Null hypothesis:

There is no difference between the mean value of people who agree that Dell delivers its products quickly and the mean value of recoded recommendation groups

$\mu_0=\mu_1$

Group Statistics					
	Recoded satisfaction	N	Mean	Std. Deviation	Std. Error Mean
Delivers its products quickly	1	177	7.58	1.413	.106
	2	195	6.28	2.012	.144

Independent Samples Test				
		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
Delivers its products quickly	Equal variances assumed	17.145	.000	7.112
	Equal variances not assumed			7.231

Independent Samples Test				
		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
Delivers its products quickly	Equal variances assumed	370	.000	1.294
	Equal variances not assumed	348.590	.000	1.294

Independent Samples Test				
		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Delivers its products quickly	Equal variances assumed	.182	.936	1.652
	Equal variances not assumed	.179	.942	1.646

Result:

It is observed that the significance value is 0.000 which is lesser than 0.05, so the null hypothesis is rejected.

Inference:

There is a significant difference between the means of people who agree that Dell delivers its products quickly and the mean of recommendation groups. So, there is a relationship between the recommendation of the customer and dell delivering its products quickly.

Q.7.4

Are the two likely to recommend groups derived based on the recoding of q5 as specified in Chapter 14 different in terms of each of the evaluations of DELL (q8_4) ?

How would your analysis change if the evaluations of DELL (q8_4) are to be treated as ordinal rather than interval scaled?

Business Problem:

Is there a relationship between people agreeing that Dell Computers prices its products competitively and the recoded satisfaction groups?

Analytical problem:

Is there a difference between the means of people who agree that Dell Computers prices its products competitively and the recoded recommendation groups?

Null hypothesis:

There is no difference between the mean value of people who agree that Dell prices its products competitively and the mean value of the recoded recommendation groups

$\mu_0=\mu_1$

Group Statistics					
	Recoded satisfaction	N	Mean	Std. Deviation	Std. Error Mean
Prices its products competitively	1	177	8.66	.689	.052
	2	195	7.77	1.567	.112

Independent Samples Test				
		Levene's Test for Equality of Variances		t-test for Equality of Means
		F	Sig.	t
Prices its products competitively	Equal variances assumed	51.403	.000	6.944
	Equal variances not assumed			7.175

Independent Samples Test				
		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
Prices its products competitively	Equal variances assumed	370	.000	.887
	Equal variances not assumed	271.982	.000	.887

Independent Samples Test				
		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Prices its products competitively	Equal variances assumed	.128	.636	1.138
	Equal variances not assumed	.124	.643	1.130

Result:

It is observed that the significance value is 0.000 which is lesser than 0.05, so the null hypothesis is rejected.

Inference:

There is a significant difference between the means of people who agree that Dell prices its products competitively and the mean of recommendation groups. So, there is a relationship between the recommendation of the customer and Dell pricing its products competitively.

Paired sample T-test

Q.9)

Is the mean of responses to q8_1(Make ordering a computer system easy) and q8_2(Let customers order computer systems customized to their specification) different? How would your analysis change if the evaluations of DELL(q8_1 & q8_2) are to be treated as ordinal rather than interval scaled?

Business Problem:

Is there a difference between people agreeing of making Ordering computer easy and making customising of specifications easy?

Analytical problem:

Is there a relationship between the people who agree on easy ordering and easy customising of dell computers?

Null hypothesis:

The mean of the people who agree that ordering dell computer is easy and the mean of people who says dell allows them to order customised computer are equal

$\mu_0=\mu_1$

Paired Samples Statistics					
		N	Mean	Std. Deviation	Std. Error Mean
Pair 1	And how much do you agree that Dell Computers makes ordering a computer system easy?	372	7.74	1.48	.08
	And how much do you agree that Dell lets customers order computer systems customized to their specifications?	372	7.52	1.76	.09

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	And how much do you agree that Dell Computers makes ordering a computer system easy? & And how much do you agree that Dell lets customers order computer systems customized to their specifications?	372	.417	.000

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	And how much do you agree that Dell Computers makes ordering a computer system easy? - And how much do you agree that Dell lets customers order computer systems customized to their specifications?	.22	1.76	.09	.04	.40	2.41	371	.016

Result:

It is observed that the significance value is 0.016 which is lesser than 0.05, so the null hypothesis is rejected.

Inference:

There is a significant difference between the means of people who agree that ordering dell computer is easy and the mean of people who says dell allows them to order customised computer. So, there is a relationship between them.

Q.10)

Is the mean of responses to q8_9("Bundle" its computers with appropriate software) and q8_10("Bundle" its computers with Internet access) different?

How would your analysis change if the evaluations of DELL (q8_9 & q8_10) are to be treated as ordinal rather than interval scaled?

Business Problem:

Is there a difference between the number of people agreeing on bundle DELL computers with appropriate software and the number of people who agrees on having internet access to their systems?

Analytical problem:

Is there a relationship between the people who agrees on bundle DELL computers

with appropriate software and the number of people who agrees on having internet access to their systems?

Null hypothesis:

The mean of the people who agree that bundle DELL computers with appropriate software and the number of people who agrees on having internet access to their systems are equal

$\mu_0=\mu_1$

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Dell Computers bundles its computers with appropriate software	6.0803	361	3.18794	.16779
	Dell Computers bundles its computers with Internet access	6.5540	361	2.79543	.14713

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	Dell Computers bundles its computers with appropriate software And Dell Computers bundles its computers with Internet access	361	.499	.000

Paired Samples Test									
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Dell Computers bundles its computers with appropriate software And Dell Computers bundles its computers with Internet access	-.4736	3.01386	.1586	-.78563	-.16174	-2.986	360	.003

Result:

It is observed that the significance value is 0.003 which is lesser than 0.05, so the null hypothesis is rejected.

Inference:

There is a significant difference between the means of people who agree that bundle DELL computers with appropriate software and mean of the number of people who agrees on having internet access to their systems .So, there is a relationship between them.

Q11.

Is the mean of responses to q8_6(Have computers that run programs quickly) and q8_7(Have high-quality computers with no technical problems) different?
How would your analysis change if the evaluations of DELL(q8_6 & q8_7) are to be treated as ordinal rather than interval scaled?

Business Problem:

Is there any significant difference between the number of people agreeing on DELL computers run program quickly and the number of people who agrees on DELL has high quality computers with no technical problems?

Analytical problem:

Is there a relationship between the people who agrees on DELL computers run program quickly and the number of people who agrees on DELL has high quality computers with no technical problems?

Null hypothesis:

The mean of the people who agree that DELL computers run program quickly and the number of people who agrees on DELL has high quality computers with no technical problems are equal

$\mu_0=\mu_1$

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Dell has computers that run programs quickly	7.5041	367	1.79841	.09388
	Dell Computers has high-quality computers with no technical problems	7.6485	367	1.88875	.09859

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	Dell has computers that run programs quickly And Dell Computers has high-quality computers with no technical problems	367	.248	.000

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Dell has computers that run programs quickly And Dell Computers has high-quality computers with no technical problems	-.1444	2.26240	.11810	-.37665	.08782	-1.223	366	.222

Result:

It is observed that the significance value is 0.222 which is higher than 0.05, so we fail to reject null hypothesis.

Inference:

There is a no significant difference between the means of people who agree that DELL computers run program quickly and mean of the number of people who agrees on DELL has high quality computers with no technical problems. So, there is no relationship between them.

Regression

CHAPTER - 17

Q1.

Can the overall satisfaction (q4) be explained in terms of all 13 evaluations of DELL(q8_1 to q8_13)
when the independent variables are considered simultaneously? Interpret the results.

Dependent Variable: - q4 (Overall, how satisfied are you with your Dell computer system?)

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.416	13	3.263	13.193	.000

	Residual	88.541	358	.247		
	Total	130.957	371			

The **Significance Level of ANOVA** test is **.000**, which is **less than 0.05**.
Hence, we will consider the significance level of the **independent variables**.

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.569	.324	.299	.497	1.801

The **value** of **Durbin-Watson** is **1.801** which is **less than 2**, which means the variables are **Positively Correlated**.
Adjusted R Square value is **30%.** So, the model is a **good fit**.

Coefficients					
Independent Variables	Unstandardized Coefficients		Standardized Coefficients	t	
	B	Std. Error	Beta		Sig.
(Constant)	3.728	.220		16.959	.000
1. Makes ordering a computer system easy	-.021	.022	-.053	-.958	.339
2. DELL customers order computer systems customized to their specifications	-.011	.020	-.033	-.563	.574
3. Delivers its products quickly	-.033	.018	-.104	-1.832	.068
4. Prices its products competitively	-.105	.026	-.231	-4.115	.000
5. Features attractively designed computer system components	-.021	.014	-.077	-1.519	.130
6. Has computers that run programs quickly	-.026	.018	-.083	-1.493	.136
7. Has high-quality computers with no technical problems	.013	.014	.044	.904	.367
8. Has high-quality peripherals	-.080	.021	-.221	-3.788	.000
9. Bundles its computers with appropriate software	.004	.009	.020	.392	.695
10. Bundles its computers with Internet access	.011	.011	.053	.954	.341
11. Allows users to easily assemble components	-.001	.009	-.005	-.111	.912
12. Has computer systems that users can readily upgrade	-.007	.019	-.020	-.347	.728

13. Offer easily accessible technical support	-.013	.022	-.029	-.603	.547

So, apparently **Significance level** of **q8_4, q8_8** are **.000 and .000** respectively which are less than (α=0.05).
Therefore, **q8_4, q8_8** are **Statistically Significant** and so the values of satisfaction change according to change in these variables.

Coefficients								
Independent Variables		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	(Constant)	3.633	.178		20.44	.000		
q8_4	And how much do you agree that Dell Computers prices its products competitively?	-.137	.023	-.301	-6.024	.000	.770	1.299
q8_8	And how much do you agree that Dell Computers has high-quality peripherals (e.g., monitor, keyboard, mouse, speakers, disk drives)?	-.098	.018	-.271	-5.368	.000	.750	1.333

The **VIF Value** is less than 10.
So, we can consider these variables for **Regression analysis**.

Residuals Statistics					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.91	3.11	1.49	.338	372
Residual	-1.146	1.696	.000	.489	372
Std. Predicted Value	-1.728	4.800	.000	1.000	372
Std. Residual	-2.305	3.410	.000	.982	372

INFERENCE

The Factor of the Overall satisfaction (q4) with the DELL computer system, is affected by the independent variables (q8_4) DELL Prices its products competitively and (q8_8) DELL having high-quality peripherals (e.g., monitor, keyboard, mouse, speakers, disk drives).

Q2.

Can the likelihood of choosing DELL(q6) be explained in terms of all 13 evaluations of DELL(q8_1 to q8_13)
when the independent variables are considered simultaneously? Interpret the results.

Dependent Variable: - q6 (If you could make your computer purchase decision again, how likely would you be to choose Dell?)

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.854	13	1.835	6.487	.000
	Residual	101.265	358	.283		
	Total	125.118	371			

The **Significance Level of ANOVA test** is **.000**, which is less than 0.05.
Hence, we will consider the significance level of the **independent variables**.

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.437	.191	.161	.532	2.165

The **value** of **Durbin-Watson** is **2.165,** which is more than 2. Therefore, the variables are **Negatively Correlated**.
Adjusted R Square value is **16%.** So, the model is a **poor fit**.

Coefficients						
	Independent Variables	Unstandardized Coefficients		Standardized Coefficients	t	
		B	Std. Error	Beta		Sig.
	(Constant)	3.137	.235		13.344	.000
q8_1	Makes ordering a computer system easy	-.050	.024	-.126	-2.101	.036
q8_2	Lets customers order computer systems customized to their specifications	-.011	.021	-.032	-.504	.614

q8_3	Delivers its products quickly	-.037	.019	-.120	-1.930	.054
q8_4	Prices its products competitively	-.059	.027	-.132	-2.151	.032
q8_5	Features attractively designed computer system components	-.012	.015	-.046	-.827	.409
q8_6	Has computers that run programs quickly	-.016	.019	-.052	-.858	.391
q8_7	Has high-quality computers with no technical problems	.024	.015	.084	1.597	.111
q8_8	Has high-quality peripherals	-.027	.023	-.077	-1.199	.231
q8_9	Bundles its computers with appropriate software	.012	.010	.066	1.186	.237
q8_10	Bundles its computers with Internet access	.002	.012	.010	.164	.870
q8_11	Allows users to easily assemble components	-.005	.010	-.026	-.501	.617
q8_12	Has computer systems that users can readily upgrade	.006	.020	.020	.317	.752
q8_13	Offer easily accessible technical support	-.051	.023	-.115	-2.191	.029

So, apparently **Significance level of q8_1, q8_4 and q8_13** are **.036, .032 and .029** respectively which are less than (α=0.05).

Therefore, **q8_1, q8_4 and q8_13** are **Statistically Significant** and the values in factor of choosing to purchase DELL PC again in changing according to change in these variables.

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.86	2.66	1.40	.254	372
Residual	-1.129	2.086	.000	.522	372
Std. Predicted Value	-2.123	4.964	.000	1.000	372
Std. Residual	-2.123	3.922	.000	.982	372

INFERENCE

The factor of "choosing to purchase DELL PC again (q6)" is affected by the **independent variables** "(q8_1) Makes ordering a computer system easy", "(q8_4) DELL Prices its products competitively" and "(q8_13) DELL offers easily accessible technical support".

Q3.

Can price sensitivity ratings of (q9_5) be explained in terms of all 13 evaluations of DELL(q8_1 to q8_13)
when the independent variables are considered simultaneously? Interpret the results.

Dependent Variable: - q9_5per (If the price of the Dell computer system you purchased had been 5% higher, and all other personal computer prices had been the same, how likely would you have been to have purchased your Dell computer system?)

ANOVA						
Independent Variables		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	32.244	13	2.480	2.297	.006
	Residual	386.495	358	1.080		
	Total	418.739	371			

The **Significance Level** of **ANOVA test** is **.006**, which is less than 0.05.
Hence, we will consider the significance level of the **independent variables**.

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.277	.077	.043	1.039	2.002

The **Adjusted R squared value** is **0.007** which is **.7%**. Therefore, we will consider it as a **poor fit model**.
In this case, **Durbin Watson value** is **2.002** which is **approximately 2**, therefore, we can definitely say there is **no auto correlation** between the **independent variables**.

Coefficients						
Independent Variables		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.160	.459		9.057	.000
q8_1	Makes ordering a computer system easy	-.065	.046	-.090	-1.406	.161

q8_2	Lets customers order computer systems customized to their specifications	.023	.041	.037	.555	.579
q8_3	Delivers its products quickly	-.029	.038	-.050	-.760	.448
q8_4	Prices its products competitively	-.133	.053	-.163	-2.491	.013
q8_5	Features attractively designed computer system components	-.019	.029	-.040	-.670	.503
q8_6	Has computers that run programs quickly	-.017	.037	-.030	-.467	.641
q8_7	Has high-quality computers with no technical problems	.068	.030	.129	2.281	.023
q8_8	q8_1Has high-quality peripherals	-.032	.044	-.050	-.734	.464
q8_9	Bundles its computers with appropriate software	.002	.019	.007	.119	.905
q8_10	Bundles its computers with Internet access	.021	.024	.059	.895	.371
q8_11	Allows users to easily assemble components	-.035	.020	-.099	-1.759	.079
q8_12	Has computer systems that users can readily upgrade	.024	.040	.042	.617	.537
q8_13	Offer easily accessible technical support	.050	.046	.062	1.099	.272

So, apparently Significance level of q8_4, q8_7 are **.013, .023** respectively which are less than (α=0.05).

Therefore, **q8_4, q8_7** are **Statistically Significant** and the values of **q9_5per** change according to change in these variables.

Residuals Statistics					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.17	4.48	3.08	.295	372
Residual	-2.633	2.354	.000	1.021	372
Std. Predicted Value	-3.090	4.746	.000	1.000	372
Std. Residual	-2.534	2.265	.000	.982	372

INFERENCE

The Chances of Purchasing DELL PC even if the price increased 10% higher and all other personal computer prices had been the same(q9_5), is affected by the independent variables(q8_4)DELL Prices its products competitively and (q8_7) DELL has high-quality computers with no technical problems.

Q4.

Can price sensitivity ratings of (q9_10) be explained in terms of all 13 evaluations of DELL(q8_1 to q8_13)
when the independent variables are considered simultaneously? Interpret the results.

Dependent Variable: - q9_10per (If the price of the Dell computer system you purchased had been 10% higher, and all other personal computer prices had been the same, how likely would you have been to have purchased your Dell computer system?)

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.896	13	1.223	1.201	.277
	Residual	364.620	358	1.018		
	Total	380.516	371			

The **Significance Level** of **ANOVA test** is **.277**, which is higher than 0.05.
Hence, **Regression test** is **not** highly recommended for the significance level of the **independent variables**.

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.204	.042	.007	1.009	2.023

The **Adjusted R squared value** is **0.007** which is **.7%**. Therefore, we will consider it as a **poor fit model**.
In this case**, Durbin Watson value** is **2.023** which is more than 2. So, we can definitely say there is **no auto correlation** between the **independent variables**.

Coefficients						
Independent Variables		Unstandardized Coefficients		Standardized Coefficients	t	
		B	Std. Error	Beta		Sig.
1	(Constant)	4.605	.446			.000
q8_1	Makes ordering a computer system easy	-.042	.045	-.062	.000	.346
q8_2	Lets customers order computer systems customized to their specifications	-.003	.040	-.005	.346	.943

q8_3	Delivers its products quickly	-.041	.037	-.076	.943	.260
q8_4	Prices its products competitively	-.084	.052	-.108	.260	.107
q8_5	Features attractively designed computer system components	-.003	.028	-.006	.107	.927
q8_6	Has computers that run programs quickly	-.038	.036	-.070	.927	.294
q8_7	Has high-quality computers with no technical problems	.041	.029	.082	.294	.156
q8_8	Has high-quality peripherals	-.002	.043	-.004	.156	.960
q8_9	Bundles its computers with appropriate software	.009	.019	.031	.960	.613
q8_10	Bundles its computers with Internet access	.005	.023	.015	.613	.816
q8_11	Allows users to easily assemble components	.004	.019	.011	.816	.847
q8_12	Has computer systems that users can readily upgrade	.052	.038	.094	.847	.174
q8_13	Offer easily accessible technical support	.012	.044	.016	.174	.779

None of the significance value is less than 0.05.
Hence, **none of these variables** have impact on **dependent variables**.

Residuals Statistics					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.28	4.88	3.90	.207	372
Residual	-3.053	1.692	.000	.991	372
Std. Predicted Value	-2.997	4.732	.000	1.000	372
Std. Residual	-3.025	1.676	.000	.982	372

INFERENCE

The Chances of Purchasing DELL PC even if the price increased 10% higher and all other personal computer prices had been the same(q9_10), is not affected by the independent variables(q8_1 to q8_13).

CONCLUSION:

After analysing the data from the sample set of DELL company review, the results found are as following –

- From **one sample T-test**, we conclude that –
    1. There are 77% of people who agrees on DELL makes ordering computer easy for customers.
    2. 75% of people agree on DELL let customers ordering computers with customized system to their specifications.
    3. 68% of people agree on DELL delivers their computers quickly.
    4. 81% people agree on DELL computers prices its products competitively.

- From **Independent sample T-test**, we conclude that –
    1. If the rating on people agreeing on the factors such as –
        i. making order of DELL computers easy
        ii. DELL allows its customers to customize their order that impacts the overall satisfaction of the computer
        iii. DELL delivers its products quickly
        iv. DELL prices its products competitively gets changed

        It changes the Overall Satisfaction on DELL.
    2. The Factor of Recommending DELL to a friend or relative has a relationship with the independent factors such as –
        i. making order of DELL computers easy
        ii. DELL allows its customers to customize their order that impacts the overall satisfaction of the computer
        iii. DELL delivers its products quickly
        iv. DELL prices its products competitively.

- From **Regression Analysis**, we found a good fit model when the overall satisfaction (q4) is explained in terms of all 13 evaluations. The factors of the Overall Satisfaction (q4) with the DELL computer system is affected by the independent variables such as -
    1. DELL prices its products competitively (q8_4).
    2. DELL having high – quality peripherals (q8_8) (e.g., monitor, keyboard, mouse, speakers, disk drivers).