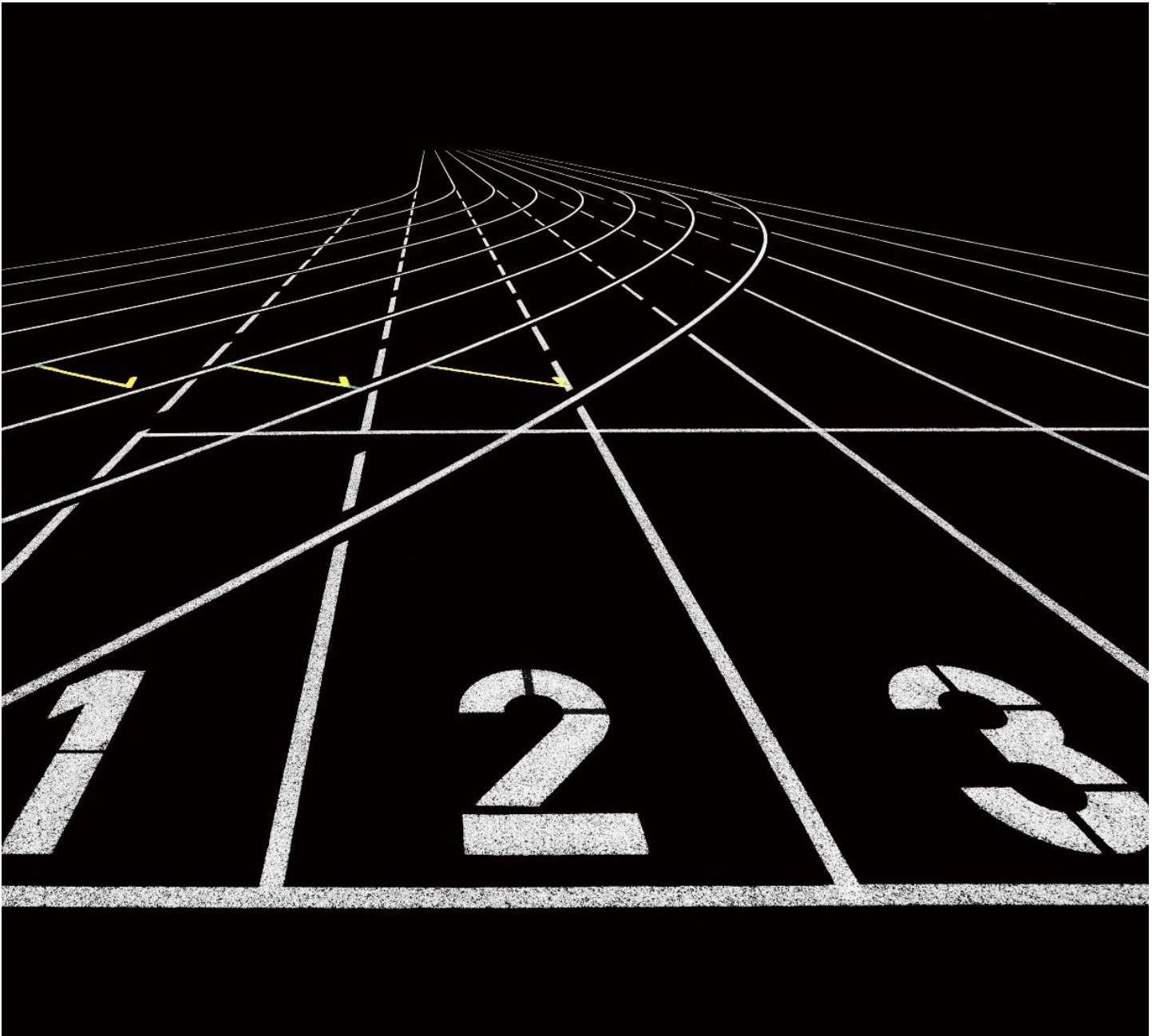




# **VODAFONE CUSTOMER SATISFACTION ANALYSIS**

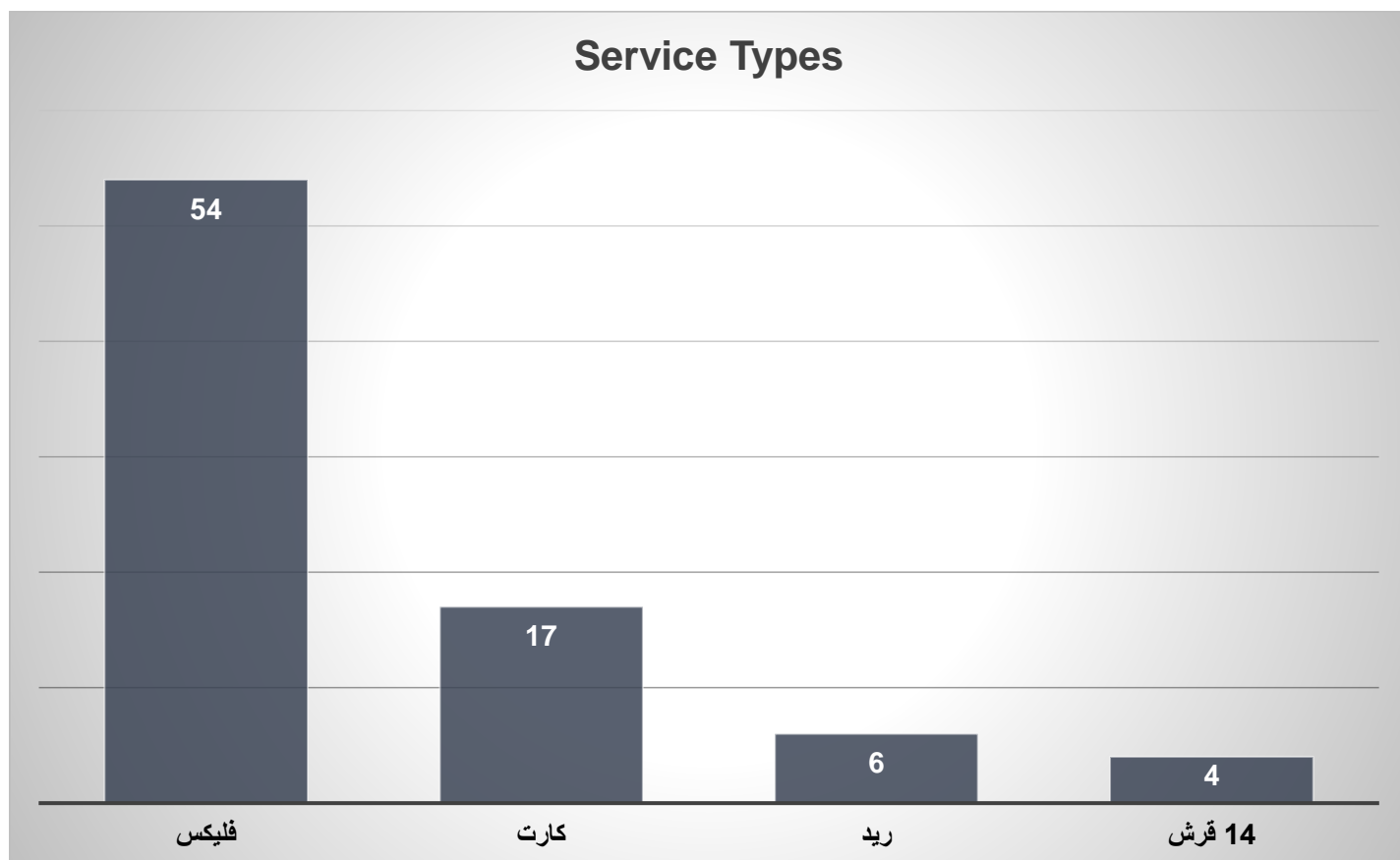
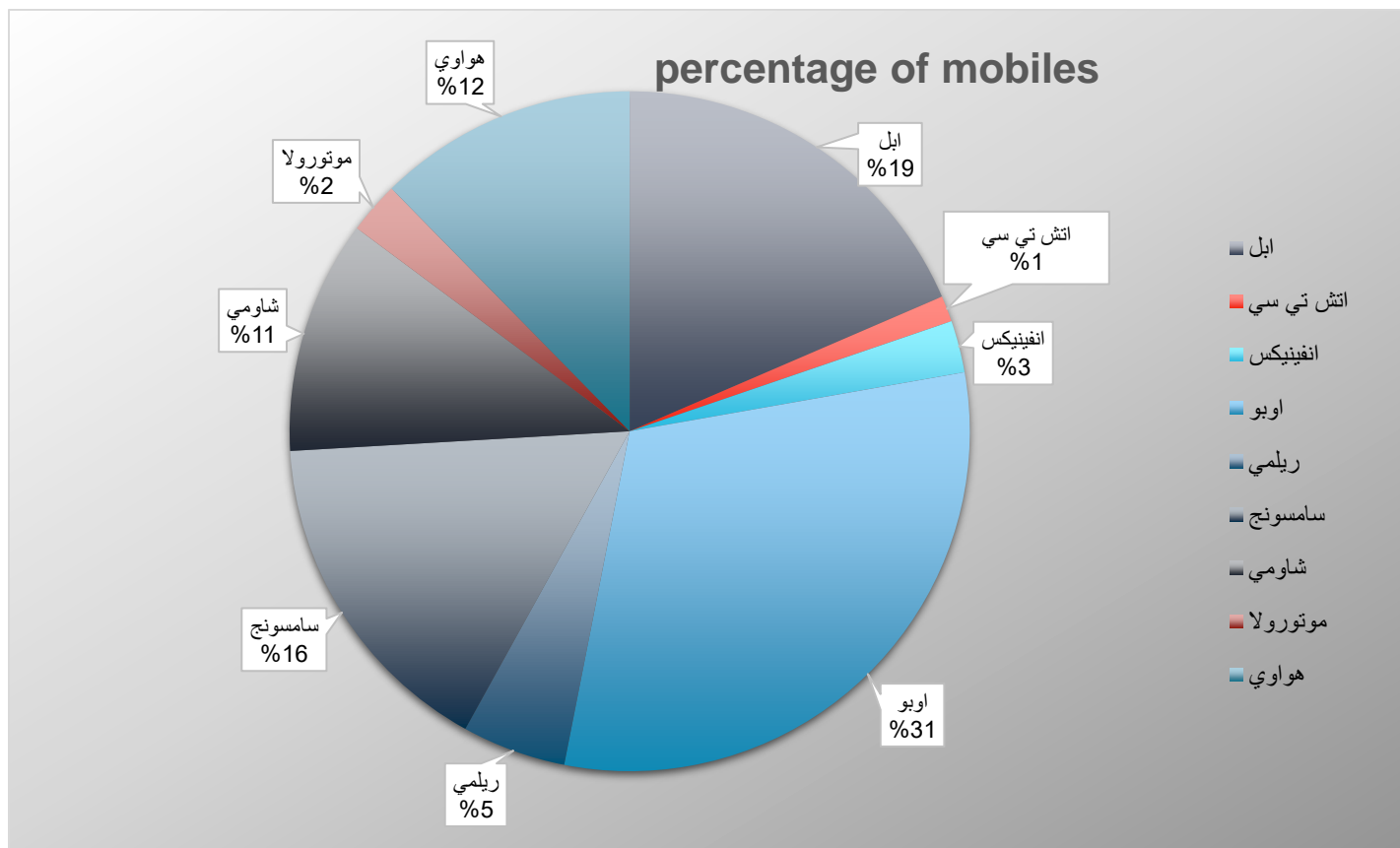
BY : Amr Asfor



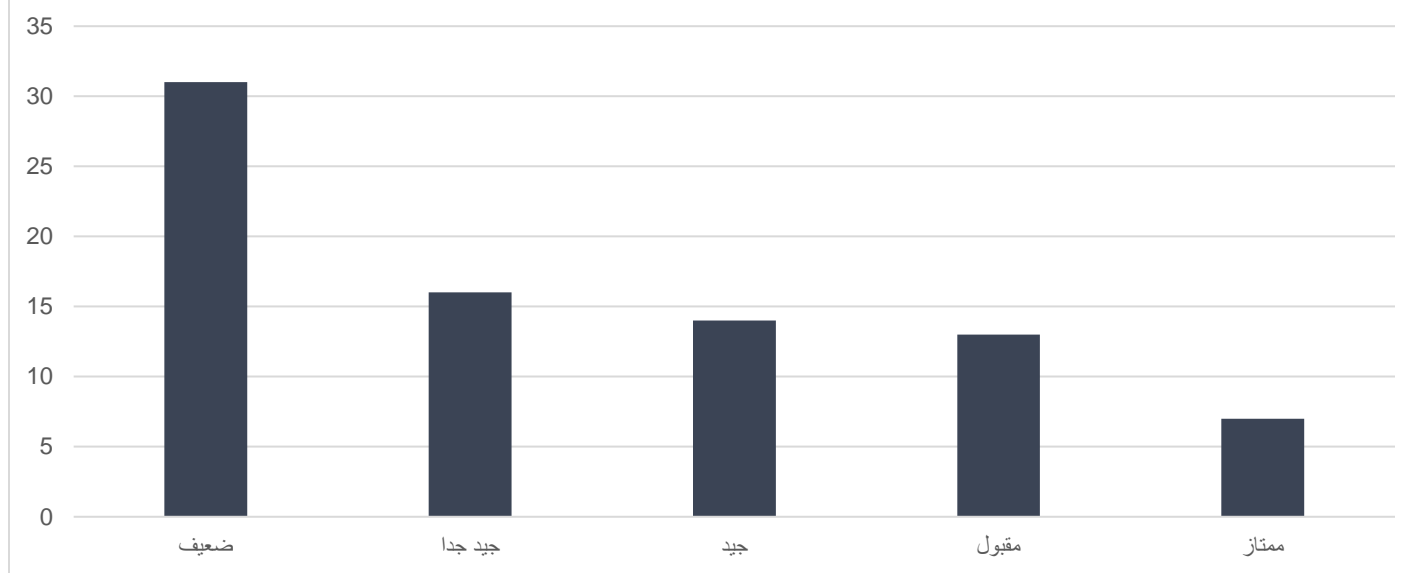
## COLLECTING DATA

This data collected from a small sample for Vodafone clients consists of 81 record from a survey had been made to determine the most reasons affects on customer satisfaction in my opinion that may impact on our research

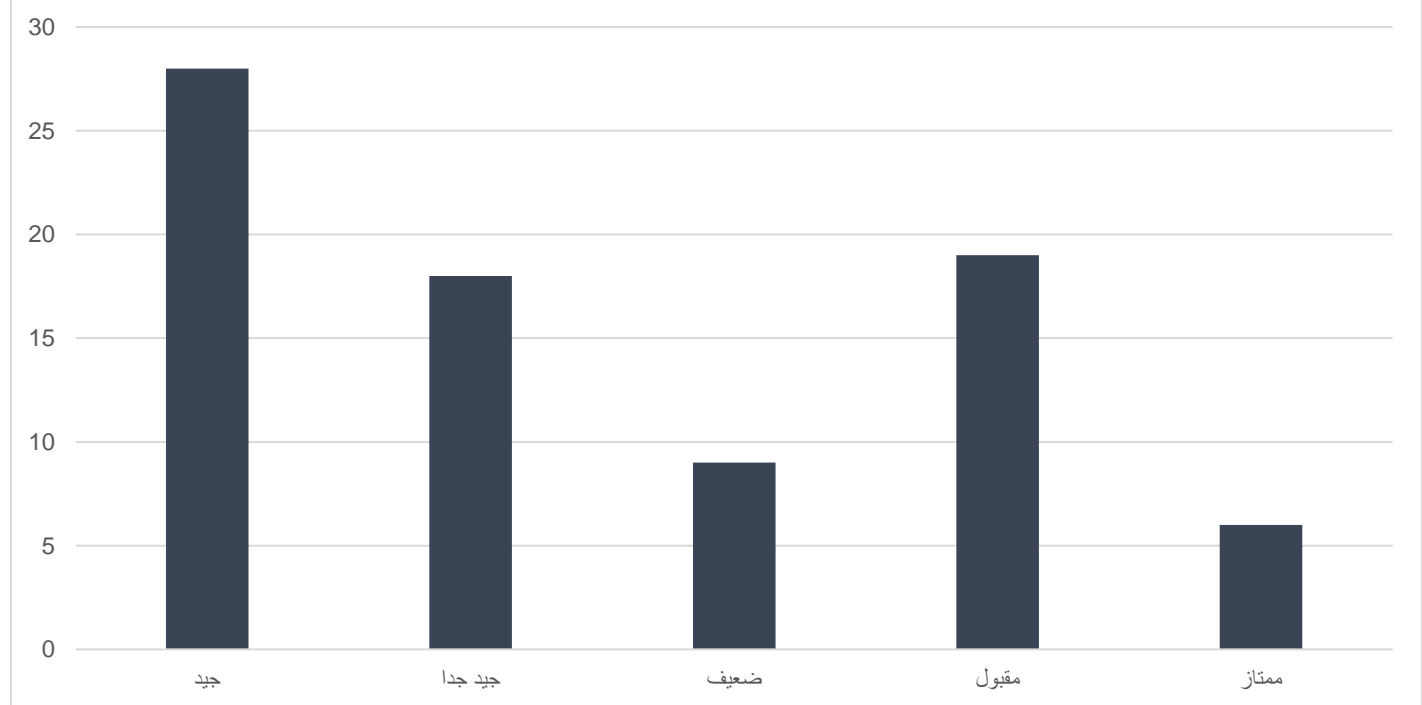
This is the link of the survey <https://forms.gle/gja3HxASjXfcP73c7>

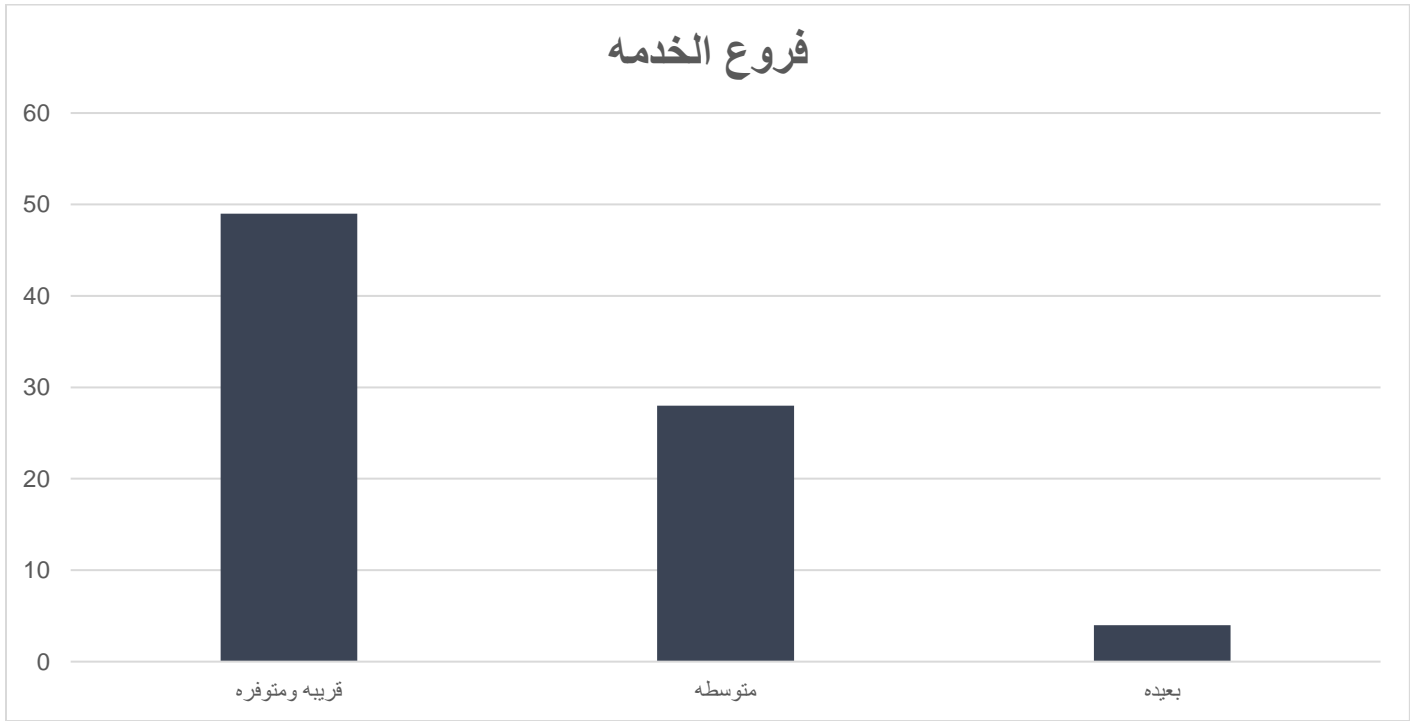
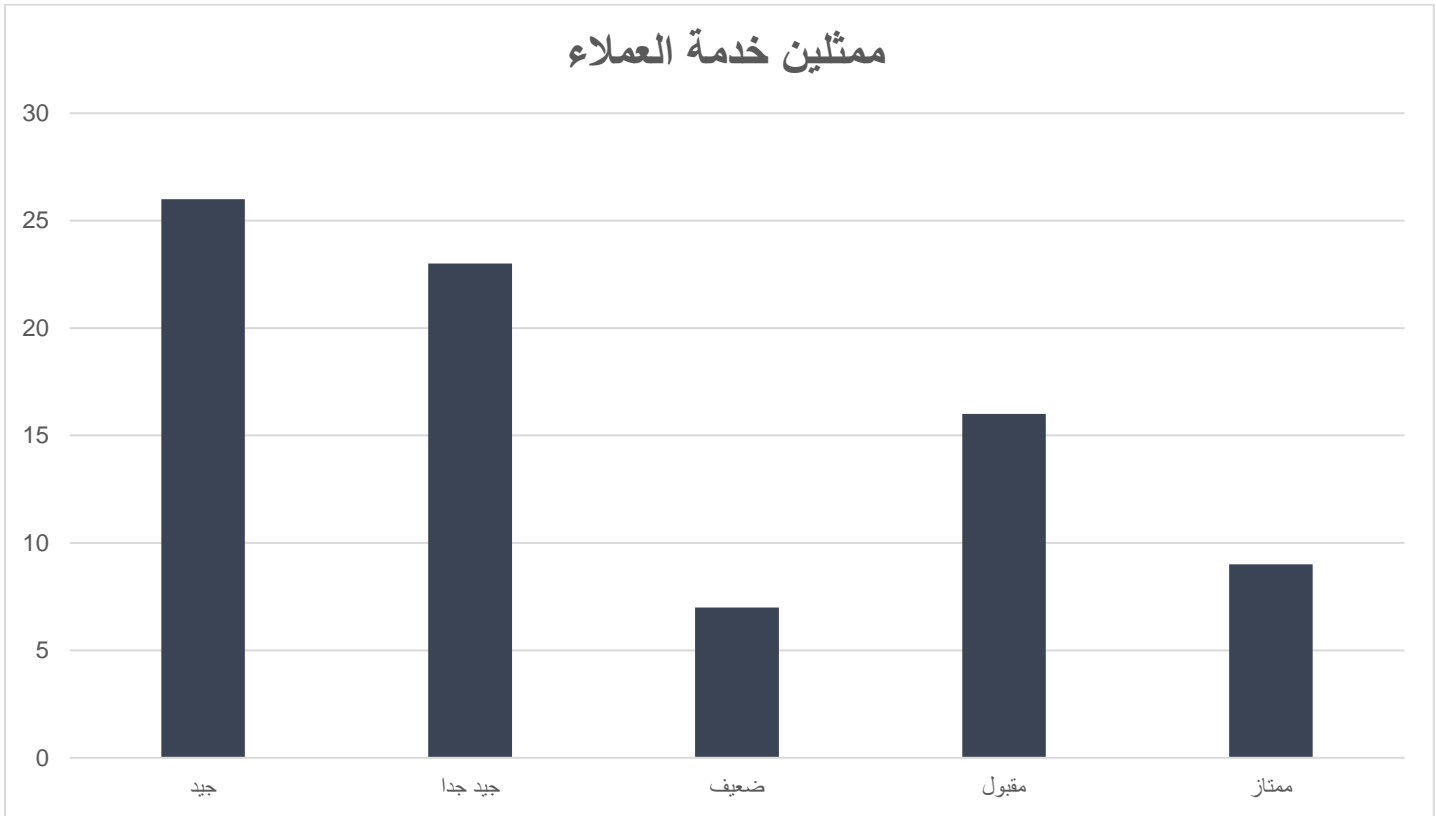


## جودة الشبكة

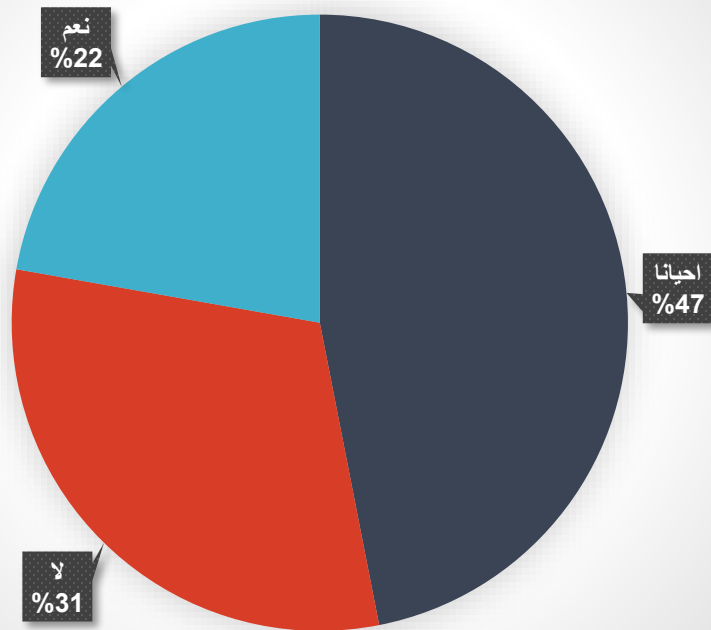


## الخدمات الصوتيه

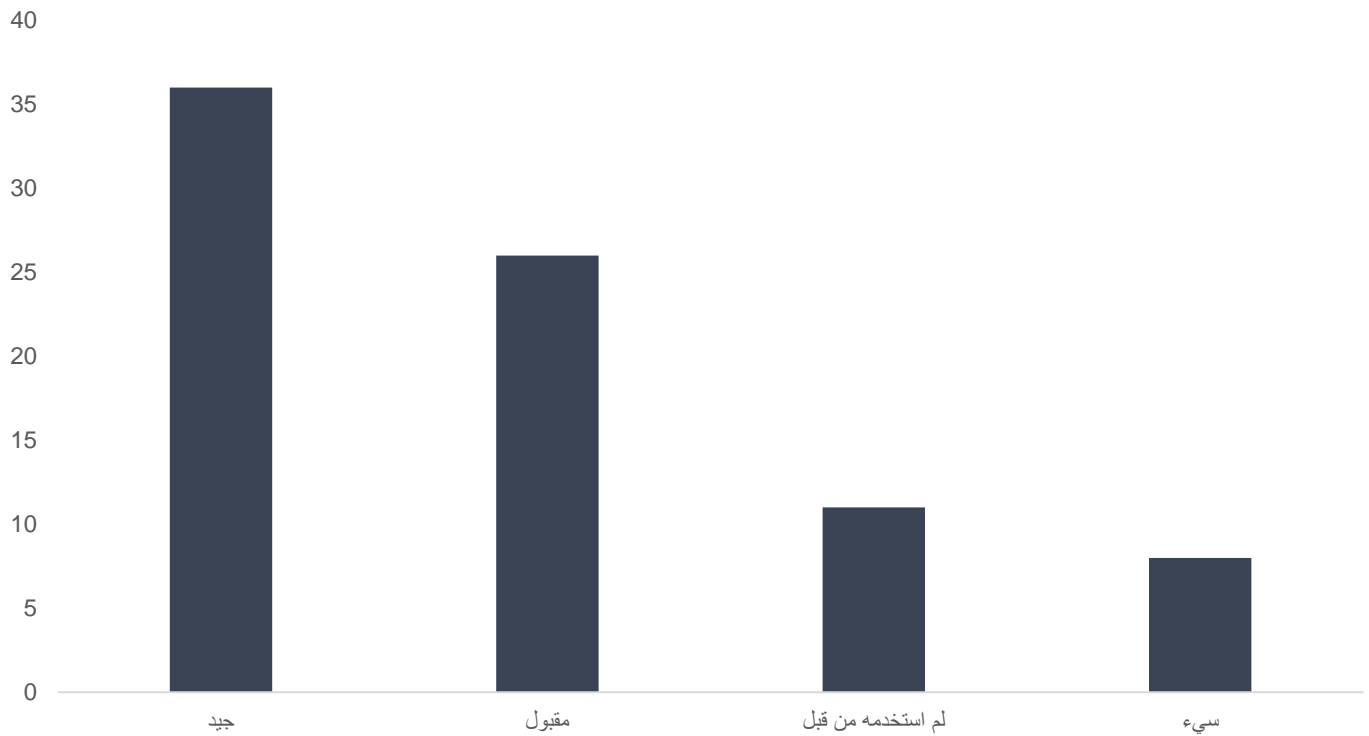




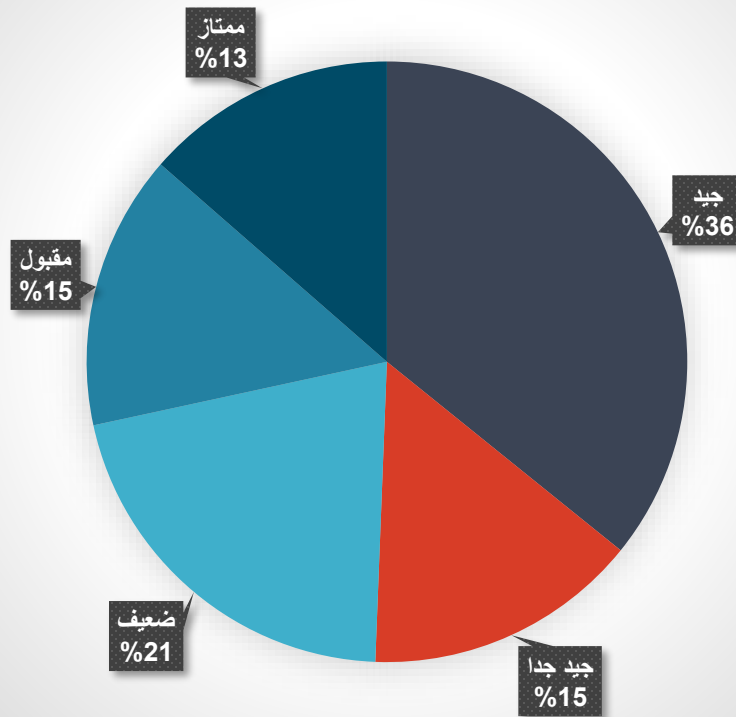
## الاستفاده من العروض



## تطبيق انا فودافون



## customer rating for vodafone



We think there is a relation ship between our variables and customer satisfaction so decide to test our hypothesis in scientific statistical way

## NULL HYPOTHESIS:

There is no relationship between any factor and the customer satisfaction

## ALTERNATIVE HYPOTHESIS:

There is relationship between factor X and customer satisfaction (where X is any factor satisfy the relationship) with significant 95%

**We will test the normality of our datasets**

		جودة الشبكة	الخدمات الصوتية	جودة الشبكة	فروع الخدمة	العروض	تطبيق انا فودافون	فودافون بشكل عام
N	Valid	81	80	81	81	81	81	81
	Missin g	0	1	0	0	0	0	0
Skewness		.400	.003	-.166	-.963	.134	-.890	.070
Kurtosis		-1.241	-.616	-.657	-.036	-1.077	-.409	-.908

- We find that all our variables almost Normal distributed  
 1- Then we will use **spearman correlation** to test the relationship

		جودة الشبكة	الخدمات الصوتية	ممثليين خدمة العملاء	فروع الخدمة	العروض	تطبيق انا فودافون
رضا العملاء	Pearson Correlation	.680**	.697**	.562**	.125	.530**	.193
	Sig. (2-tailed)	.000	.000	.000	.266	.000	.085
	N	81	80	81	81	81	81

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

According to these results we will reject  $H_0$  to ( جودة الشبكة – الخدمات الصوتية - ممثليين خدمة العملاء - )  
 العروض

And we will accept the alternative hypothesis , it means that the previous factors every one of them have a relationship with رضا العملاء and **this relations are moderate**



# WE WILL STUDY THE FACTORS WHICH HAS SIGNIFICANT REALSTIONS

## HYPOTHESIS OF ( جودة الشبكة ):

**H<sub>0</sub>** : there is no affect from جودة الشبكة on فودافون بشكل عام

**H<sub>1</sub>** : there is an affect from جودة الشبكة on فودافون بشكل عام

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.680a	.462	.455	.956

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	61.984	1	61.984	67.785	.000b
	Residual	72.239	79	.914		
	Total	134.222	80			

While p-value  $< \alpha$  then we will reject H<sub>0</sub> and accept H<sub>1</sub> and it means that

فودافون بشكل عام has an impact on جودة الشبكة

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.311	.215		6.092	.000
	جودة الشبكة	.630	.077	.680	8.233	.000

# **HYPOTHESIS OF (الخدمات الصوتيه):**

**H<sub>0</sub>** : there is no affect from الخدمات الصوتيه on فودافون بشكل عام

**H<sub>1</sub>** : there is an affect from الخدمات الصوتيه on فودافون بشكل عام

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.697a	.486	.479	.936

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64.524	1	64.524	73.619	.000b
	Residual	68.364	78	.876		
	Total	132.887	79			

While p-valuse <  $\alpha$  then we will reject H<sub>0</sub> and accept H<sub>1</sub> and it means that

الخدمات الصوتيه has an impact on فودافون بشكل عام

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.455	.297		1.531	.130
	الخدمات الصوتيه	.818	.095	.697	8.580	.000

# **HYPOTHESIS OF ( ممثليين خدمة العملاء ):**

**H<sub>0</sub>** : there is no affect from ممثليين\_خدمة العملاء ه فودافون بشكل عام

**H<sub>1</sub>** : there is an affect from ممثليين\_خدمة العملاء on فودافون بشكل عام

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.562a	.316	.307	1.078

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.433	1	42.433	36.521	.000b
	Residual	91.789	79	1.162		
	Total	134.222	80			

While p-valuse <  $\alpha$  then we will reject H<sub>0</sub> and accept H<sub>1</sub> and it means that ممثليين\_خدمة العملاء has an impact on فودافون بشكل عام

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.824	.356		2.314	.023
	ممثليين_خدمة_ال عملاء	.647	.107	.562	6.043	.000

# **HYPOTHESIS OF (العروض):**

**H<sub>0</sub>** : there is no affect from فودافون بشكل عام on العروض

**H<sub>1</sub>** : there is an affect from فودافون بشكل عام on العروض

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.530a	.281	.272	1.106

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.670	1	37.670	30.822	.000b
	Residual	96.552	79	1.222		
	Total	134.222	80			

While p-value <  $\alpha$  then we will reject H<sub>0</sub> and accept H<sub>1</sub> and it means that العروض has an impact on فودافون بشكل عام

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.991	.198		10.061	.000
	العروض	.943	.170	.530	5.552	.000

# MULTI REGRESSION MODEL

## ممثلين خدمة العملاء, العروض, جودة ( HYPOTHESIS OF ) الشبكة , الخدمات الصوتيه

**H<sub>0</sub>** : there is no affect from any one of factors فودافون بشكل عام on ممثلين\_خدمة\_العملاء, العروض, جودة الشبكة , الخدمات الصوتيه

**H<sub>1</sub>** : there is an affect from at least one factor فودافون بشكل عام on ممثلين\_خدمة\_العملاء, العروض, جودة الشبكة , الخدمات الصوتيه

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	85.706	4	21.426	34.059	.000 <sup>b</sup>
	Residual	47.182	75	.629		
	Total	132.887	79			

While p-valuse <  $\alpha$  then we will reject H<sub>0</sub> and accept H<sub>1</sub> and it means that ممثلين\_خدمة\_العملاء, العروض, فودافون بشكل عام has an impact on جودة الشبكة , الخدمات الصوتيه

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.050	.291		.171	.864
	العروض	.428	.136	.242	3.141	.002
	جودة الشبكة	.255	.089	.274	2.874	.005
	الخدمات الصوتيه	.398	.115	.339	3.451	.001
	ممثلين_خدمة_العملاء	.199	.097	.171	2.040	.045

# WE WILL STUDY HERE IF THE CHANGE IN GEDER AFFECT THE CUSTOMER SATISFACTION

Before anything we should find if the data have the Normal Distribution or not to be able to determine which test we will use

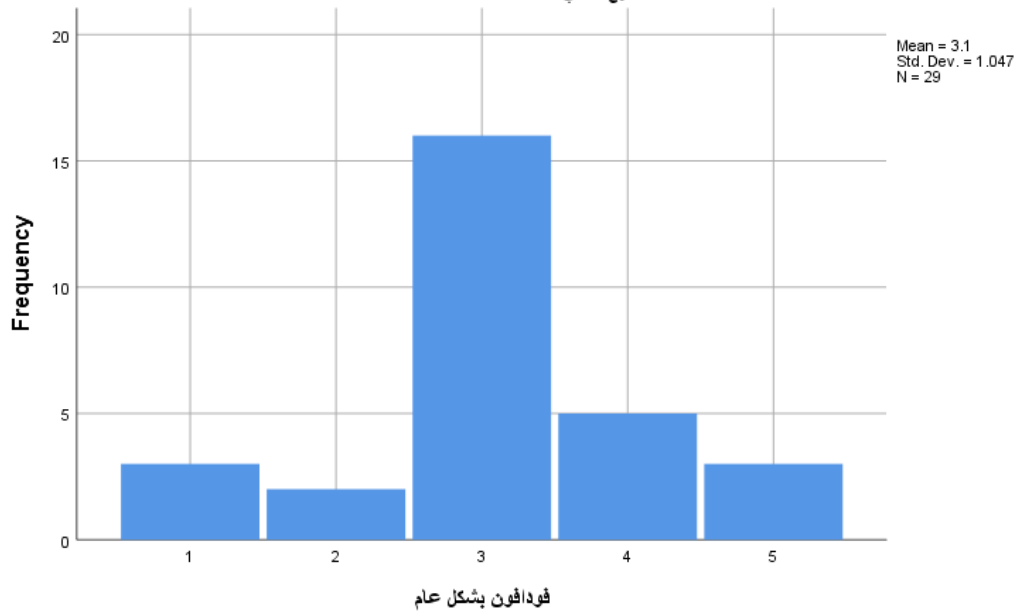
Descriptives				
	النوع		Statistic	Std. Error
فودافون بشكل عام	انثي	Mean	3.10	.194
		95% Confidence Interval for Mean	Lower Bound	2.71
			Upper Bound	3.50
		5% Trimmed Mean	3.11	
		Median	3.00	
		Variance	1.096	
		Std. Deviation	1.047	
		Minimum	1	
		Maximum	5	
		Range	4	
		Interquartile Range	1	
		Skewness	-.219	.434
		Kurtosis	.472	.845
	ذكر	Mean	2.71	.195
		95% Confidence Interval for Mean	Lower Bound	2.32
			Upper Bound	3.10
		5% Trimmed Mean	2.68	
		Median	3.00	
		Variance	1.974	
		Std. Deviation	1.405	
		Minimum	1	
		Maximum	5	
		Range	4	
		Interquartile Range	3	
		Skewness	.275	.330
		Kurtosis	-1.139	.650

## Tests of Normality

		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
النوع		Statistic	df	Sig.	Statistic	df	Sig.
فودافون بشكل عام	انثي	.288	29	.000	.858	29	.001
	ذكر	.158	52	.002	.881	52	.000

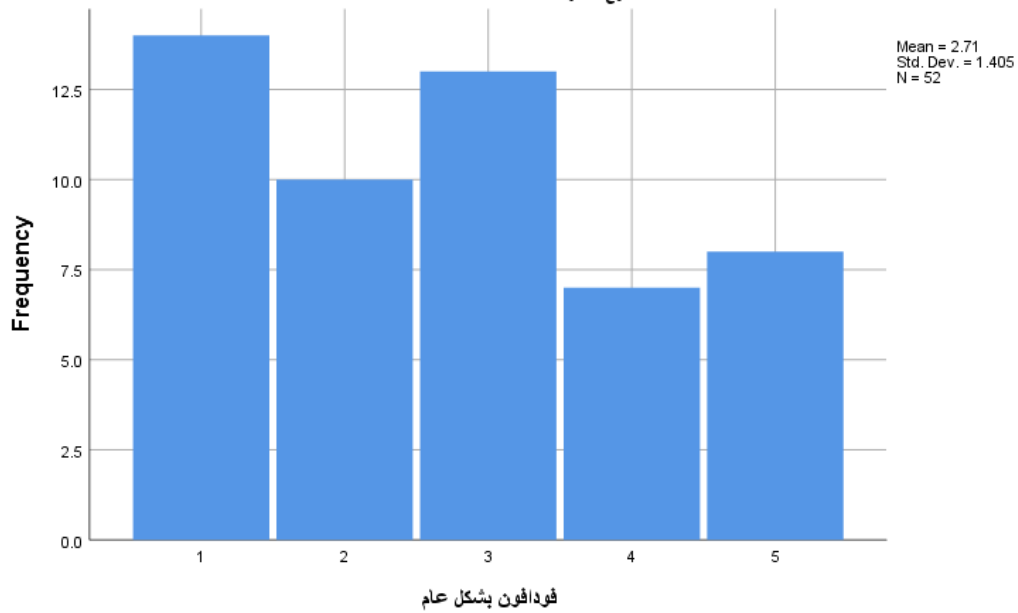
### Histogram

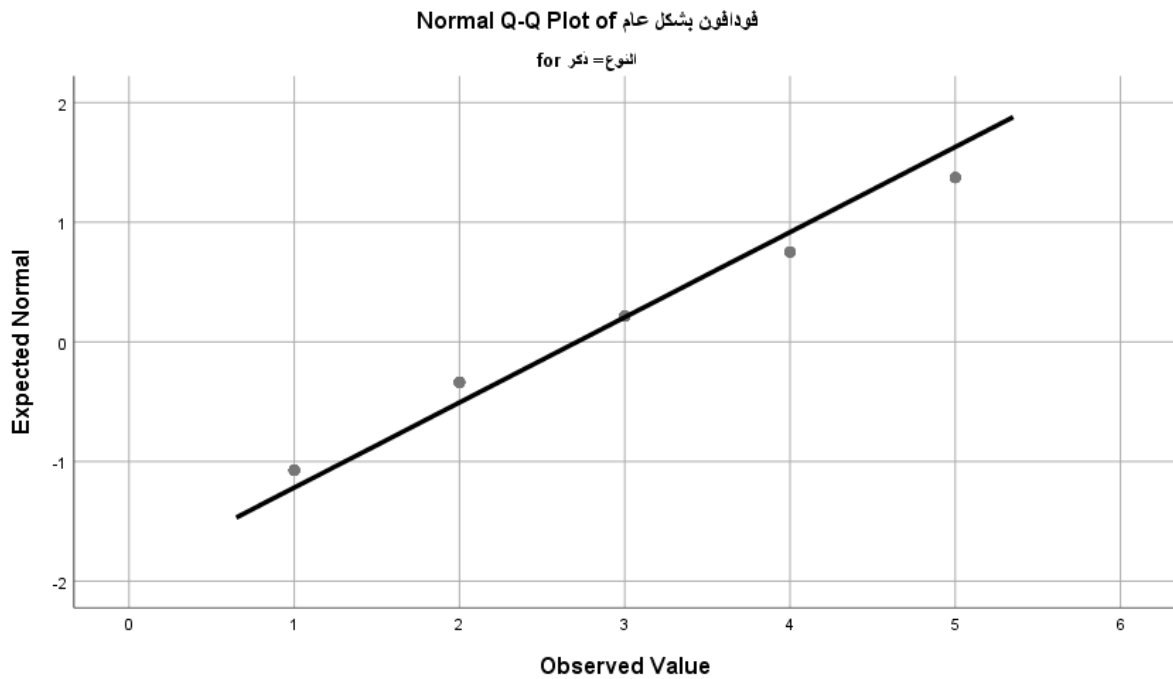
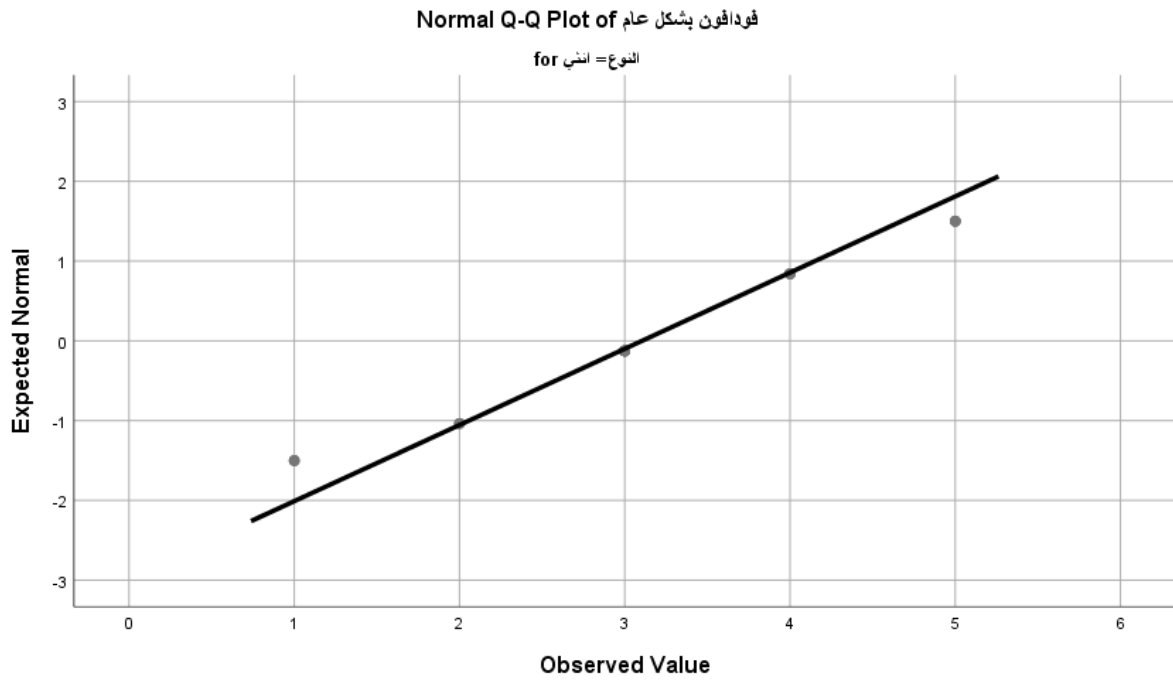
النوع = انثي for



### Histogram

النوع = ذكر for





**We find that the data is Normal so we will use T-test to compare means**



		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	t	df
فودافون بشكل عام	Equal variances assumed	8.377	.005	-1.311	79
	Equal variances not assumed			-1.424	72.396

Since the p-value  $< \alpha$  then we will reject  $H_0$  which says that variance are equal in the two groups , we will accept  $H_1$  which says there is difference in the variance from group to group

Independent Samples Test				
		t-test for Equality of Means		
		Sig. (2-tailed)	Mean Difference	Std. Error Difference
فودافون بشكل عام	Equal variances assumed	.194	-.392	.299
	Equal variances not assumed	.159	-.392	.275

Since the p-value  $> \alpha$  then we will accept  $H_0$  which says that the means are equal in the two groups , we will reject  $H_1$  which says there is difference in the means from group to group

It means there is no change in customer satisfaction between males and females