Party V: Data Analysis:

Data collected by the researcher in the present study both primary as well as secondary is analyzed with due diligence to meet the objectives of the study and draw a conclusion to focus on future scope of study.

5.1 Main Focus Of The Study:

Researcher kept major focus on developing the case study and case-let which is considered always to be major contribution in management education. Development of them are in such a way that students, academicians and professionals can execute them for class room teaching as well as training purposes. Pharmaceutical industry's complex structure and dynamics are major challenge to initiate research work and present them in simplified way. Apart from case study further focus was to understand, test and reconfirm the factors effecting pharmaceutical marketing practices.

5.2 Analysis of Questionnaire:

(Each question is represented by various charts and tables so question wise considered them as one chart and one table. For easy listing and identification in list of charts and tables number has been considered from Chart 6 and Table 3 for question number one and accordingly)

Q1: According to you, in terms of importance rank followings by putting appropriate weightage while considering association with pharmaceutical marketing decision making process in context to Indian market.

Factor Analysis: p, q, r, s, t, u, v, w

a = Indian pharmaceutical industry should rework on their present marketing practices

b = Government should put restriction on entry of new companies

c=Trade association must work on bringing healthy competition

d = Government should put restriction on new product permission to the companies

e = Drug price control order is having significant impact on marketing strategy

f = FDI limit should be raised which will strengthen research and development

g = Govt. should strengthen R&D with PPP model

h = Organization must look for co-marketing as option by joining hands with other companies

Principal Component Factor Analysis of the Correlation Matrix

Un-rotated Factor Loadings and Communalities

Variable	Factor1	Factor2	Communality
a	-0.822	-0.000	0.676
b	-0.554	0.796	0.940
c	-0.684	-0.143	0.489
d	0.573	0.615	0.706
e	0.949	-0.183	0.933
f	0.924	0.091	0.862
g	0.017	-0.930	0.865
h	-0.147	-0.651	0.446
Variance	3.5555	2.3633	5.9188
% Var	0.444	0.295	0.740

Rotated Factor Loadings and Communalities
Varimax Rotation

Variable	Factor1	Factor2	Communality

a	-0.822	-0.002	0.676
b	-0.556	0.795	0.940
c	-0.684	-0.144	0.489
d	0.572	0.616	0.706
e	0.949	-0.181	0.933
f	0.924	0.093	0.862
g	0.019	-0.930	0.865
h	-0.146	-0.652	0.446
Variance	3.5555	2.3633	5.9188
% Var	0.444	0.295	0.740

Sorted Rotated Factor Loadings and Communalities

Variable	Factor1	Factor2	Communality
e	0.949	-0.181	0.933
f	0.924	0.093	0.862
a	-0.822	-0.002	0.676
c	-0.684	-0.144	0.489
g	0.019	-0.930	0.865
b	-0.556	0.795	0.940
h	-0.146	-0.652	0.446
d	0.572	0.616	0.706
Variance	3.5555	2.3633	5.9188
% Var	0.444	0.295	0.740

Factor Score Coefficients

Variable	Factor1	Factor2
a	-0.124	0.725
b	-0.080	0.853
c	-0.143	0.275
d	0.230	0.731
e	0.327	0.327
f	0.339	0.573
g	0.077	0.088
h	0.000	0.000

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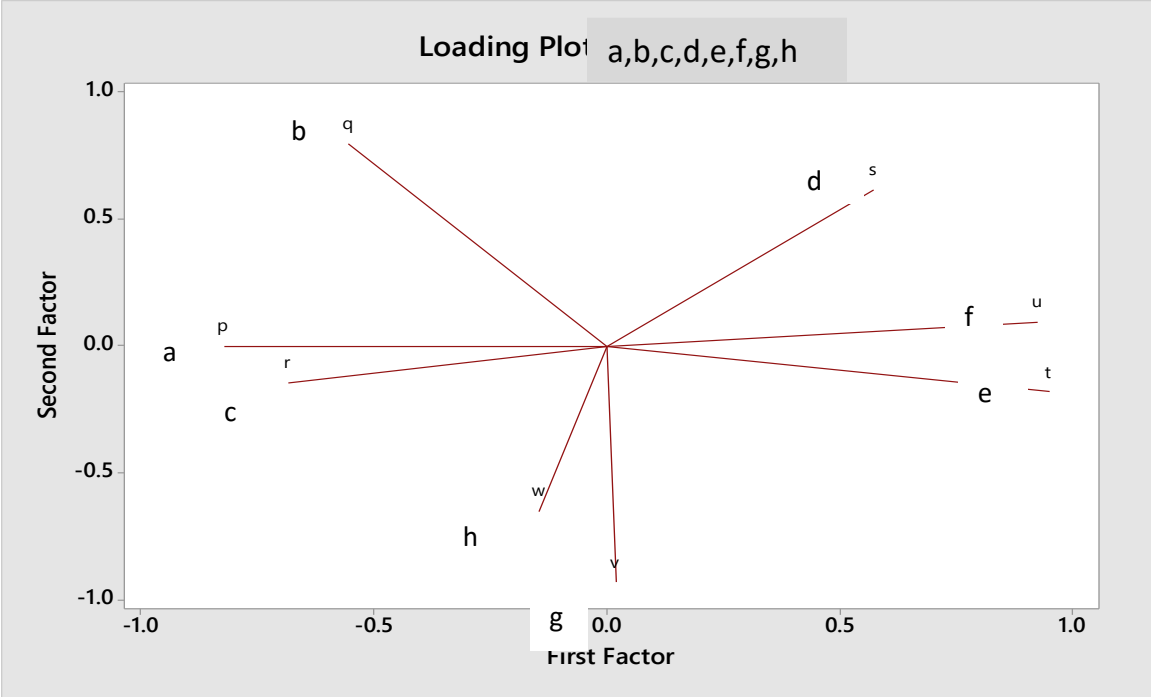


Conclusion:

- Overall two factors together explains 74% of variation.
- First factor positively loads on Increasing FDI limits to have better R&D (0.949), Drug price control (0.924) and restriction of new product permission (0.572). Overall we may consider factor 1 as "Quality products at lower price".
- Second factor positively loads on restriction on entry of new companies (0.795) and Govt. restriction on new product permission (0.616). Overall we may consider factor 2 as "Reducing unhealthy marketing practice".

Q2: Do you agree companies' sales force play an important role in capturing better market share for companies? [*Tick the right option*]

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Elaboration:

In pan India marketing operation every organization need to concentrate on sales force management. It has been observed in practice better the sales force greater the market share so opinion on sales force management has been evaluated. Organization having better sales force management can always expect greater market share to capture. Even multinational companies offer co-marketing option on the basis of strength organization having with sale force management.

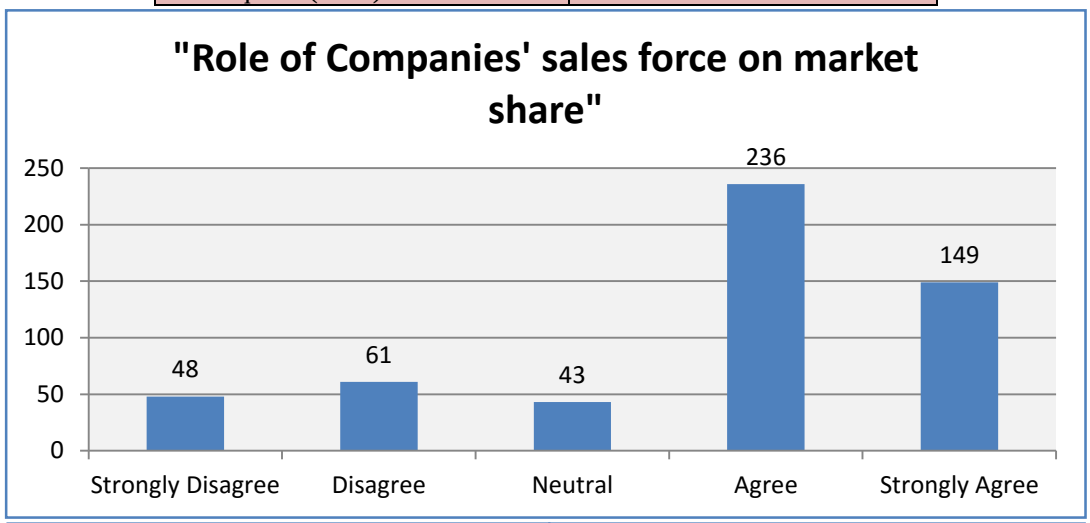
Frequency	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Collected Data	48	61	43	236	149
f0	9%	11%	8%	44%	28%
fe	8%	9%	8%	45%	30%

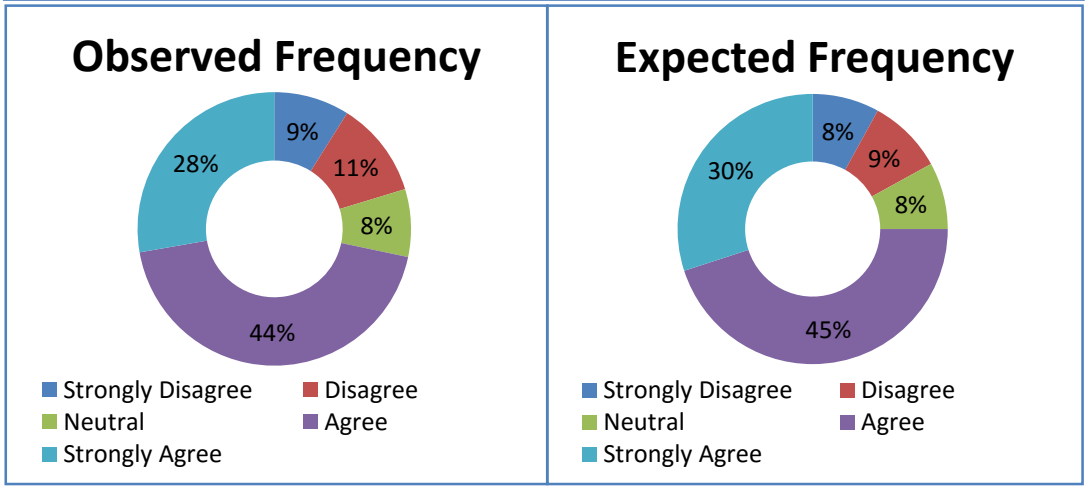
Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: f0	
H0:	The observed distribution is same as expected distribution.
H1:	The observed distribution is not same as expected distribution.

Response	Expected Proportion	Expected Frequency fe
Strongly Disagree	0.08	42.96
Disagree	0.09	48.33
Neutral	0.08	42.96
Agree	0.45	241.65
Strongly Agree	0.3	161.1

Response	f0	Fe	(f0-fe)^2/fe
Strongly Disagree	48	42.96	0.59
Disagree	61	48.33	3.32
Neutral	43	42.96	0.00
Agree	236	241.65	0.13
Strongly Agree	149	161.1	0.91
Total	**537**	**537**	**5**

Alpha =	5%
k = No. of points on Likert Scale	5
DF = (k-1)	4
Chi Square (Tab)	9.487729037
Chi Square (Obs.)	5





Conclusion

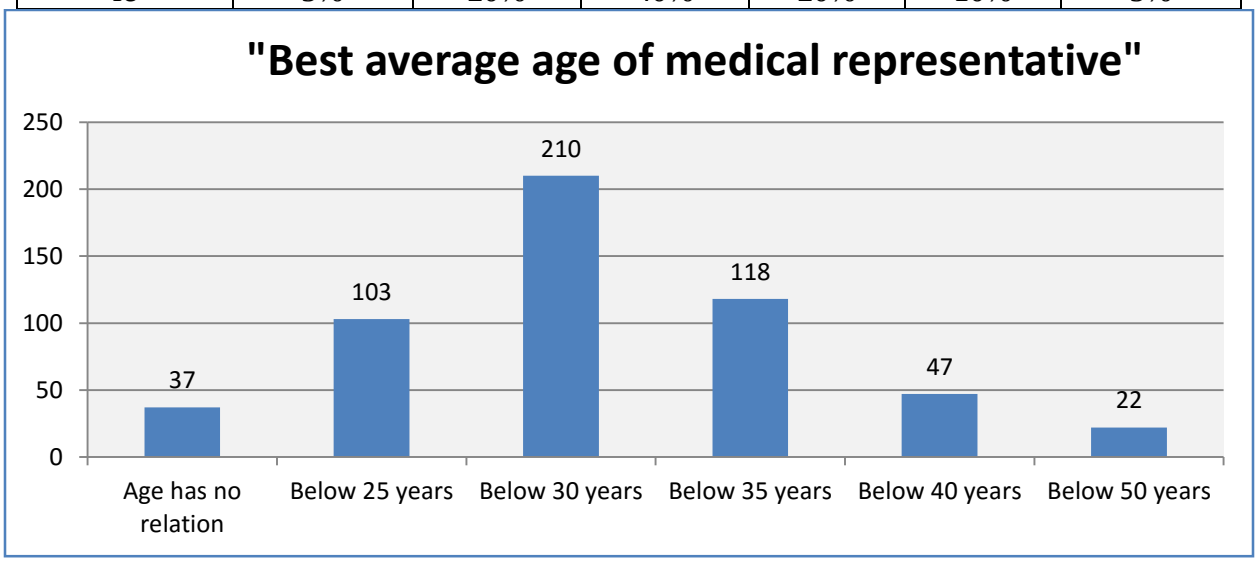
Since observed value of Chi Square is not greater than tabled value of Chi Square we do not reject H0 and conclude that Observed frequencies are same as estimated frequencies and as >70% of responses are either "Agree" or "Strongly Agree" we conclude that, respondents do agree that companies' sales force play an important role in capturing better market share for companies.

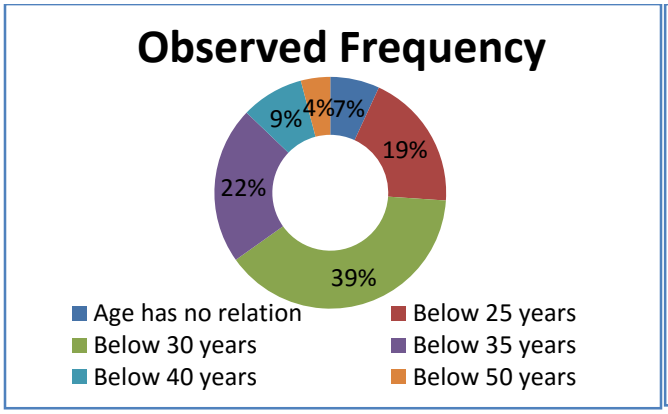
Q3: According to you what should be the best average age of medical representative of a company for optimum productivity for the organization? [*Tick the right option*]

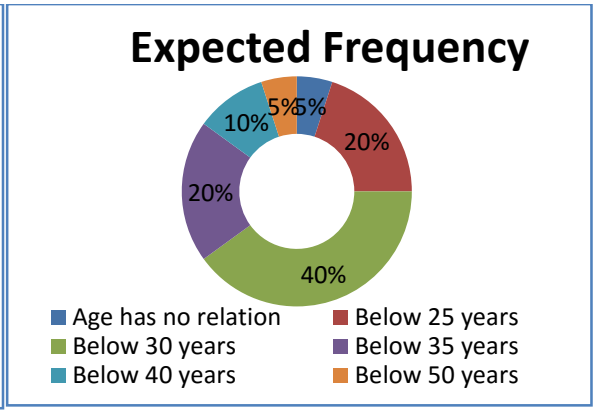
- Age is having no relationship with objective achievement.
- Below 25
- Below 30
- Below 35
- Below 40
- Below 50

Best average age of medical representative

Frequency	Age has no relation	Below 25 years	Below 30 years	Below 35 years	Below 40 years	Below 50 years
Collected Data	37	103	210	118	47	22
f0	7%	19%	39%	22%	9%	4%
fe	5%	20%	40%	20%	10%	5%







Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: f0	
H0:	The observed distribution is same as expected distribution.
H1:	The observed distribution is not same as expected distribution.

Response	Expected Proportion	Expected Frequency fe
Age has no relation	0.05	26.85
Below 25 years	0.2	107.4
Below 30 years	0.4	214.8
Below 35 years	0.2	107.4
Below 40 years	0.1	53.7
Below 50 years	0.05	26.85

Response	f0	fe	(f0-fe)^2/fe
Age has no relation	37	26.85	3.84
Below 25 years	103	107.4	0.18
Below 30 years	210	214.8	0.11
Below 35 years	118	107.4	1.05
Below 40 years	47	53.7	0.84
Below 50 years	22	26.85	0.88
Total	**537**	**537**	**6.9**

Alpha =	5%
k = No. of age group	6
DF = (k-1)	5
Chi Square (Tab)	11.07049769
Chi Square (Obs.)	6.9

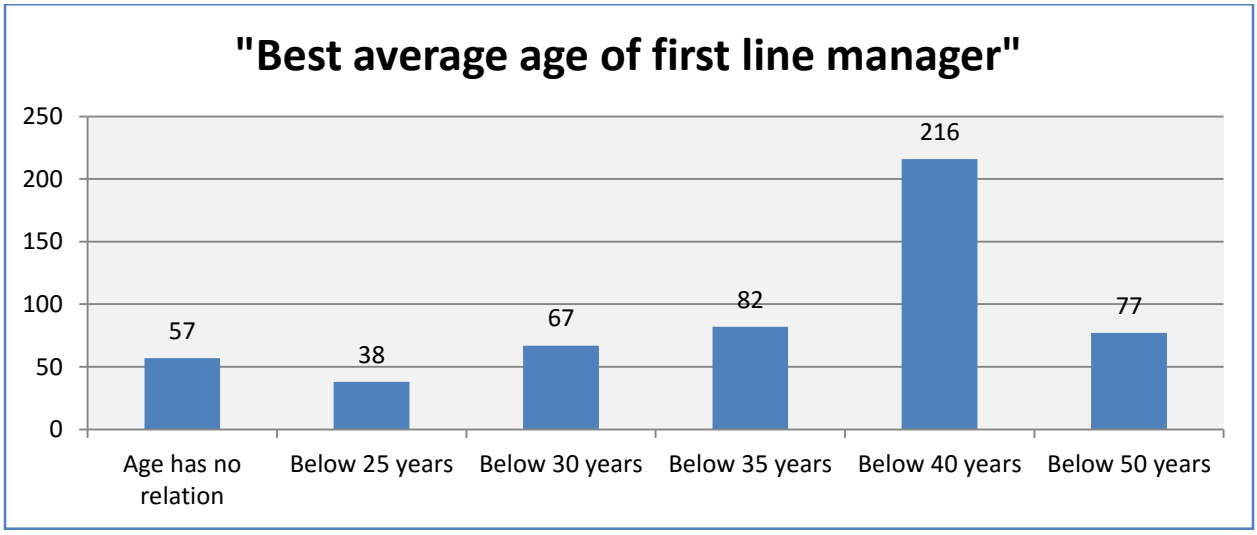
Conclusion

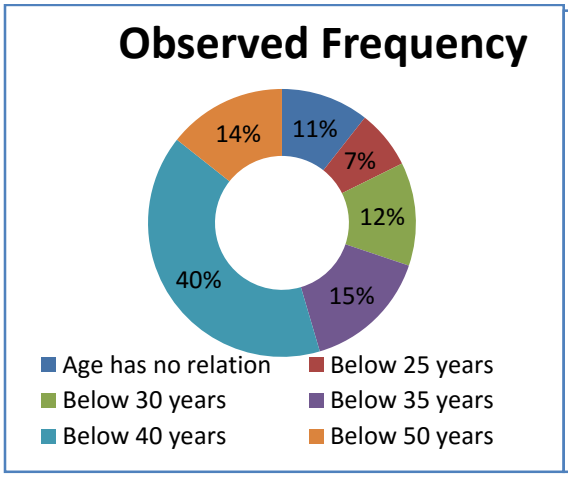
Since observed value of Chi Square is not greater than tabled value of Chi Square we do not reject H0 and conclude that Observed frequencies are same as estimated frequencies. Also 39% respondents believes that best average age of medical representative of a company for optimum productivity is "Below 30 years" where as 22% believes that age should be "Below 35 years".

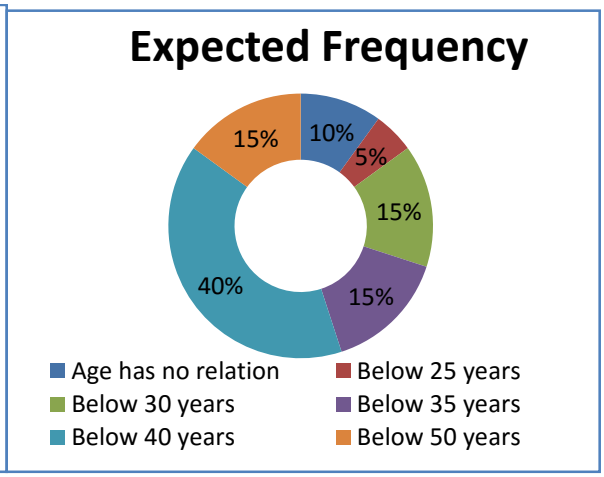
Q4: According to you what should be the best average age of first line managers of a company for optimum productivity for the organization? [*Tick the right option*]

- Age is having no relationship with objective achievement
- Below 25
- Below 30
- Below 35
- Below 40
- Below 50

Frequency	Age has no relation	Below 25 years	Below 30 years	Below 35 years	Below 40 years	Below 50 years
Collected Data	57	38	67	82	216	77
f0	11%	7%	12%	15%	40%	14%
fe	10%	5%	15%	15%	40%	15%







Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: f0	
H0:	The observed distribution is same as expected distribution.
H1:	The observed distribution is not same as expected distribution.

Response	Expected Proportion	Expected Frequency fe
Age has no relation	0.1	53.7
Below 25 years	0.05	26.85
Below 30 years	0.15	80.55
Below 35 years	0.15	80.55
Below 40 years	0.4	214.8
Below 50 years	0.15	80.55

Response	f0	fe	(f0-fe)^2/fe
Age has no relation	57	53.7	0.20
Below 25 years	38	26.85	4.63
Below 30 years	67	80.55	2.28
Below 35 years	82	80.55	0.03
Below 40 years	216	214.8	0.01
Below 50 years	77	80.55	0.16
Total	**537**	**537**	**7.3**

Alpha =	5%
k = No. of age group	6
DF = (k-1)	5
Chi Square (Tab)	11.07
Chi Square (Obs.)	7.3

Conclusion

Since observed value of Chi Square is not greater than tabled value of Chi Square we do not reject H0 and conclude that Observed frequencies are same as estimated frequencies. Also 40% respondents believes that best average age for first line managers of a company is below 40 years.

Q5: In post-independence period quite a good number of (Indian) companies have grown in market share in comparison to multinational companies, according to you what are the most important factors in order of importance as growth factor for organizations?

[*1 for least important and 5 as most important*]

a) Companies could grow because of business environment which supported Indian organization's growth, government policies like monopoly trade practices (MRTP).
b) Indian customers (doctors) prefer to support Indian companies while choosing a company for prescription of a product.
c) Trade associations supported Indian companies.
d) Multinationals became less aggressive in Indian market.
e) Marketing strategy of Indian companies was more aggressive in comparison to multinational companies.

Factor Analysis: a, b, c, d, e

Principal Component Factor Analysis of the Correlation Matrix

Unrotated Factor Loadings and Communalities

Variable	Factor1	Factor2	Communality
a	0.899	-0.078	0.814
b	0.739	0.421	0.724
c	0.073	-0.977	0.961
d	-0.896	0.270	0.876
e	-0.905	-0.080	0.826
Variance	2.9828	1.2182	4.2009
% Var	0.597	0.244	0.840

Rotated Factor Loadings and Communalities
Varimax Rotation

Variable	Factor1	Factor2	Communality
a	0.898	-0.092	0.814
b	0.746	0.410	0.724
c	0.058	-0.978	0.961
d	-0.892	0.284	0.876
e	-0.907	-0.066	0.826
Variance	2.9823	1.2186	4.2009
% Var	0.596	0.244	0.840

Sorted Rotated Factor Loadings and Communalities

Variable	Factor1	Factor2	Communality
e	-0.907	-0.066	0.826
a	0.898	-0.092	0.814
d	-0.892	0.284	0.876
b	0.746	0.410	0.724
c	0.058	-0.978	0.961
Variance	2.9823	1.2186	4.2009
% Var	0.596	0.244	0.840

Factor Score Coefficients

Variable	Factor1	Factor2
a	0.748	0.020
b	0.601	0.411
c	0.224	-0.760
d	0.149	0.315
e	-0.000	-0.000

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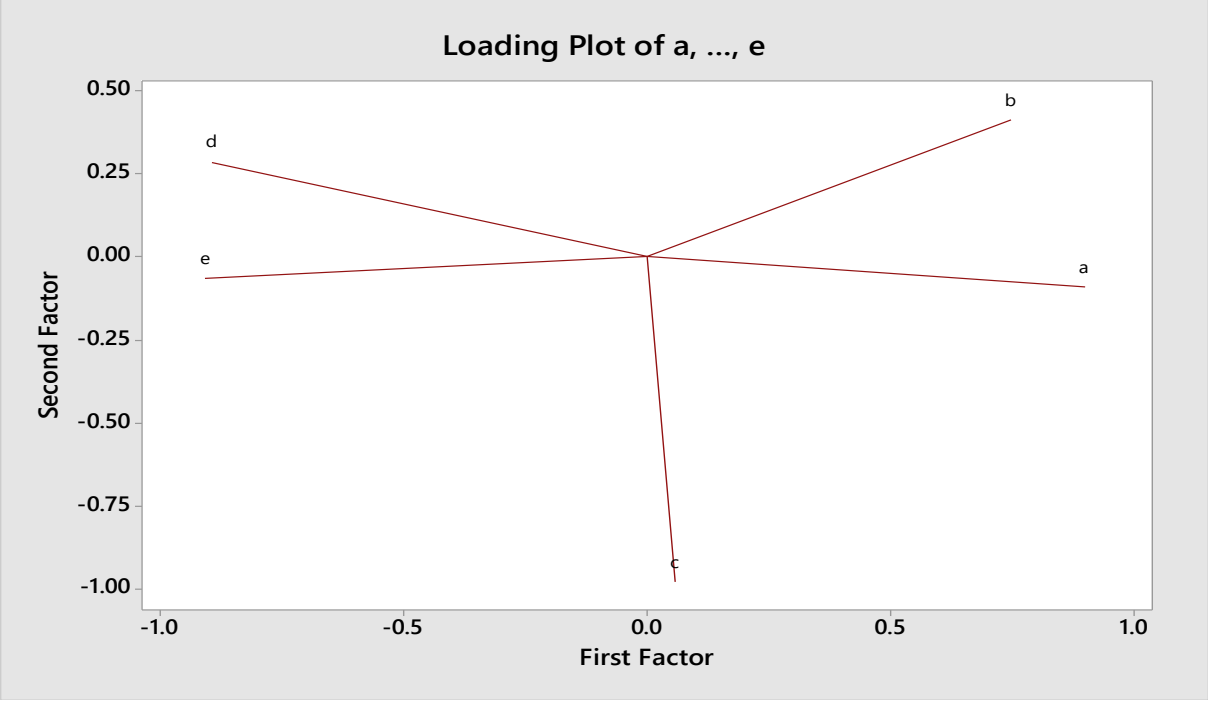


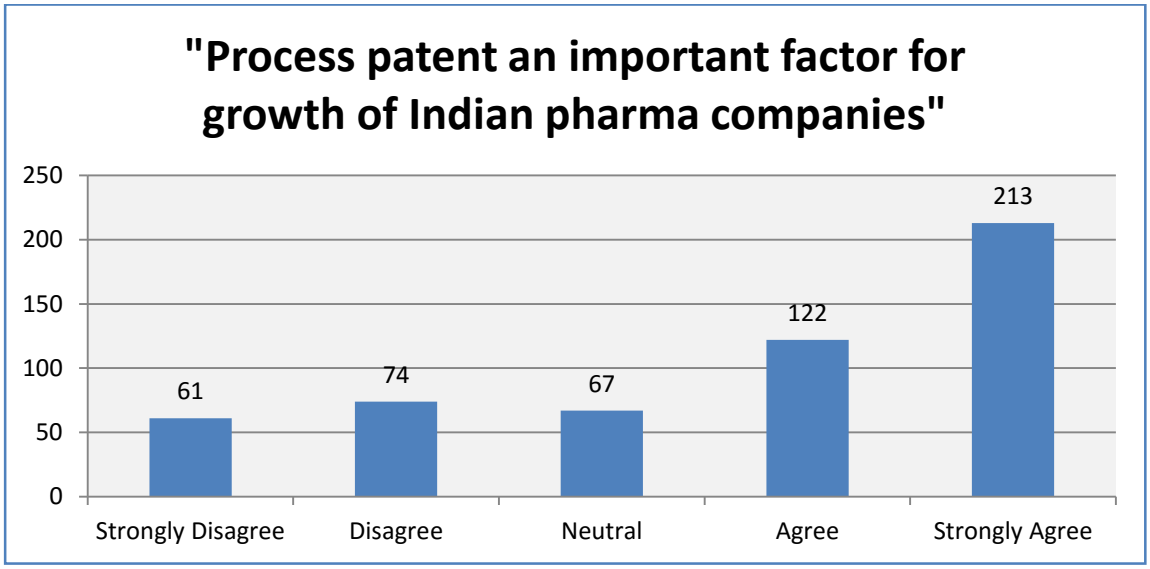
Conclusion:

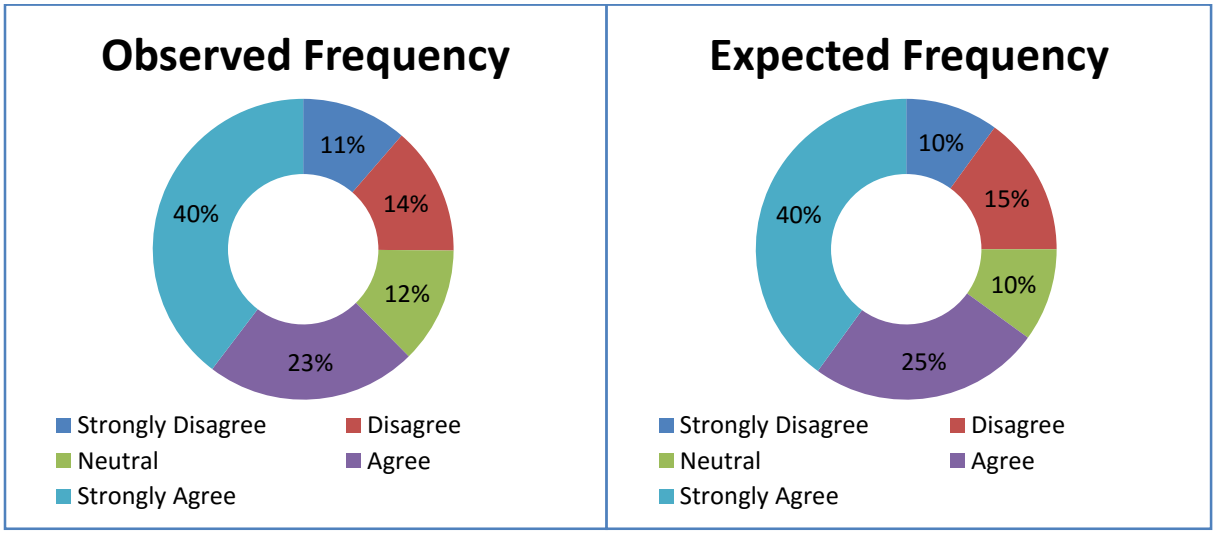
- Overall two factors together explain 84% of variation.
- First factor positively loads on Govt. support through MRTP (0.898), Doctors' support to India pharma companies (0.746). Overall we may consider factor 1 as "Indian Govt. and Doctors' support to pharma companies".
- Second factor positively loads on,Indian doctors prefer to support Indian companies (0.410) and Multinationals become less aggressive (0.284). Overall we may consider factor 2 as "less aggressive multinational companies as a result of increasing support to Indian companies".

Q6: Will you agree with the fact that pharmaceutical products with process patent was an important factor for growth of the Indian companies?

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Frequency	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Collected Data	61	74	67	122	213
f0	11%	14%	12%	23%	40%
fe	10%	15%	10%	25%	40%





Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: f0	
H0:	The observed distribution is same as expected distribution.
H1:	The observed distribution is not same as expected distribution.

Response	Expected Proportion	Expected Frequency fe
Strongly Disagree	0.1	53.7
Disagree	0.15	80.55
Neutral	0.1	53.7
Agree	0.25	134.25
Strongly Agree	0.4	214.8

Response	f0	fe	(f0-fe)^2/fe
Strongly Disagree	61	53.7	0.99
Disagree	74	80.55	0.53
Neutral	67	53.7	3.29
Agree	122	134.25	1.12
Strongly Agree	213	214.8	0.02
Total	**537**	**537**	**5.95**

Alpha =	5%
k = No. of points on Likert Scale	5
DF = (k-1)	4
Chi Square (Tab)	9.49
Chi Square (Obs.)	5.95

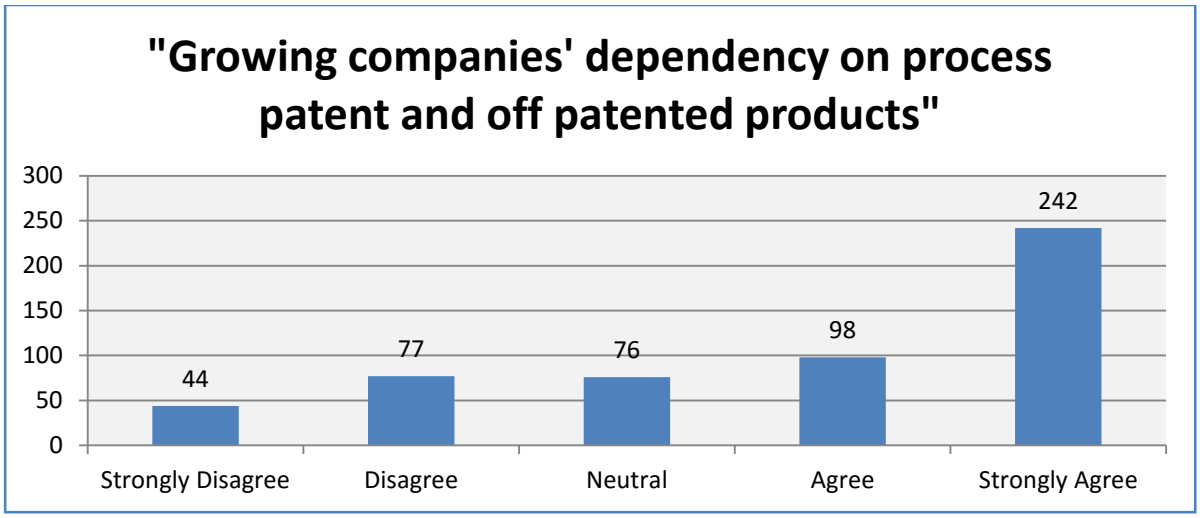
Conclusion:

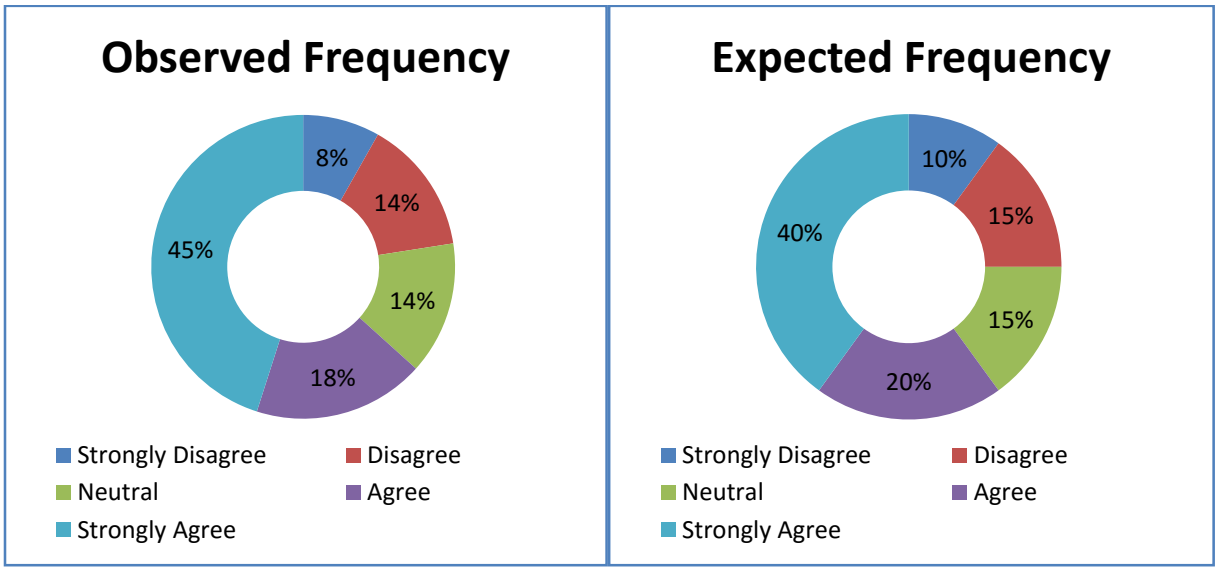
Since observed value of Chi Square is not greater than tabled value of Chi Square we do not reject H0 and conclude that Observed frequencies are same as estimated frequencies and as >70% of responses are either "Agree" or "Strongly Agree" we conclude that, respondents strongly agree that pharmaceutical products with process patent was an important factor for growth of the Indian companies.

Q7: Growing companies' dependency for greater market share was on process patent and off patented products. Do you consider same as a strategic mistake by the Indian organizations?

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Frequency	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Collected Data	44	77	76	98	242
f0	8%	14%	14%	18%	45%
fe	10%	15%	15%	20%	40%





Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: f0	
H0:	The observed distribution is same as expected distribution.
H1:	The observed distribution is not same as expected distribution.

Response	Expected Proportion	Expected Frequency fe
Strongly Disagree	0.1	53.7
Disagree	0.15	80.55
Neutral	0.15	80.55
Agree	0.2	107.4
Strongly Agree	0.4	214.8

Response	f0	fe	(f0-fe)^2/fe
Strongly Disagree	44	53.7	1.75
Disagree	77	80.55	0.16
Neutral	76	80.55	0.26
Agree	98	107.4	0.82
Strongly Agree	242	214.8	3.44
Total	**537**	**537**	**6.43**

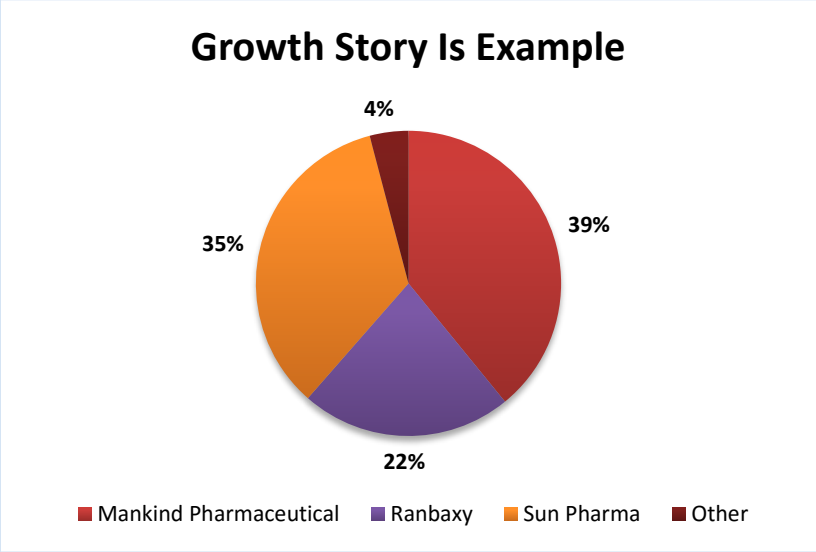
Alpha =	5%
k = No. of points on Likert Scale	5
DF = (k-1)	4
Chi Square (Tab)	9.49
Chi Square (Obs.)	6.43

Conclusion:

Since observed value of Chi Square is not greater than tabled value of Chi Square we do not reject H0 and conclude that Observed frequencies are same as estimated frequencies and as >70% of responses are either "Agree" or "Strongly Agree" we conclude that, respondents do agree that companies' dependency for greater market share was on process patent and off patented products.

Q8: Will you please mention name of four companies whose growth story is example for industry as well as academicians.

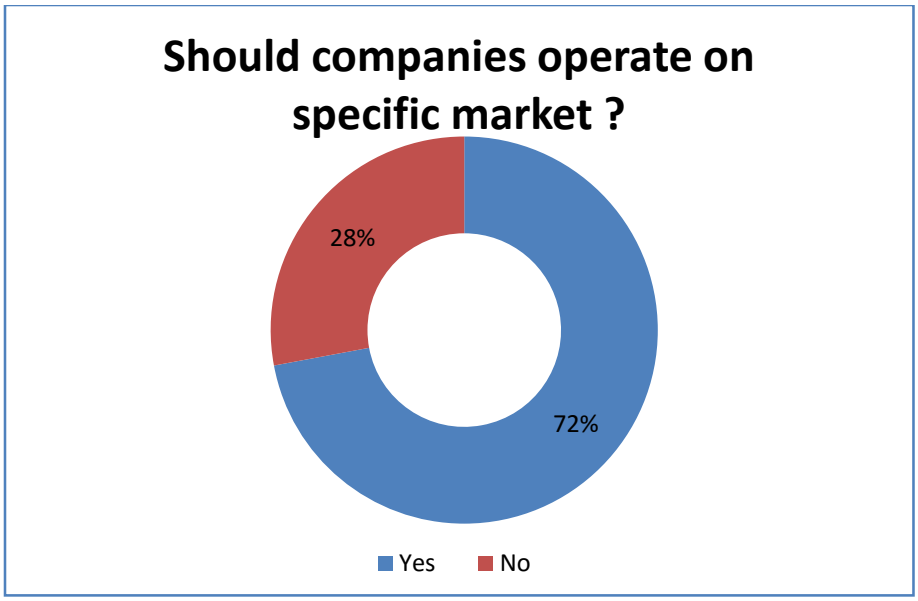
a)_____
b) _____
c) _____
d)_____



Q9: Do you think companies should operate on specific market for coverage by their field force? [*Please tick one*]

Yes ☐ No ☐

Frequency	Yes	No
Collected Data	387	150
%	0.72	0.28



Ho:	Proportion of respondent who believes companies should operate on specific market is 70%
H1:	Proportion of respondent who believes companies should operate on specific market is not equal to 70%

p^ =	362/537	0.72
q^ =	1-p^	0.28
p =	Population proportion (Yes)	0.70
q =	Population proportion (No)	0.30
Alpha	Type I error	5%
Z Cal =	(p^-p)/sqrt((p*q)/n	1.05
Z tab =	Normsniv(0.05)	+/-1.64

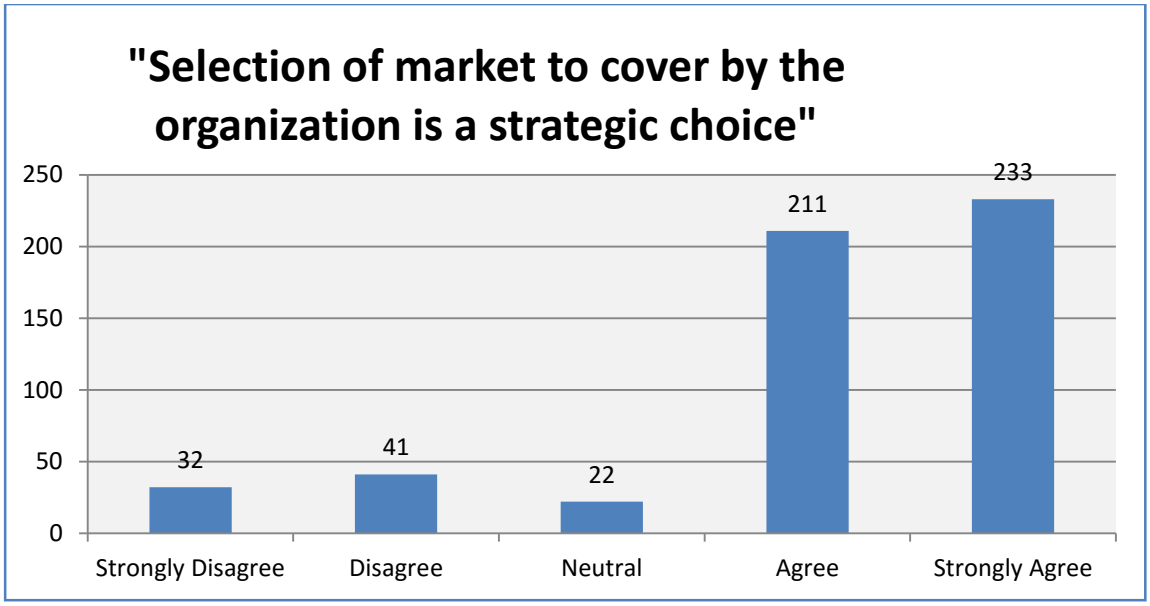
Conclusion

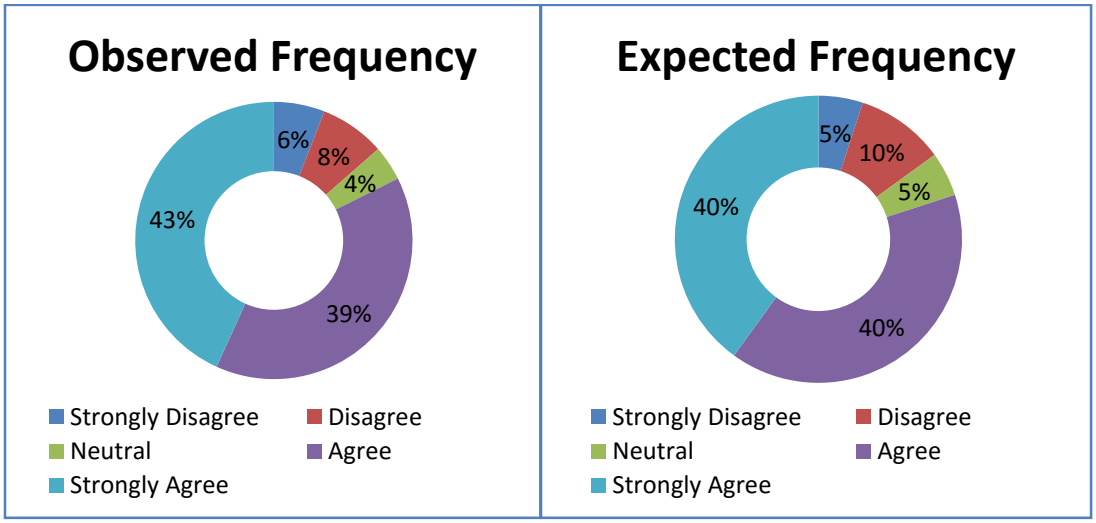
As calculated value of test statistics 1.05 is between +/- 1.64 we conclude that people who believes companies should operate on specific market is around 70%.

Q10: Do you consider selection of a market to cover by the organization is a strategic choice for the companies?

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Frequency	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Collected Data	32	41	22	211	233
f0	6%	8%	4%	39%	43%
fe	5%	10%	5%	40%	40%





Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: f0	
H0:	The observed distribution is same as expected distribution.
H1:	The observed distribution is not same as expected distribution.

Response	Expected Proportion	Expected Frequency fe
Strongly Disagree	0.05	26.85
Disagree	0.1	53.7
Neutral	0.05	26.85
Agree	0.4	214.8
Strongly Agree	0.4	214.8

Response	f0	fe	(f0-fe)^2/fe
Strongly Disagree	32	26.9	0.99
Disagree	41	53.7	3.00
Neutral	22	26.9	0.88
Agree	211	214.8	0.07
Strongly Agree	233	214.8	1.54
Total	**539**	**537**	**6.48**

Alpha =	5%
k = No. of points on Likert Scale	5
DF = (k-1)	4
Chi Square (Tab)	9.49

Chi Square (Obs.)	6.48

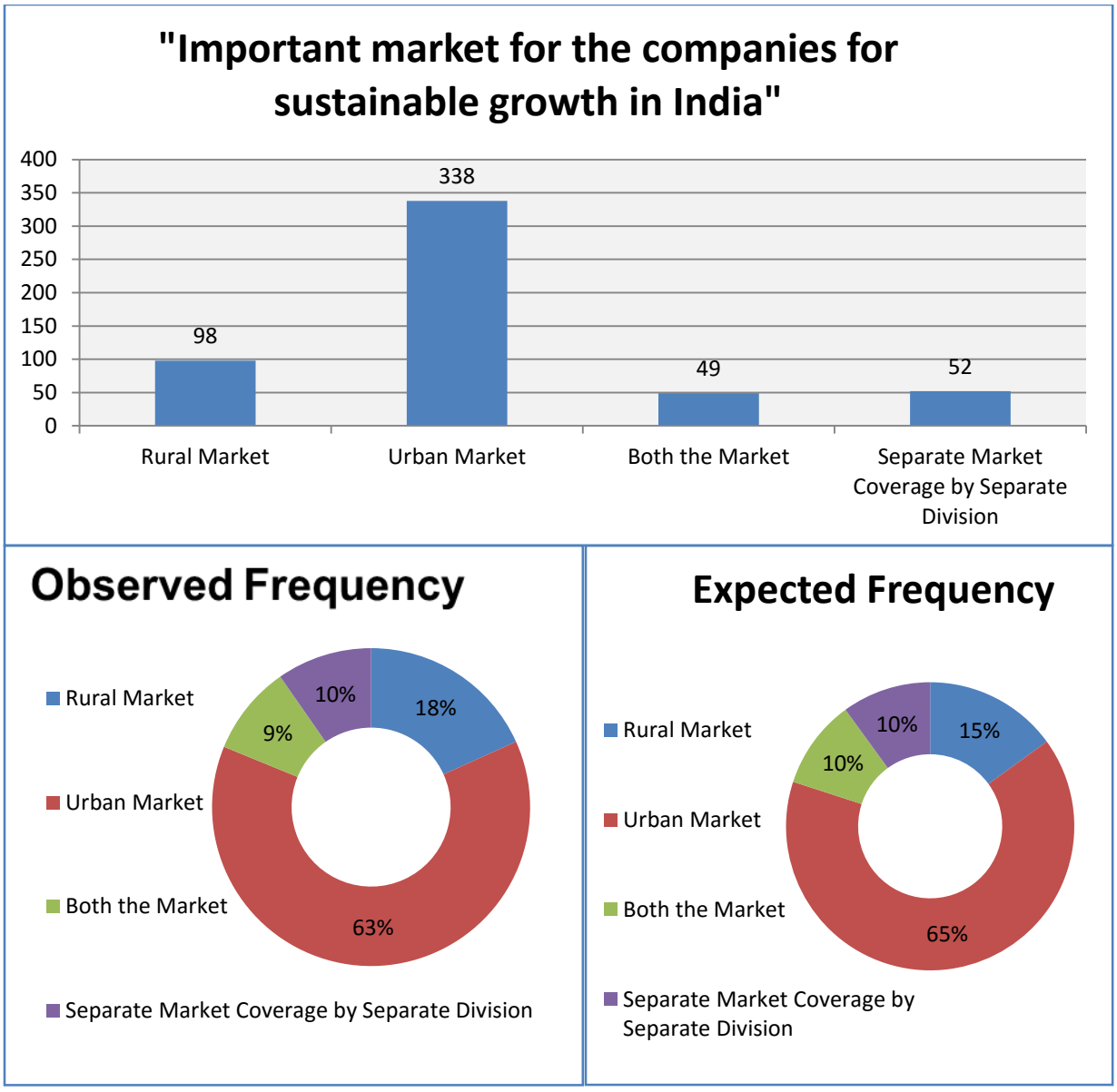
Conclusion:

Since observed value of Chi Square is not greater than tabled value of Chi Square we do not reject H0 and conclude that Observed frequencies are same as estimated frequencies and as 80% of responses are either "Agree" or "Strongly Agree" we conclude that, respondents do agree that selection of market to cover by the organization is a strategic choice for the companies.

Q11: For sustainable growth, which is the most important market for the companies in Indian context?

- Rural Market
- Urban Market
- Both the markets
- Separate market coverage by separate division

Frequency	Rural Market	Urban Market	Both the Market	Separate Market Coverage by Separate Division
Collected Data	98	338	49	52
f0	18%	63%	9%	10%
fe	15%	65%	10%	10%



Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: f0	
H0:	The observed distribution is same as expected distribution.
H1:	The observed distribution is not same as expected distribution.

Response	Expected Proportion	Expected Frequency fe
Rural Market	0.15	80.55
Urban Market	0.65	349.05
Both the Market	0.1	53.7
Separate Market Coverage by Separate Division	0.1	53.7

Response	f0	fe	(f0-fe)^2/fe
Rural Market	98	80.6	3.78
Urban Market	338	349.1	0.35
Both the Market	49	53.7	0.41
Separate Market Coverage by Separate Division	52	53.7	0.05
Total	**537**	**537**	**4.60**

Alpha =	5%
k = No. of points on Likert Scale	4
DF = (k-1)	3
Chi Square (Tab)	7.81
Chi Square (Obs.)	4.60

Conclusion:

Since observed value of Chi Square is not greater than tabled value of Chi Square we do not reject H0 and conclude that Observed frequencies are same as estimated frequencies and 65% of responses says, for sustainable growth companies should target "Urban market" than any other market.

Q12: In present scenario please rank followings as per your choice (*where 1 is most important and 10 as least important so put numbers accordingly*) in accordance with the importance your organization provide as product promotion tool. Please ignore present government regulation or guideline while choosing.

a) Gifts to doctor	
b) Sponsorship to doctors	
c) Physician samples	
d) Personal selling	
e) Journal advertising	
f) Direct mail	
g) Sponsorship of events/conferences	
h) Symposia and doctors meetings	
i) Organising camps	
j) Press release	

Factor Analysis: a, b, c, d, e, f, g, h, i, j

Principal Component Factor Analysis of the Correlation Matrix

Unrotated Factor Loadings and Communalities

Variable	Factor1	Factor2	Communality
a	-0.855	0.512	0.994
b	0.932	0.066	0.873
c	-0.839	-0.471	0.925
d	-0.531	-0.387	0.432
e	0.848	0.019	0.720
f	0.846	-0.294	0.803
g	0.923	0.166	0.879
h	0.728	-0.648	0.950
i	-0.883	-0.161	0.806
j	0.212	0.880	0.819
Variance	6.2273	1.9738	8.2011
% Var	0.623	0.197	0.820

Rotated Factor Loadings and Communalities
Varimax Rotation

Variable	Factor1	Factor2	Communality
a	-0.983	-0.166	0.994
b	0.666	0.656	0.873
c	-0.331	-0.903	0.925
d	-0.152	-0.639	0.432
e	0.633	0.565	0.720
f	0.834	0.327	0.803
g	0.593	0.726	0.879
h	0.975	-0.019	0.950
i	-0.566	-0.697	0.806
j	-0.411	0.806	0.819
Variance	4.4305	3.7706	8.2011
% Var	0.443	0.377	0.820

Sorted Rotated Factor Loadings and Communalities

Variable	Factor1	Factor2	Communality
a	-0.983	-0.166	0.994
h	0.975	-0.019	0.950
f	0.834	0.327	0.803

b0.6660.656 0.873
e0.633 0.565 0.720
c -0.331 -0.903 0.925
j -0.411 0.806 0.819
g 0.593 0.726 0.879
i -0.566 -0.697 0.806
d -0.152 -0.639 0.432

Variance 4.4305 3.7706 8.2011
% Var 0.443 0.377 0.820

Factor Score Coefficients

Variable Factor1 Factor2
a -1.052 0.113
b -0.335 0.504
c 0.399 -1.797
d -0.234 0.400
e 0.452 -1.199
f -0.000 0.000
g 0.000 -0.000
h -0.000 -0.000
i 0.000 -0.000
j -0.000 0.000

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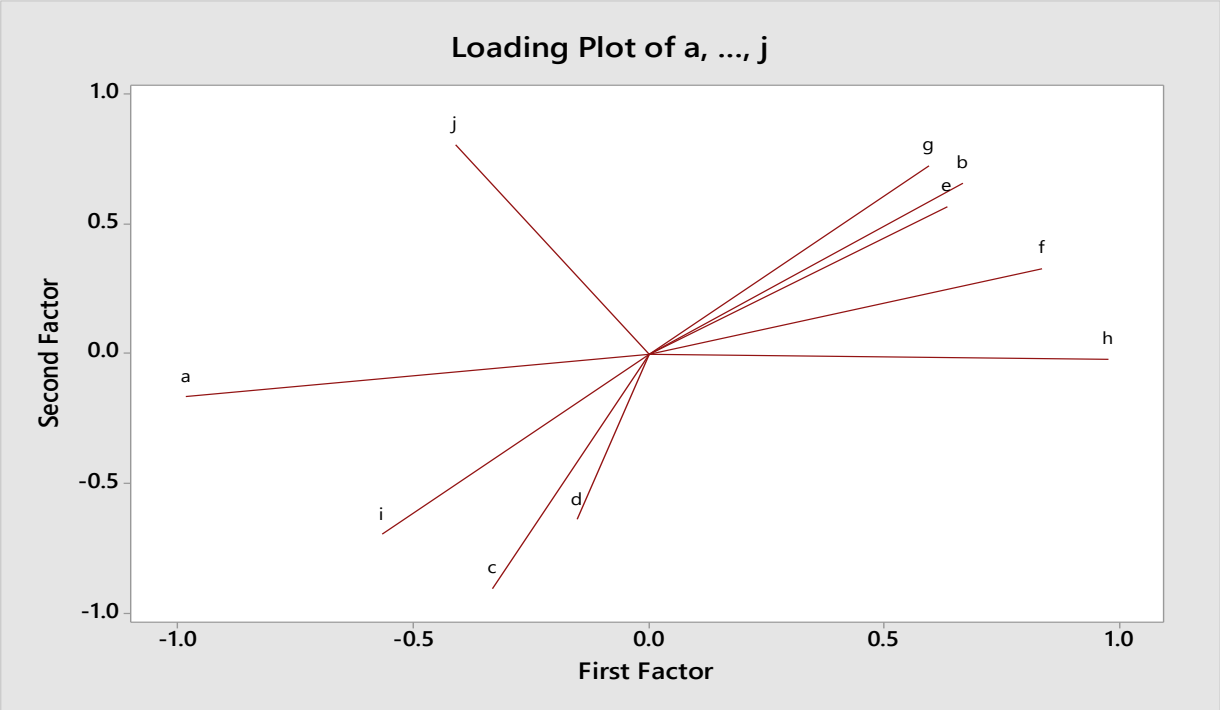


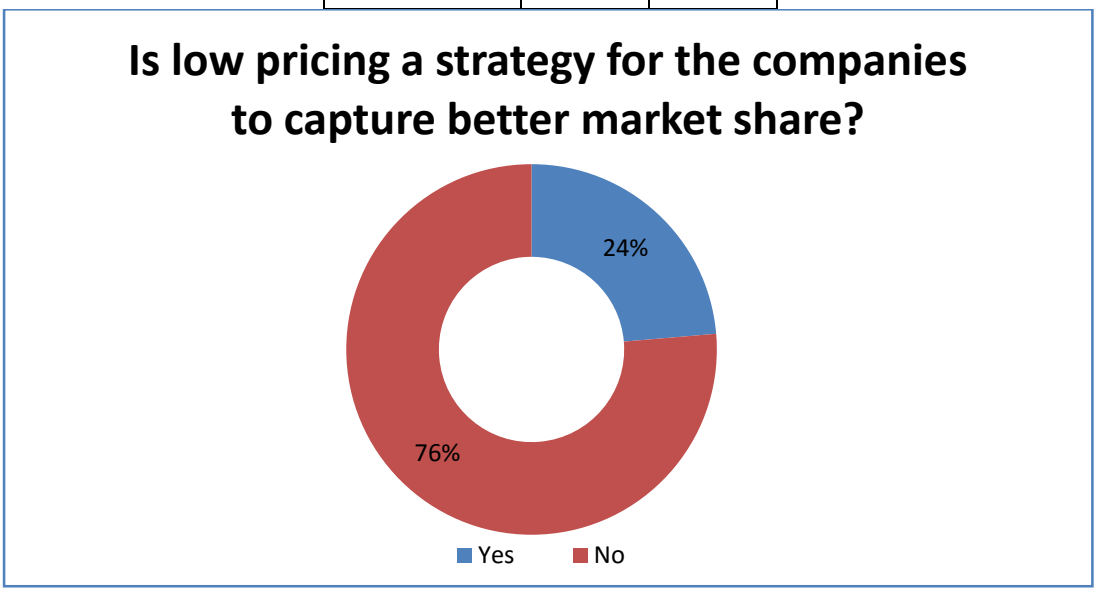
Conclusion:

- Overall two factors together explain 82% of variation.
- First factor positively loads on Symposia and doctors meeting (0.975), Direct mail (0.834), Sponsorship to doctors (0.666) and Journal advertising (0.633). Overall we may consider factor 1 as "Advertising with providing additional knowledge around product".
- Second factor positively loads on Press release (0.806), Sponsorship of events/conferences (0.726) and Sponsorship to doctors (0.656). Overall we may consider factor 2 as "press release and sponsorship factor".

Q13: Do you agree adopting lowest pricing can be a strategy for the companies to capture better market share? [*Please tick one*]

Yes ☐ No ☐

Frequency	Yes	No
Collected Data	127	410
%	0.24	0.76



Ho:	Proportion of respondent who believe that, adopting lowest pricing can be a strategy for the companies to capture better market share is 25%
H1:	Proportion of respondent who do not believe that, adopting lowest pricing can be a strategy for the companies to capture better market share is 75%

p^ =	127/537	0.24
q^ =	1-p^	0.76
p =	Population proportion (Yes)	0.25
q =	Population proportion (No)	0.75
Alpha	Type I error	5%
Z Cal =	(p^-p)/sqrt((p*q)/n	-0.72
Z tab =	Normsniv(0.05)	+/-1.64

Conclusion:
As calculated value of test statistics -0.72 is between +/- 1.64 we conclude that proportion of people who believes adopting lowest pricing can be a strategy for the companies to capture better market share is only 25%.

Q14: Rank them from least important to most important order by putting (*1 as least important, 2, 3, 4 , 5 in increasing order of importance and 6 as most*) important factor for capturing better market share in the industry.

a) Well trained medical representatives.	
b) Company's relation with doctor community.	
c) Company's relation with dealers like wholesalers and retailers.	
d) Company's product basket or therapeutic segment operating in.	
e) Product segmentation and differentiation as strategy.	
f) All are valid	

Factor Analysis: a, b, c, d, e, f

Principal Component Factor Analysis of the Correlation Matrix

Un rotated Factor Loadings and Communalities

Variable	Factor1	Factor2	Communality
a	-0.944	-0.001	0.891
b	-0.659	-0.263	0.503
c	0.828	-0.438	0.877
d	0.164	0.986	0.999
e	0.786	-0.470	0.839
f	-0.495	-0.801	0.888

Variance	2.9002	2.0966	4.9968
% Var	0.483	0.349	0.833

Rotated Factor Loadings and Communalities
Varimax Rotation

Variable	Factor1	Factor2	Communality
a	0.873	0.360	0.891
b	0.509	0.494	0.503
c	-0.932	0.090	0.877
d	0.224	-0.974	0.999
e	-0.906	0.136	0.839
f	0.153	0.930	0.888

Variance	2.7836	2.2132	4.9968
% Var	0.464	0.369	0.833

Sorted Rotated Factor Loadings and Communalities

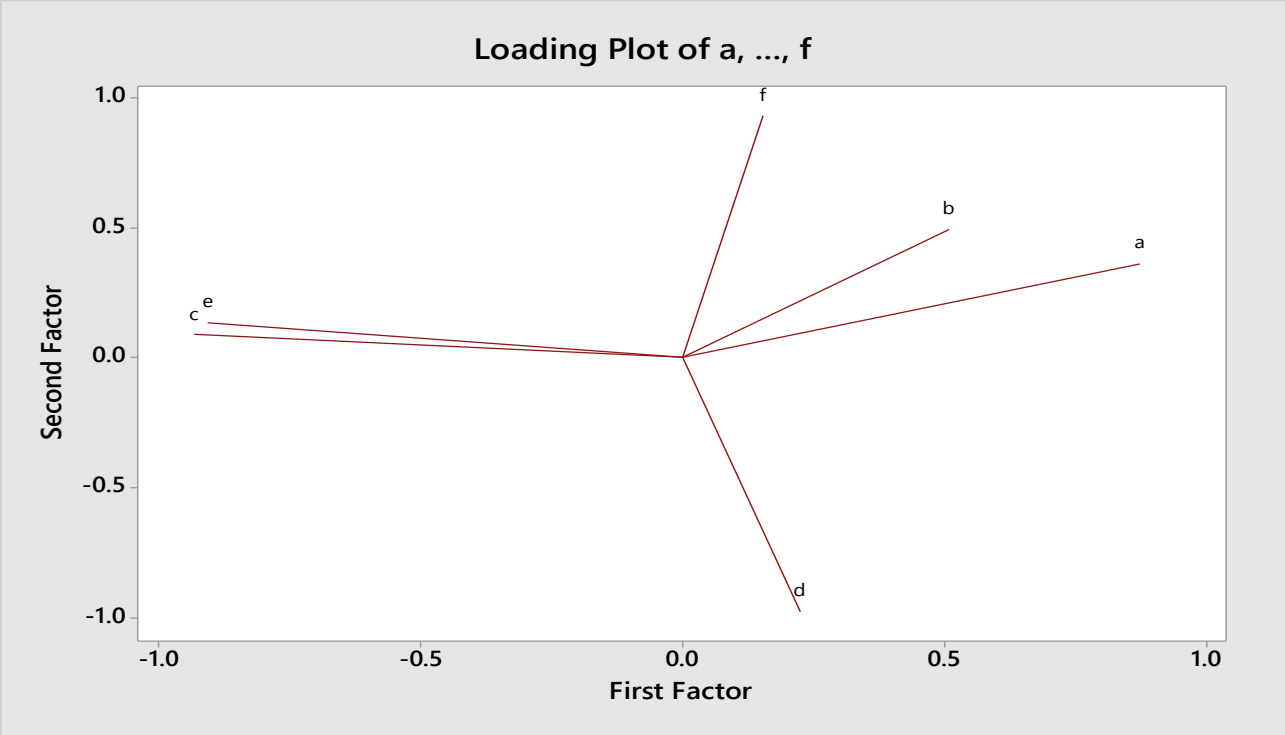
Variable	Factor1	Factor2	Communality
c	-0.932	0.090	0.877
e	-0.906	0.136	0.839
a	0.873	0.360	0.891
b	0.509	0.494	0.503
d	0.224	-0.974	0.999
f	0.153	0.930	0.888

Variance	2.7836	2.2132	4.9968
% Var	0.464	0.369	0.833

Factor Score Coefficients

Variable	Factor1	Factor2
a	0.522	0.056
b	-0.060	-0.122
c	-0.591	-0.277
d	0.108	-1.093
e	-0.000	0.000
f	-0.000	-0.000

Loading Plot of a, b, c, d, e, f



Conclusion:

- Overall two factors together explain 83.3% of variation.
- First factor positively loads onwell trained medical representatives (0.873) and companies' relationship with doctor community (0.509). Overall we may consider factor 1 as factor of "Trained representatives and relationship with doctor community".
- Second factor positively loads on All options are valid (0.930) and Companies' relationship with doctors (0.494). Overall we may consider factor 2 as factor of "Companies relationship with various stakeholders".

Q15: According to you rank followings as the factor of stagnancy for companies in India.

[*Put 1 as least important and 5 as most important*]

a) Selected and only domestic market coverage initiatives.	
b) Too much dependency on selected products and category	
c) Lesser aggression in marketing strategy in comparison to manufacturing	
d) High men power turnover in marketing division	
e) Entry of too many new companies in the market	

Factor Analysis: a, b, c, d, e

Principal Component Factor Analysis of the Correlation Matrix

Un-rotated Factor Loadings and Communalities

Variable	Factor1	Factor2	Communality
a	0.838	-0.322	0.806
b	-0.928	-0.326	0.968
c	-0.923	0.286	0.933
d	0.923	-0.286	0.933
e	0.680	0.728	0.992
Variance	3.7295	0.9028	4.6323
% Var	0.746	0.181	0.926

Rotated Factor Loadings and Communalities
Varimax Rotation

Variable	Factor1	Factor2	Communality
a	0.875	0.202	0.806
b	-0.587	-0.789	0.968
c	-0.925	-0.279	0.933
d	0.925	0.279	0.933
e	0.156	0.984	0.992
Variance	2.8449	1.7874	4.6323
% Var	0.569	0.357	0.926

Sorted Rotated Factor Loadings and Communalities

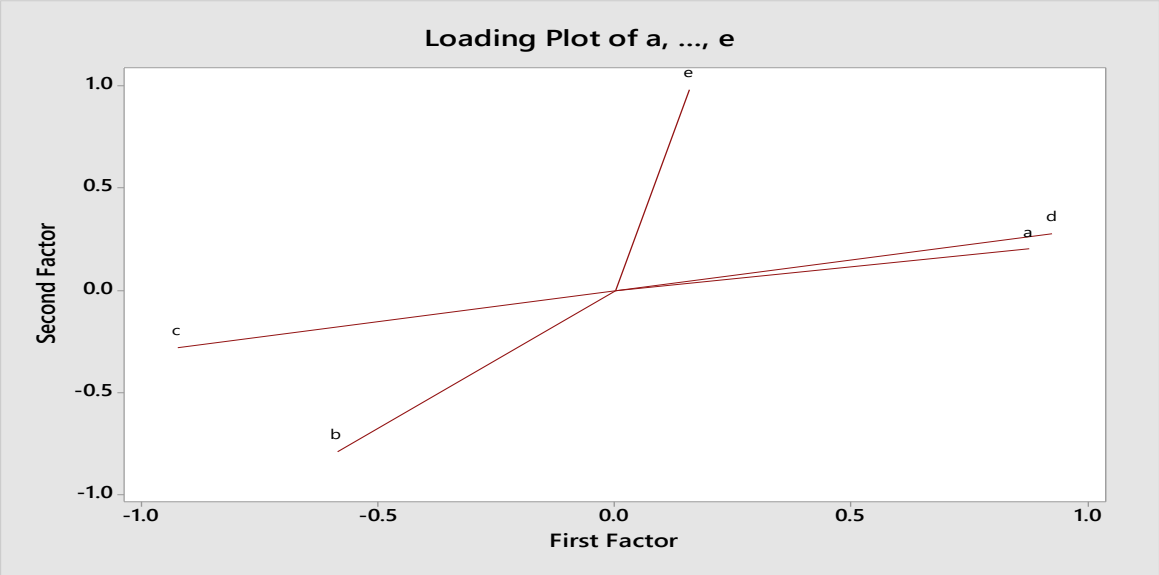
Variable	Factor1	Factor2	Communality
D	0.925	0.279	0.933
c	-0.925	-0.279	0.933
a	0.875	0.202	0.806
e	0.156	0.984	0.992
b	-0.587	-0.789	0.968
Variance	2.8449	1.7874	4.6323
% Var	0.569	0.357	0.926

Factor Score Coefficients

Variable	Factor1	Factor2
a	0.624	-0.782
b	0.430	-1.555

c	-0.765	0.248
d	0.000	0.000
e	-0.000	0.000

Loading Plot of a, ..., e



Conclusion:

- Overall two factors together explain 92.6% of variation.
- First factor positively loads on, high men power turnover in marketing division (0.925) and selected and only domestic market coverage initiatives (0.875). Overall we may consider factor 1 as factor of "Men power turnover and focus on domestic market coverage". Due to focus on only domestic market, marketing team may not find good opportunity and this could be the reason of switch over to another company.
- Second factor positively loads on Entry of too many new companies in the market (0.984) and High men power turnover (0.279). Overall we may consider factor 2 as factor of "Entry of new companies – High men power turnover". Due to many new companies, representatives find new opportunities and that could be one reason for quick turnover.

Q16: Indian pharmaceutical companies should focus maximum in terms of investment on following area for a sustainable growth?

(Please put 1 as least important and 5 as most important)

a) New product development (R&D)	
b) Training of field force	
c) Maximum market coverage	
d) Entry in overseas market	
e) Manufacturing facility	

Factor Analysis: a, b, c, d, e

Principal Component Factor Analysis of the Correlation Matrix

Unrotated Factor Loadings and Communalities

Variable	Factor1	Factor2	Communality
a	0.736	-0.253	0.606
b	-0.927	0.070	0.863
c	-0.773	-0.135	0.615
d	0.617	0.773	0.978
e	0.424	-0.776	0.782
Variance	2.5575	1.2874	3.8449
% Var	0.511	0.257	0.769

Rotated Factor Loadings and Communalities
Varimax Rotation

Variable	Factor1	Factor2	Communality
a	-0.451	0.635	0.606
b	0.712	-0.597	0.863
c	0.707	-0.340	0.615
d	-0.952	-0.269	0.978
e	0.107	0.878	0.782
Variance	2.1265	1.7185	3.8449
% Var	0.425	0.344	0.769

Sorted Rotated Factor Loadings and Communalities

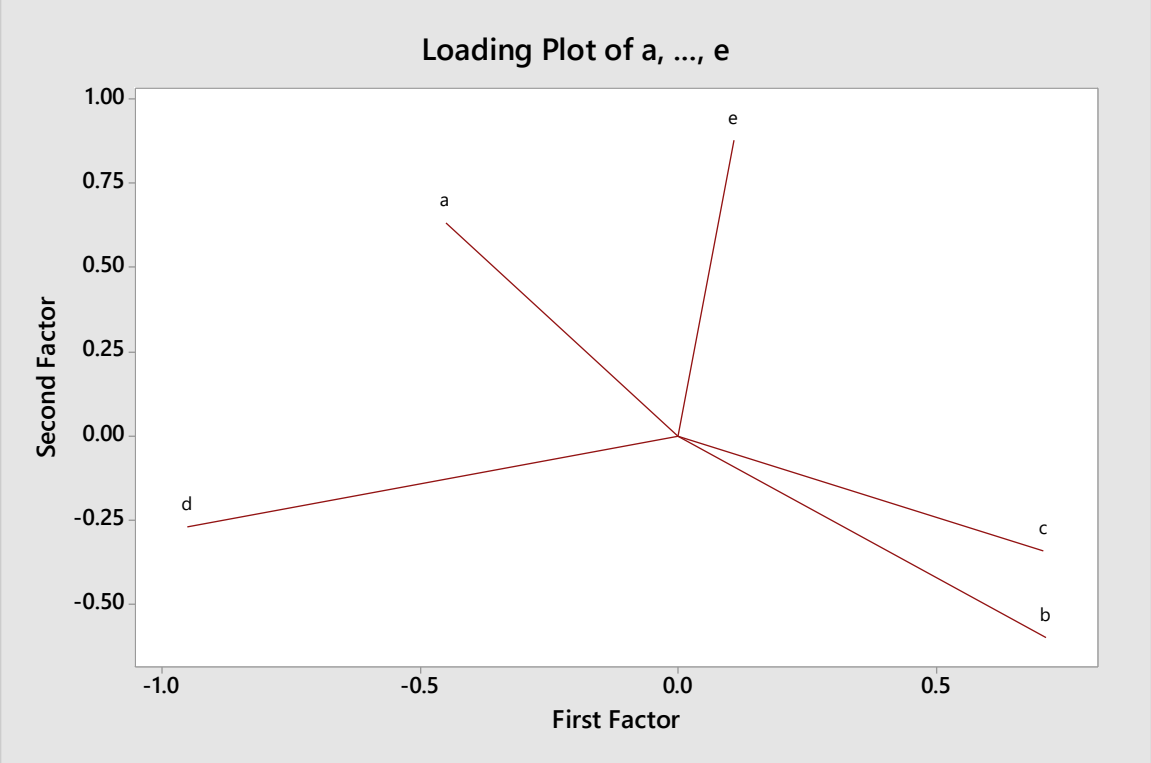
Variable	Factor1	Factor2	Communality
d	-0.952	-0.269	0.978

b	0.712	-0.597	0.863
c	0.707	-0.340	0.615
e	0.107	0.878	0.782
a	-0.451	0.635	0.606
Variance	2.1265	1.7185	3.8449
% Var	0.425	0.344	0.769

Factor Score Coefficients

Variable	Factor1	Factor2
a	-0.269	-0.079
b	0.026	-0.897
c	0.105	-0.637
d	-0.826	-1.107
e	0.000	0.000

Loading Plot of a, ..., e



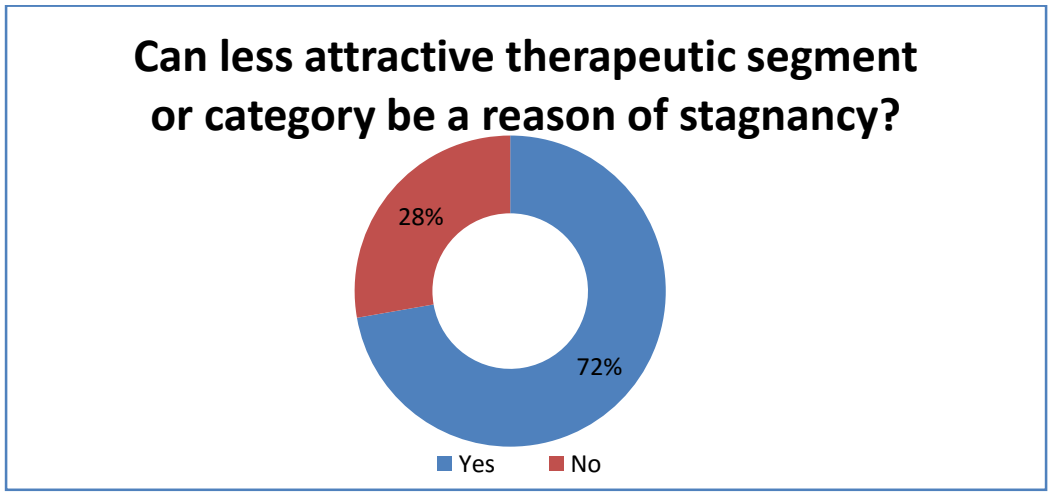
Conclusion:

- Overall two factors together explain 76.9% of variation.
- First factor positively loads on, Training of field force (0.712) and Maximum market coverage (0.707). Overall we may consider factor 1 as factor of "Trained representatives and market coverage".
- Second factor positively loads on, Manufacturing facility (0.878) and New product development (R&D) (0.635). Overall we may consider factor 2 as factor of "manufacturing facility and R&D", so it is related to production and development.

Q17: Operation in less attractive therapeutic segment or category can be a reason of stagnancy for the companies? [*Please tick one*]

Yes ☐ No ☐

Frequency	Yes	No
Collected Data	388	149
%	0.72	0.28



Ho:	Proportion of respondent who believe that, operations in less attractive therapeutic segment or category can be a reason of companies' stagnancy is 70%
H1:	Proportion of respondent who believe that, operations in less attractive therapeutic segment or category can be a reason of companies' stagnancy is not equal to 70%

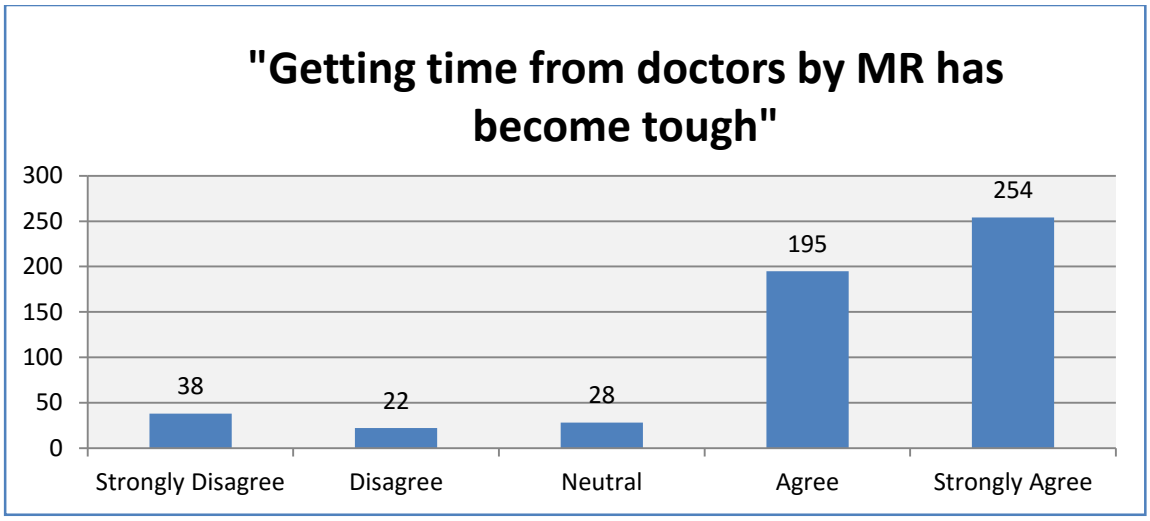
p^ =	388/537	0.72
q^ =	1-p^	0.28
p =	Population proportion (Yes)	0.70
q =	Population proportion (No)	0.30
Alpha	Type I error	5%
Z Cal =	(p^-p)/sqrt((p*q)/n	1.14
Z tab =	Normsniv(0.05)	+/-1.64

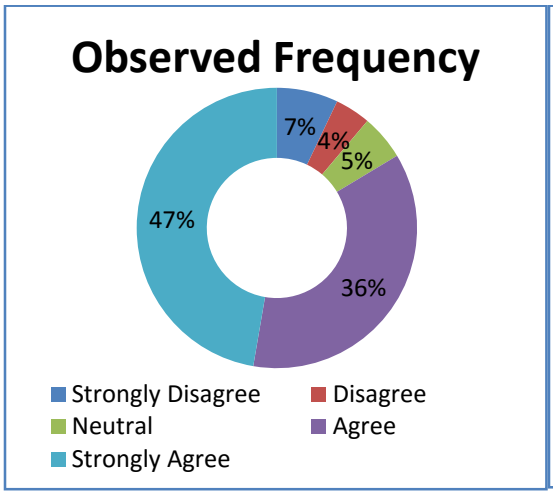
Conclusion:
As calculated value of test statistics 1.14 is between +/- 1.64 we conclude that proportion of people who believe operations in less attractive therapeutic segment or category can be a reason of companies' stagnancy is around 70%.

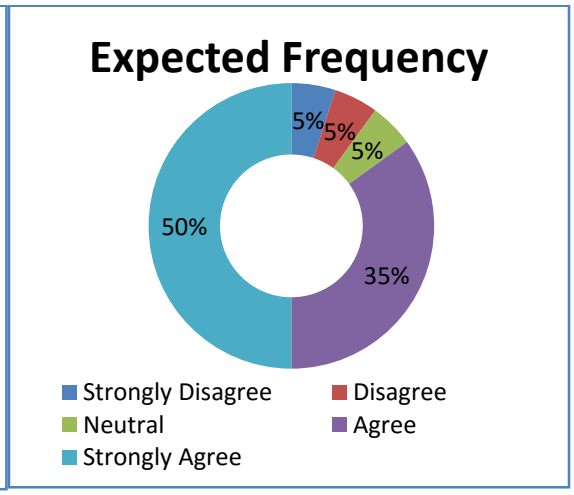
Q18: Do you agree with the point that now getting time from doctors by medical representatives has become tough?

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Frequency	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Collected Data	38	22	28	195	254
f0	7%	4%	5%	36%	47%
Fe	5%	5%	5%	35%	50%







Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: f0	
H0:	The observed distribution of responses is same as expected distribution.
H1:	The observed distribution of responses is not same as expected distribution.

Response	Expected Proportion	Expected Frequency fe
Strongly Disagree	0.05	26.9
Disagree	0.05	26.9
Neutral	0.05	26.85
Agree	0.35	187.95
Strongly Agree	0.5	268.5

Response	f0	fe	(f0-fe)^2/fe
Strongly Disagree	38	26.9	4.63
Disagree	22	26.9	0.88
Neutral	28	26.9	0.05
Agree	195	188.0	0.26
Strongly Agree	254	268.5	0.78
Total	**537**	**537**	**6.60**

Alpha =	5%
k = No. of points on Likert Scale	5
DF = (k-1)	4
Chi Square (Tab)	9.49
Chi Square (Obs.)	6.60

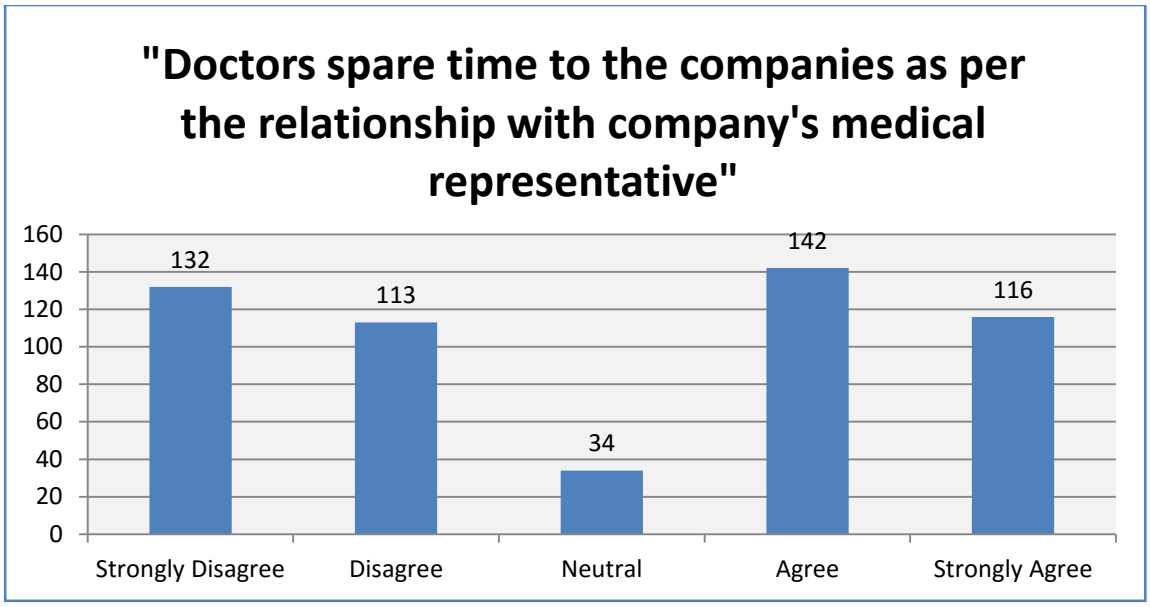
Conclusion:

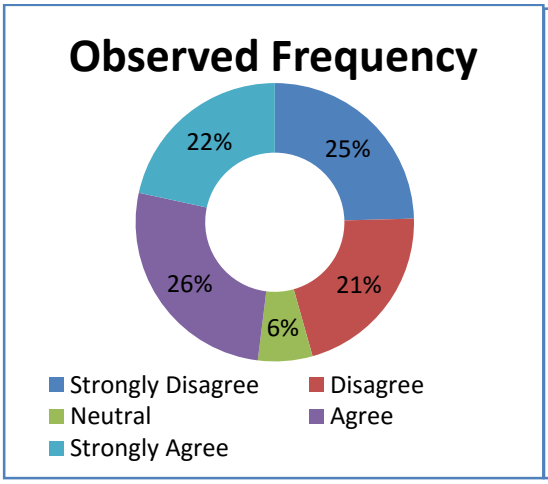
Since observed value of Chi Square is not greater than tabled value of Chi Square we do not reject H0 and conclude that Observed frequencies are same as estimated frequencies. It indicates 85% of responses are either "Agree" or "Strongly Agree" so we conclude that, getting time from doctors by medical representatives has really become tough.

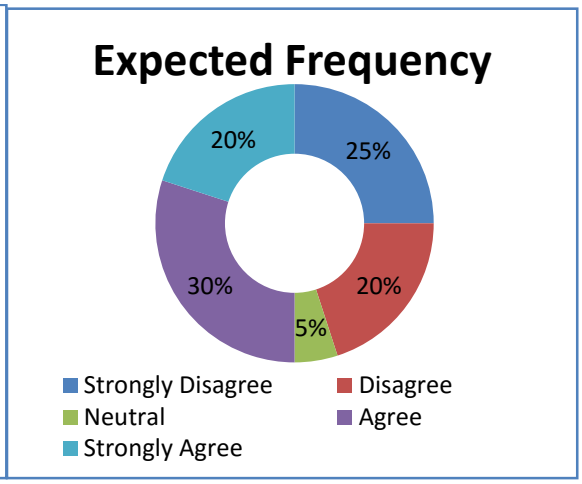
Q19: Do you agree with the point that doctors spare time to the companies as per the relationship with company's medical representative?

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Frequency	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Collected Data	132	113	34	142	116
f0	25%	21%	6%	26%	22%
fe	25%	20%	5%	30%	20%







Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: f0	
H0:	The observed distribution of responses is same as expected distribution.
H1:	The observed distribution of responses is not same as expected distribution.

Response	Expected Proportion	Expected Frequency fe
Strongly Disagree	0.25	134.3
Disagree	0.2	107.4
Neutral	0.05	26.85
Agree	0.3	161.1
Strongly Agree	0.2	107.4

Response	f0	fe	(f0-fe)^2/fe
Strongly Disagree	132	134.3	0.04
Disagree	113	107.4	0.29
Neutral	34	26.9	1.90
Agree	142	161.1	2.26
Strongly Agree	116	107.4	0.69
Total	**537**	**537**	**5.19**

Alpha =	5%
k = No. of points on Likert Scale	5
DF = (k-1)	4
Chi Square (Tab)	9.49

Chi Square (Obs.)	5.19

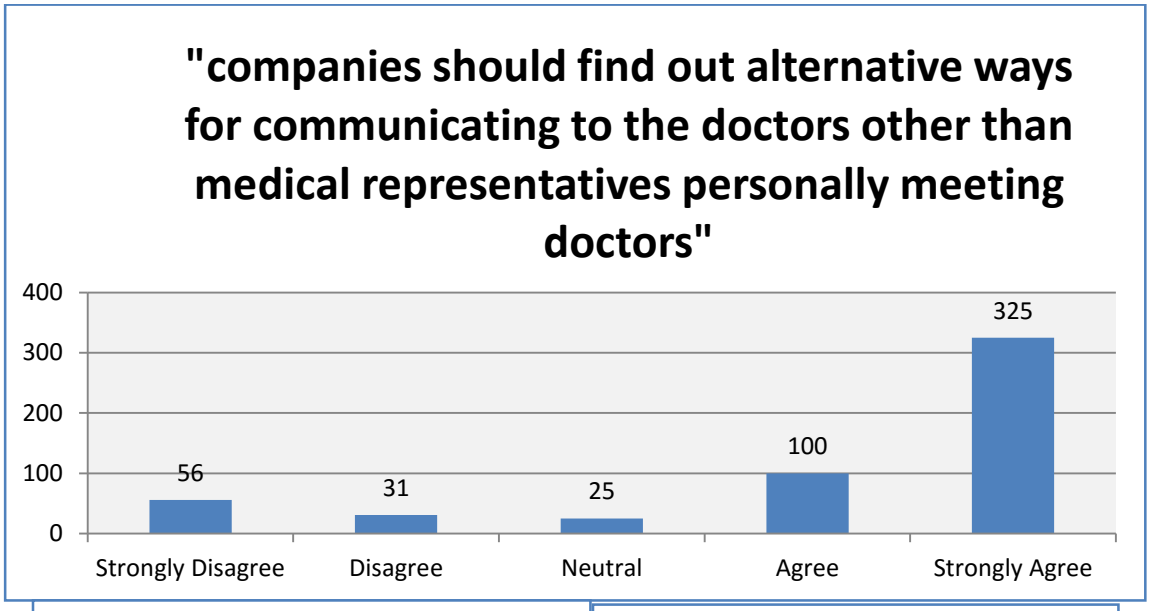
Conclusion:

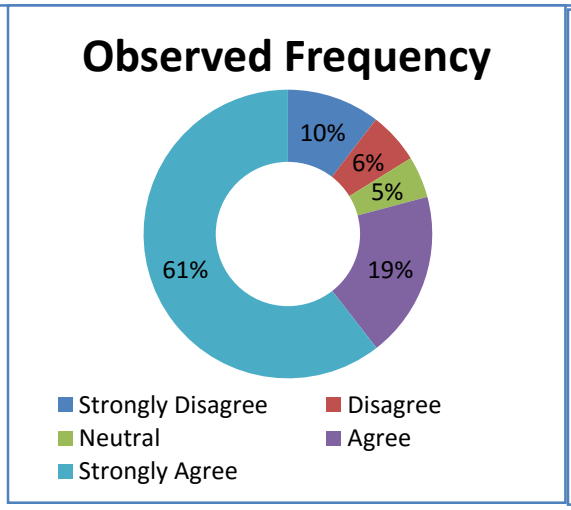
Since observed value of Chi Square is not greater than tabled value of Chi Square we do not reject H0 and conclude that Observed frequencies are same as estimated frequencies. As we can see equal distribution of responses on both the sides of Likert scale, it is very difficult to conclude that, Doctors spare time to the companies as per the relationship with company's medical representative.

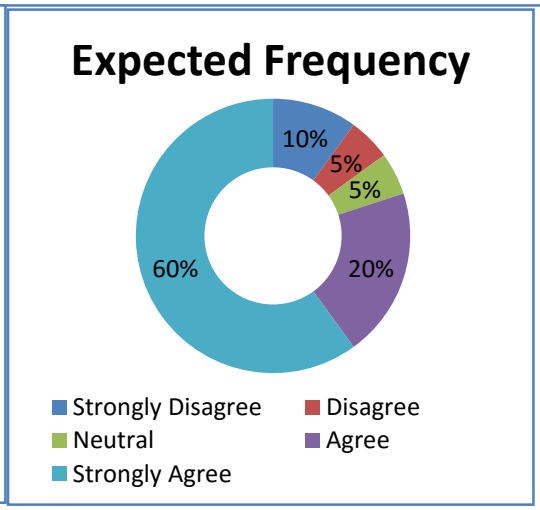
Q20: Do you agree with the point that companies should find out alternative ways for communicating to the doctors other than medical representatives personally meeting doctors?

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Frequency	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Collected Data	56	31	25	100	325
f0	10%	6%	5%	19%	61%
fe	10%	5%	5%	20%	60%







Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: f0	
H0:	The observed distribution of responses is same as expected distribution.
H1:	The observed distribution of responses is not same as expected distribution.

Response	Expected Proportion	Expected Frequency fe
Strongly Disagree	0.1	53.7
Disagree	0.05	26.9
Neutral	0.05	26.85
Agree	0.2	107.4
Strongly Agree	0.6	322.2

Response	f0	fe	(f0-fe)^2/fe
Strongly Disagree	56	53.7	0.10
Disagree	31	26.9	0.64
Neutral	25	26.9	0.13
Agree	100	107.4	0.51
Strongly Agree	325	322.2	0.02
Total	**537**	**537**	**1.40**

Alpha =	5%
k = No. of points on Likert Scale	5
DF = (k-1)	4
Chi Square (Tab)	9.49

Chi Square (Obs.)	1.40

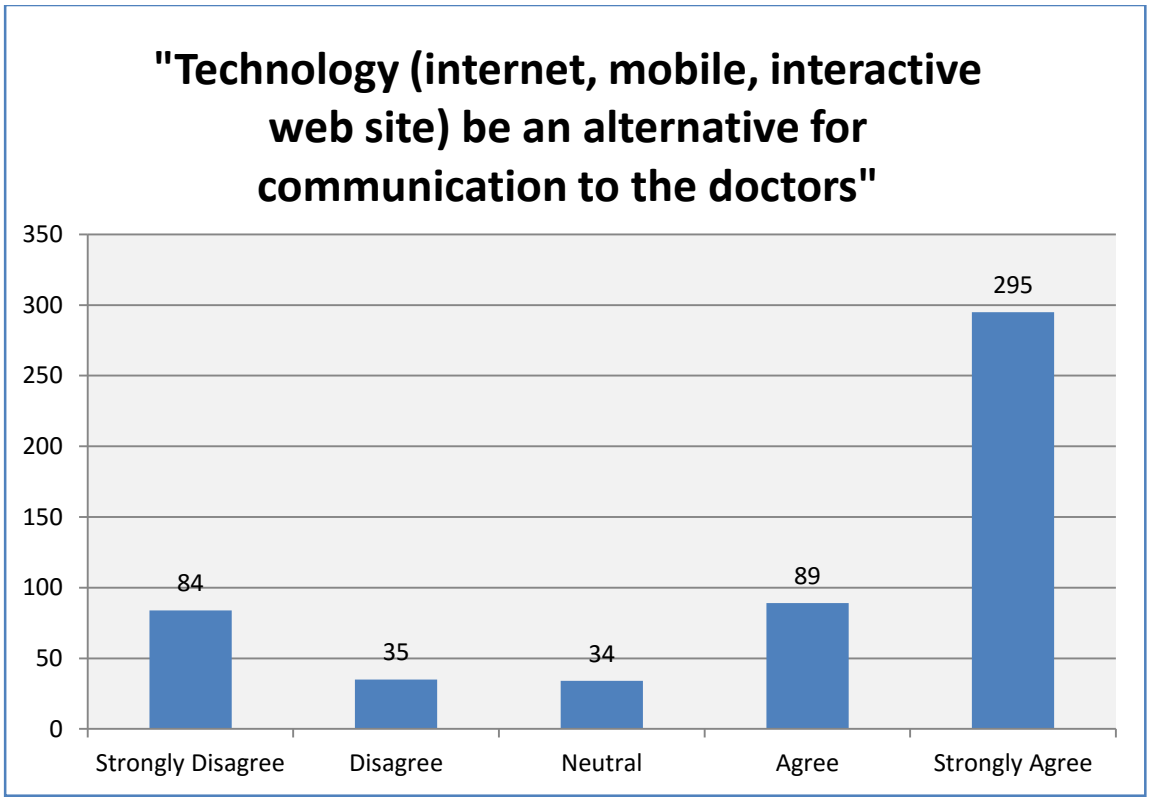
Conclusion:

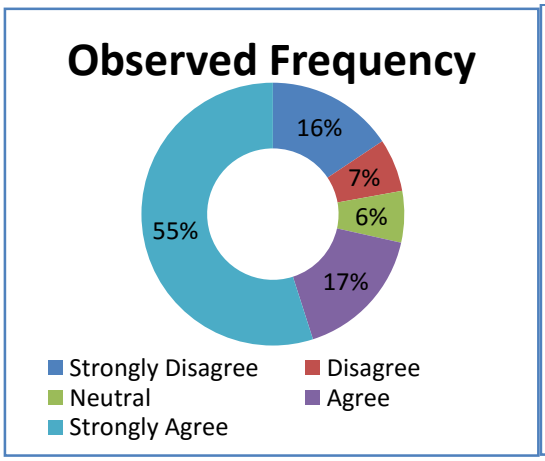
Since observed value of Chi Square is not greater than tabled value of Chi Square we do not reject H0 and conclude that Observed frequencies are same as estimated frequencies. As we can observe around 80% of respondent do believe that companies should find out alternative ways for communicating to the doctors other than medical representatives personally meeting doctors.

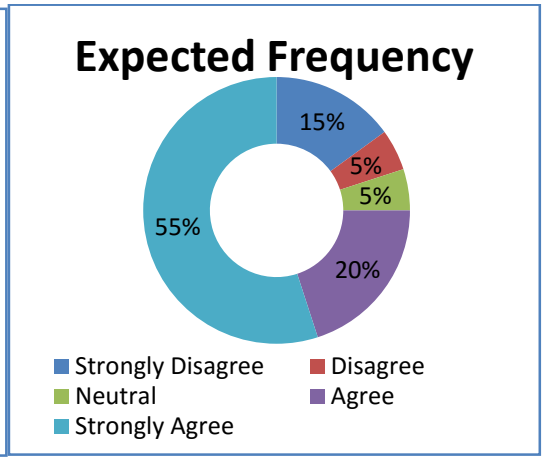
Q21. Can technology (internet, mobile, interactive web site) be an alternative for communication to the doctors as doctors spare less time to medical representatives in personal visits?

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Frequency	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Collected Data	84	35	34	89	295
f0	16%	7%	6%	17%	55%
Fe	15%	5%	5%	20%	55%







Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: f0	
H0:	The observed distribution of responses is same as expected distribution.
H1:	The observed distribution of responses is not same as expected distribution.

Response	Expected Proportion	Expected Frequency fe
Strongly Disagree	0.15	80.6
Disagree	0.05	26.9
Neutral	0.05	26.85
Agree	0.2	107.4
Strongly Agree	0.55	295.35

Response	f0	Fe	(f0-fe)^2/fe
Strongly Disagree	84	80.6	0.15
Disagree	35	26.9	2.47
Neutral	34	26.9	1.90
Agree	89	107.4	3.15
Strongly Agree	295	295.4	0.00
Total	**537**	**537**	**7.68**

Alpha =	5%
k = No. of points on Likert Scale	5
DF = (k-1)	4
Chi Square (Tab)	9.49
Chi Square (Obs.)	7.68

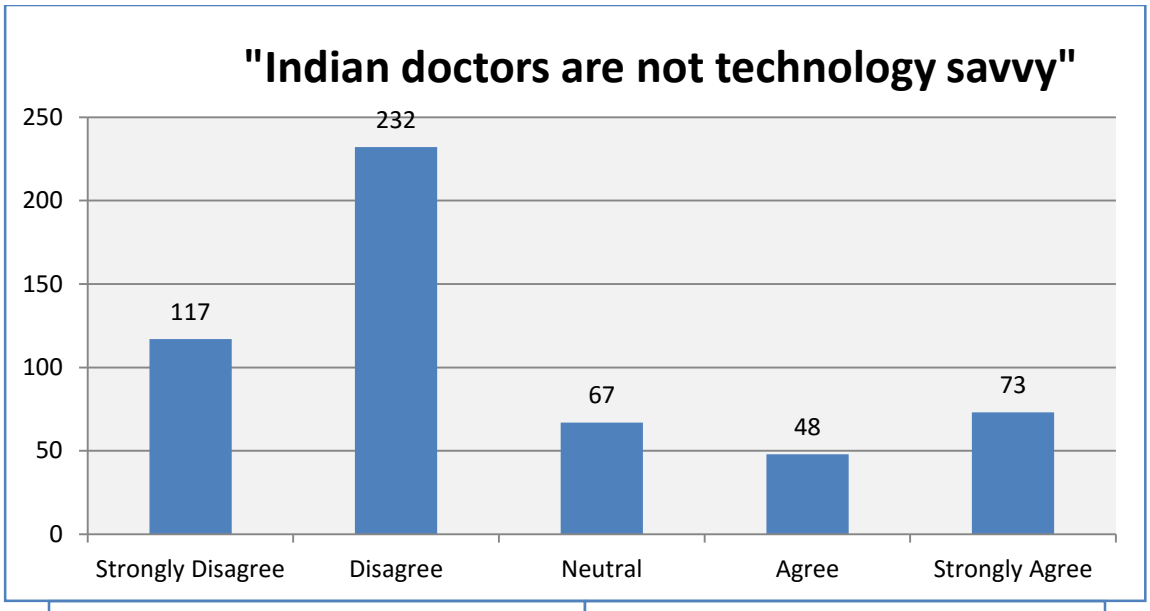
Conclusion:

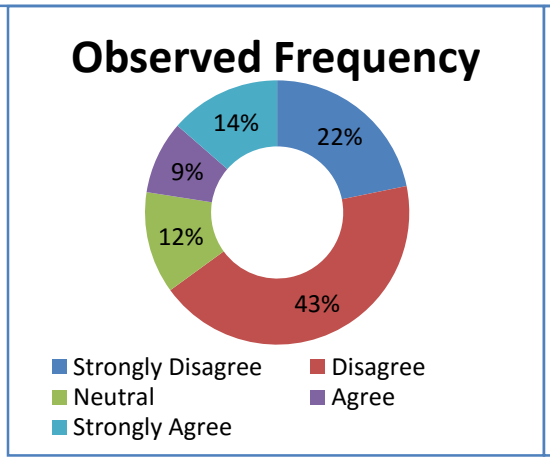
Since observed value of Chi Square is not greater than tabled value of Chi Square we do not reject H0 and conclude that Observed frequencies are same as estimated frequencies. As we can observe around 75% of respondent do believe that, technology be an alternative for communication to the doctors as doctors spare less time to medical representatives in personal visits.

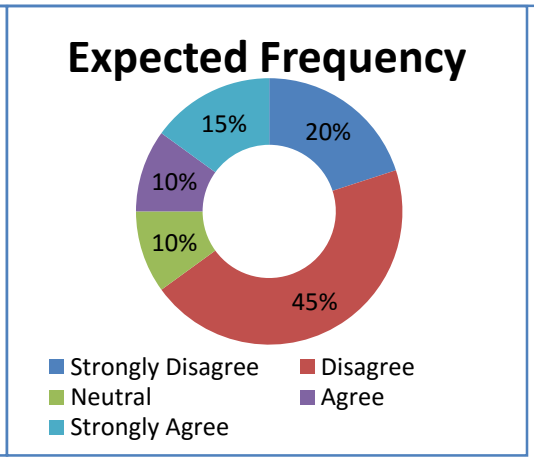
Q22. Do you think Indian doctors are technology savvy (they use all the modern electronic gadgets for communication)?

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Frequency	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Collected Data	117	232	67	48	73
f0	22%	43%	12%	9%	14%
fe	20%	45%	10%	10%	15%







Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: f0	
H0:	The observed distribution of responses is same as expected distribution.
H1:	The observed distribution of responses is not same as expected distribution.

Response	Expected Proportion	Expected Frequency fe
Strongly Disagree	0.2	107.4
Disagree	0.45	241.7
Neutral	0.1	53.7
Agree	0.1	53.7
Strongly Agree	0.15	80.55

Response	f0	fe	(f0-fe)^2/fe
Strongly Disagree	117	107.4	0.86
Disagree	232	241.7	0.39
Neutral	67	53.7	3.29
Agree	48	53.7	0.61
Strongly Agree	73	80.6	0.71
Total	**537**	**537**	**5.85**

Alpha =	5%
k = No. of points on Likert Scale	5
DF = (k-1)	4
Chi Square (Tab)	9.49

Chi Square (Obs.)	5.85

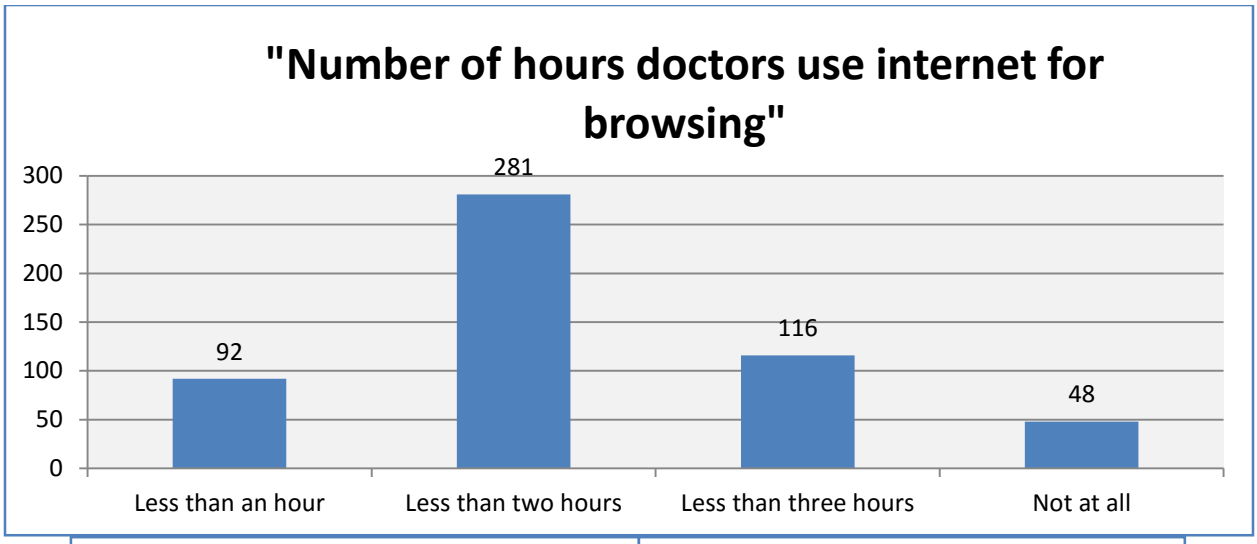
Conclusion:

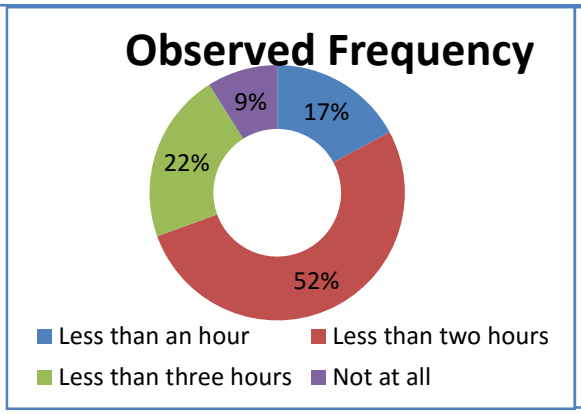
Since observed value of Chi Square is not greater than tabled value of Chi Square we do not reject H0 and conclude that Observed frequencies are same as estimated frequencies. As we can observe around 65% of respondent do believe that, Indian doctors are not technology savvy (they do not use all the modern electronic gadgets for communication).

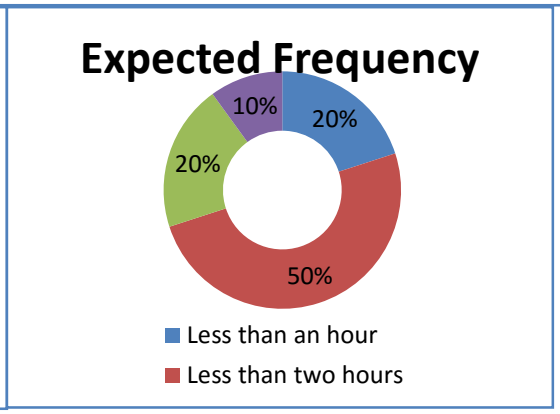
Q23. According to you number of hours doctors use internet for browsing in a day?

- Less than an hour
- Less than two hours
- Less than three hours
- Not at all

Frequency	Less than an hour	Less than two hours	Less than three hours	Not at all
Collected Data	92	281	116	48
f0	17%	52%	22%	9%
Fe	20%	50%	20%	10%







Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: f0
H0: The observed distribution of responses is same as expected distribution.
H1: The observed distribution of responses is not same as expected distribution.

Response	Expected Proportion	Expected Frequency fe
Less than an hour	0.2	107.4
Less than two hours	0.50	268.5
Less than three hours	0.2	107.4
Not at all	0.1	53.7

Response	f0	fe	(f0-fe)^2/fe
Less than an hour	92	107.4	2.21
Less than two hours	281	268.5	0.58
Less than three hours	116	107.4	0.69
Not at all	48	53.7	0.61
Total	**537**	**537**	**4.08**

Alpha =	5%
k = No. of points on Likert Scale	4
DF = (k-1)	3
Chi Square (Tab)	7.81
Chi Square (Obs.)	4.08

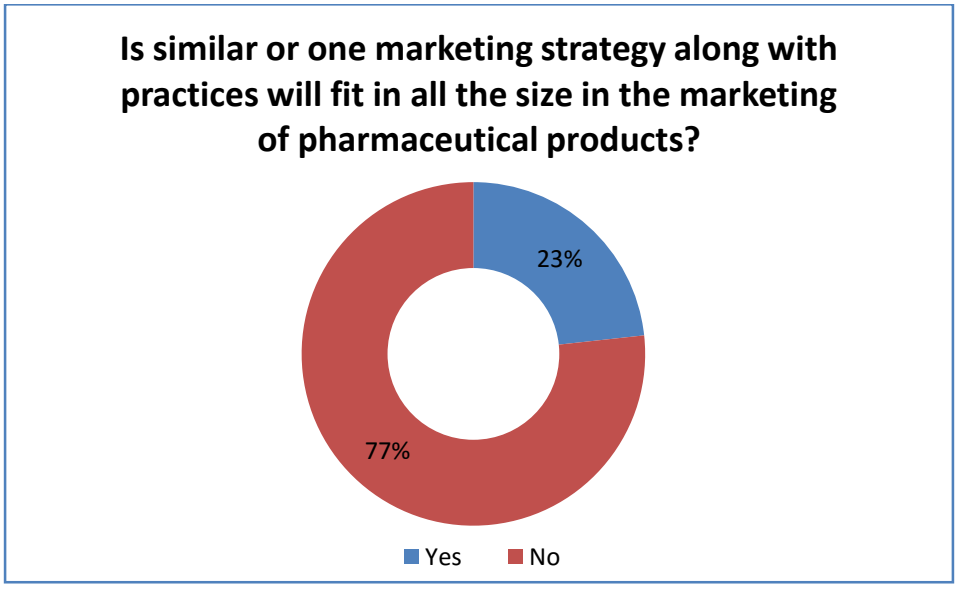
Conclusion:

Since observed value of Chi Square is not greater than tabled value of Chi Square we do not reject H0 and conclude that Observed frequencies are same as estimated frequencies. As we can conclude that around 50% of respondent do believe that, Indian doctors are using internet for less than 2 hours a day and 20 % are using internet for less than 1 hour a day.

Q24. Do you consider similar or one marketing strategy along with practices will fit in all the size in the marketing of pharmaceutical products? [*Please tick one*]

Yes ☐ No ☐

Frequency	Yes	No
Collected Data	125	412
%	0.23	0.77



Ho:	Proportion of respondent who believe that, similar or one marketing strategy along with practices will fit in all the size in the marketing of Pharmaceutical products is equal to 25%
H1:	Proportion of respondent who believe that, similar or one marketing strategy along with practices will fit in all the size in the marketing of Pharmaceutical products is not equal to 25%

p^ =	388/537	0.23
q^ =	1-p^	0.77
p =	Population proportion (Yes)	0.25
q =	Population proportion (No)	0.75
Alpha	Type I error	5%
Z Cal =	(p^-p)/sqrt((p*q)/n	-0.92
Z tab =	Normsniv(0.05)	+/-1.64

Conclusion:

As calculated value of test statistics -0.92 is between +/- 1.64 we conclude that Proportion of respondent who believe that, similar or one marketing strategy along with practices will fit in all the size in the marketing of Pharmaceutical products is equal to 25%. Which indicates, proportion of people who believes similar or one marketing strategy along with practices will not fit in all the size in the marketing of pharmaceutical products is around 75%.

Q25. Companies should decide their marketing strategy on the basis of followings as priority

[*Put 1 as lest important and 5 as most important*]

a) Financial strength of the company	
b) Type of products the company is having	
c) Number of field force company is having	
d) Present relationship with the customer	
e) Number of new product introduction in the financial year	

Factor Analysis: a, b, c, d, e

Principal Component Factor Analysis of the Correlation Matrix

Unrotated Factor Loadings and Communalities

Variable	Factor1	Factor2	Communality
a	-0.706	-0.109	0.510
b	0.196	0.972	0.983
c	0.637	-0.745	0.961
d	0.765	0.568	0.907
e	-0.817	0.277	0.745
Variance	2.1940	1.9101	4.1040
% Var	0.439	0.382	0.821

Rotated Factor Loadings and Communalities
Varimax Rotation

Variable	Factor1	Factor2	Communality
a	0.545	0.461	0.510
b	0.340	-0.931	0.983
c	-0.932	0.303	0.961
d	-0.356	-0.883	0.907
e	0.842	0.190	0.745
Variance	2.1166	1.9874	4.1040
% Var	0.423	0.397	0.821

Sorted Rotated Factor Loadings and Communalities

Variable	Factor1	Factor2	Communality
c	-0.932	0.303	0.961
e	0.842	0.190	0.745
a	0.545	0.461	0.510
b	0.340	-0.931	0.983
d	-0.356	-0.883	0.907

Variance	2.1166	1.9874	4.1040
% Var	0.423	0.397	0.821

Factor Score Coefficients

Variable	Factor1	Factor2
a	-0.080	0.158
b	0.049	-0.506
c	-0.942	0.093
d	-0.417	-0.485
e	-0.000	-0.000

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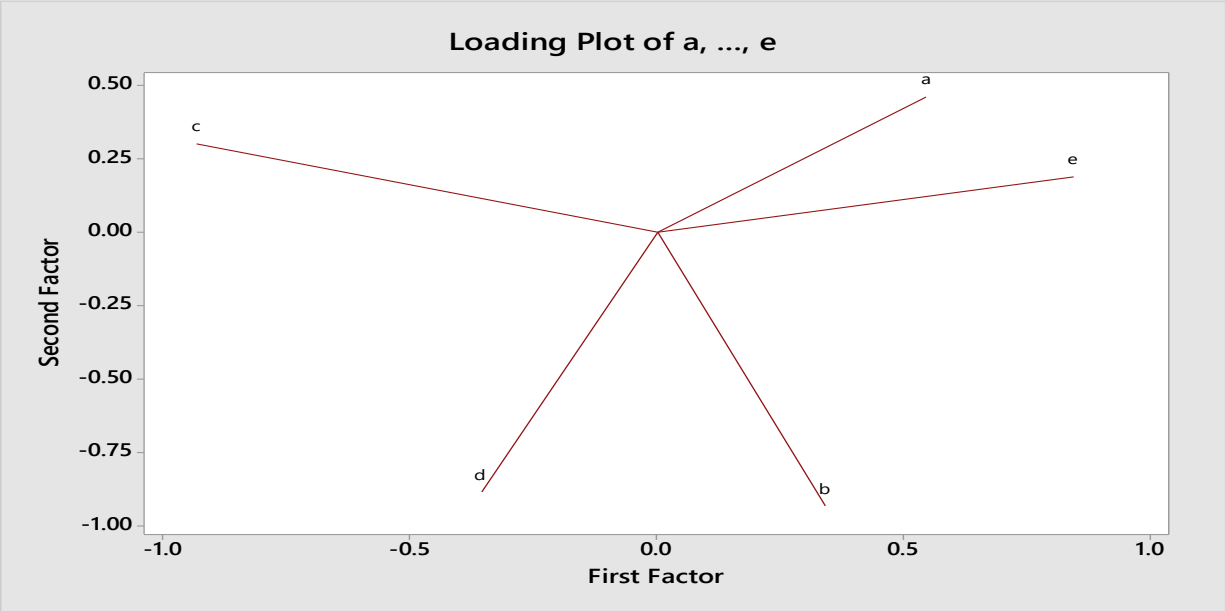


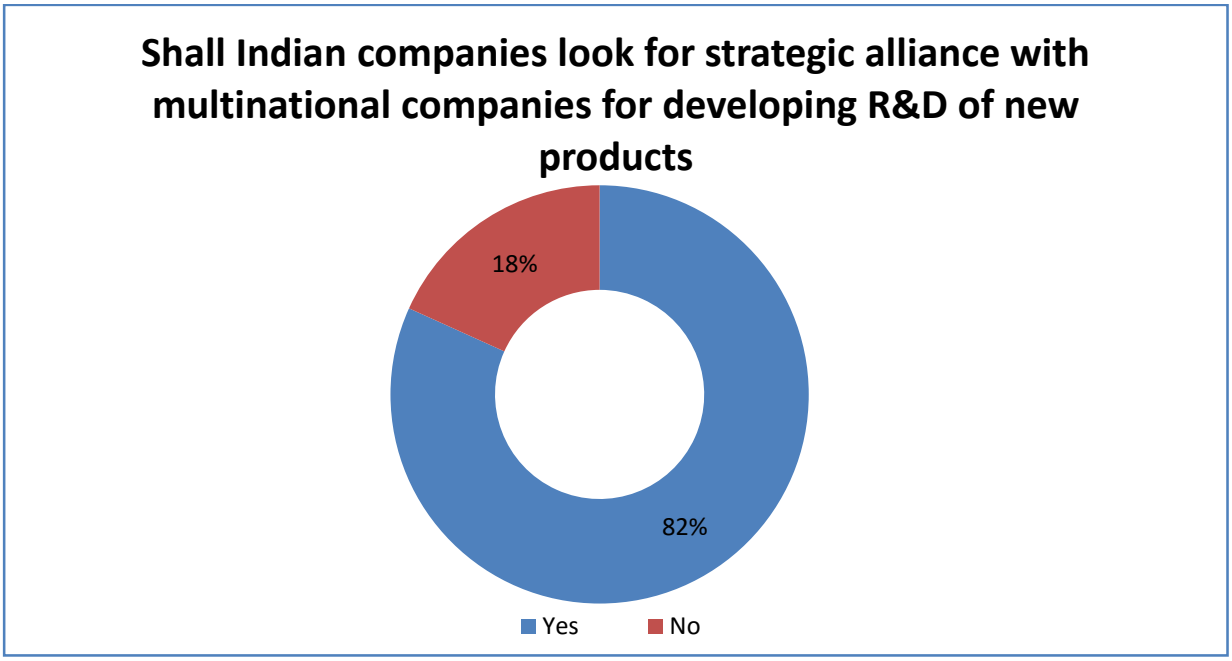
Conclusion:

- Overall two factors together explain 82.1% of variation.
- First factor positively loads on, number of new product introduction in the financial year (0.842) and financial strength of the company (0.461). Overall we may consider factor 1 as factor of "Financial strength of a company and R&D". R&D is positively correlated to company's financial strength.
- Second factor positively loads on, Financial strength of a company (0.461) and Number of field force of the company (0.303). Overall we may consider factor 2 as factor of "financial strength of a company and strength in terms of field force". Field force strength is positively correlated to company's financial strength.

Q26. Shall Indian companies look for strategic alliance with multinational companies for developing expertise in research and development of new products? [*Please tick one*]

Yes ☐ No ☐

Frequency	Yes	No
Collected Data	439	98
%	0.82	0.18



Ho:	Proportion of respondent who believe that, Indian companies should look for strategic alliance with multinational companies for developing expertise in research and development of new products is 80%
H1:	Proportion of respondent who believe that, Indian companies should look for strategic alliance with multinational companies for developing expertise in research and development of new products is not equal to 80%

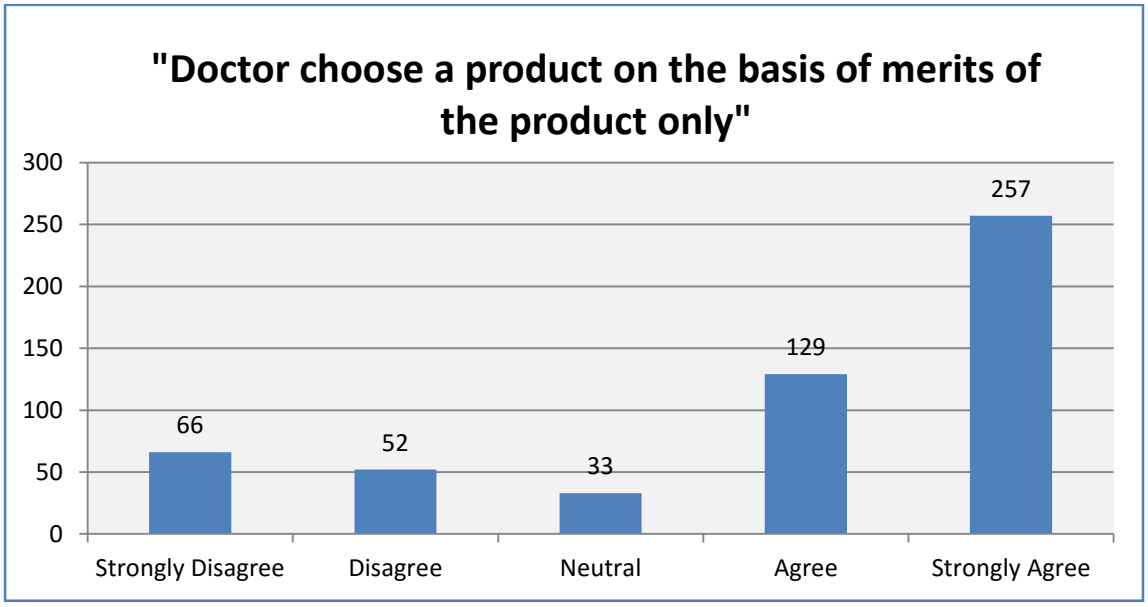
p^ =	388/537	0.82
q^ =	1-p^	0.18
p =	Population proportion (Yes)	0.80
q =	Population proportion (No)	0.20
Alpha	Type I error	5%
Z Cal =	(p^-p)/sqrt((p*q)/n	1.01
Z tab =	Normsniv(0.05)	+/-1.64

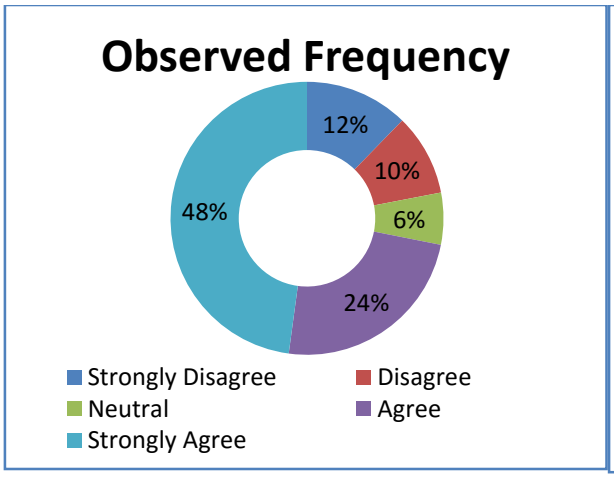
Conclusion:
As calculated value of test statistics +1.01 is between +/- 1.64 we conclude that Proportion of respondent who believes that, Indian companies should look for strategic alliance with multinational companies for developing expertise in research and development of new products is equal to 80%

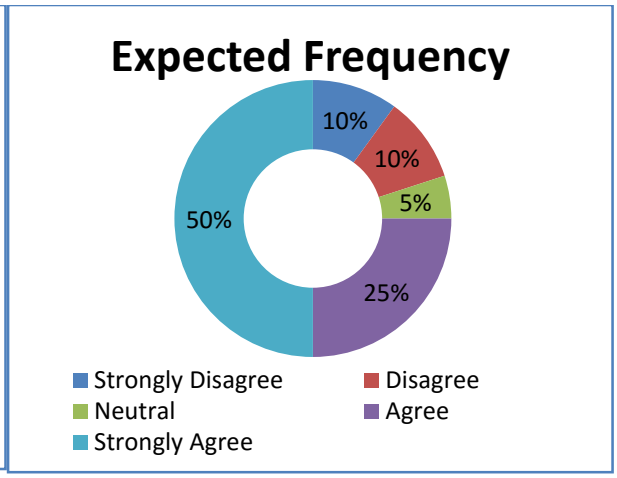
Q27. Doctors choose a product for prescription on the basis of merit of the product only.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Frequency	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Collected Data	66	52	33	129	257
f0	12%	10%	6%	24%	48%
fe	10%	10%	5%	25%	50%







Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: f0	
H0:	The observed distribution of responses is same as expected distribution.
H1:	The observed distribution of responses is not same as expected distribution.

Response	Expected Proportion	Expected Frequency fe
Strongly Disagree	0.1	53.7
Disagree	0.10	53.7
Neutral	0.05	26.85
Agree	0.25	134.25
Strongly Agree	0.5	268.5

Response	f0	fe	(f0-fe)^2/fe
Strongly Disagree	66	53.7	2.82
Disagree	52	53.7	0.05
Neutral	33	26.9	1.41
Agree	129	134.3	0.21
Strongly Agree	257	268.5	0.49
Total	**537**	**537**	**4.98**

Alpha =	5%
k = No. of points on Likert Scale	5
DF = (k-1)	4
Chi Square (Tab)	9.49

Chi Square (Obs.)	4.98

Conclusion:
Since observed value of Chi Square is not greater than tabled value of Chi Square we do not reject H0 and conclude that Observed frequencies are same as estimated frequencies. As we can observe around 75% of respondent do believe that, Doctor choose a product for prescription on the basis of merit of the product only.

Q28. Rate following factors as per your choice which can influence a doctor in selecting a product for prescription.

[*Please put 1 as least important point and 5 as most important*]

a) Product's price	
b) Brand Name of a product	
c) Quality of the product	
d) Newness of the product in the category or therapeutic segment	
e) Marketing aggressiveness of the company	

Factor Analysis: a, b, c, d, e

Principal Component Factor Analysis of the Correlation Matrix

Unrotated Factor Loadings and Communalities

Variable	Factor1	Factor2	Communality
a	-0.948	-0.191	0.936
b	0.948	0.191	0.936
c	-0.873	0.387	0.912
d	0.533	0.771	0.878
e	0.508	-0.859	0.995
Variance	3.1025	1.5543	4.6568
% Var	0.621	0.311	0.931

Rotated Factor Loadings and Communalities
Varimax Rotation

Variable	Factor1	Factor2	Communality
a	0.895	-0.366	0.936
b	-0.895	0.366	0.936
c	0.512	-0.806	0.912
d	-0.871	-0.346	0.878
e	0.053	0.996	0.995

Variance	2.6269	2.0299	4.6568
% Var	0.525	0.406	0.931

Sorted Rotated Factor Loadings and Communalities

Variable	Factor1	Factor2	Communality
b	-0.895	0.366	0.936
a	0.895	-0.366	0.936
d	-0.871	-0.346	0.878
e	0.053	0.996	0.995
c	0.512	-0.806	0.912

Variance	2.6269	2.0299	4.6568
% Var	0.525	0.406	0.931

Factor Score Coefficients

Variable	Factor1	Factor2
a	0.645	-0.134
b	0.000	-0.000
c	-0.068	-0.895
d	-0.525	-0.664
e	-0.000	-0.000

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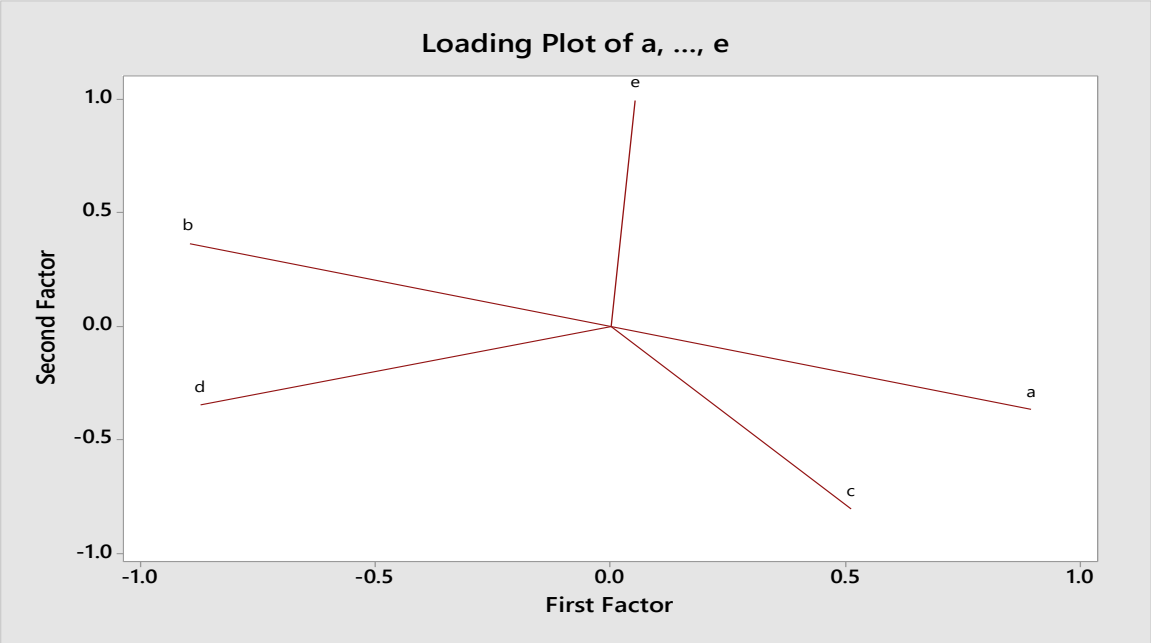

Conclusion:

- Overall two factors together explain 93.1% of variation.
- First factor positively loads on, Product's price (0.895) and Quality of product (0.366). Overall we may consider factor 1 as factor of "Quality products and lower price". Doctors always prefer products which are of high quality and low price.
- Second factor positively loads on, marketing aggressiveness of the company (0.996) and Brand name of a product (0.366). Overall we may consider factor 2 as factor of "brand image of a product". Aggressive marketing is always positively correlated with a brand image of a product.

Q29. Rate following factors as per your choice which can influence a doctor in selecting a product for prescription.

[*Please put 1 as least important point and 5 as most important*]

a) Company's relationship with the doctor	
b) Product's availability in the market	
c) Packaging of the product	
d) Company behind the product	
e) Available scientific information of the product	

Factor Analysis: a, b, c, d, e

Principal Component Factor Analysis of the Correlation Matrix

Unrotated Factor Loadings and Communalities

Variable	Factor1	Factor2	Communality
a	0.689	-0.684	0.942
b	-0.958	0.227	0.969
c	0.621	0.704	0.881
d	-0.948	-0.239	0.956
e	0.936	0.027	0.878
Variance	3.5536	1.0723	4.6259
% Var	0.711	0.214	0.925

Rotated Factor Loadings and Communalities
Varimax Rotation

Variable	Factor1	Factor2	Communality
a	-0.970	0.034	0.942
b	0.857	0.484	0.969
c	0.022	-0.938	0.881
d	0.533	0.820	0.956
e	-0.669	-0.656	0.878
Variance	2.4084	2.2175	4.6259
% Var	0.482	0.444	0.925

Sorted Rotated Factor Loadings and Communalities

Variable	Factor1	Factor2	Communality
a	-0.970	0.034	0.942
b	0.857	0.484	0.969
e	-0.669	-0.656	0.878
c	0.022	-0.938	0.881
d	0.533	0.820	0.956
Variance	2.4084	2.2175	4.6259
% Var	0.482	0.444	0.925

Factor Score Coefficients

Variable	Factor1	Factor2
a	-0.488	0.434
b	0.478	0.180
c	0.405	-0.502
d	0.202	0.521
e	0.000	0.000

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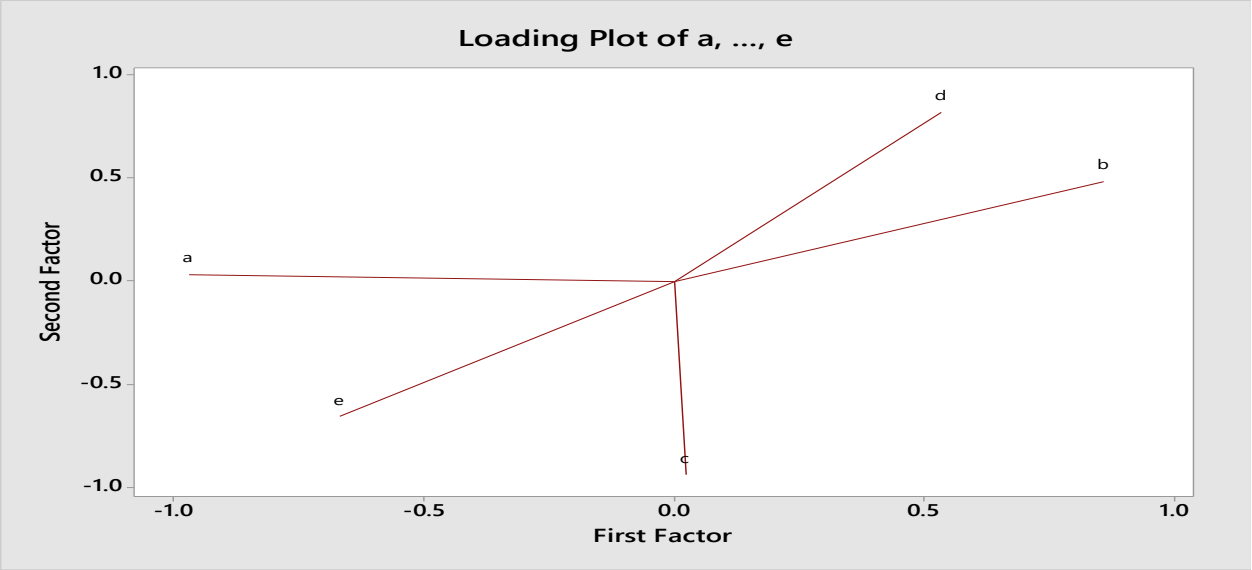


Conclusion:

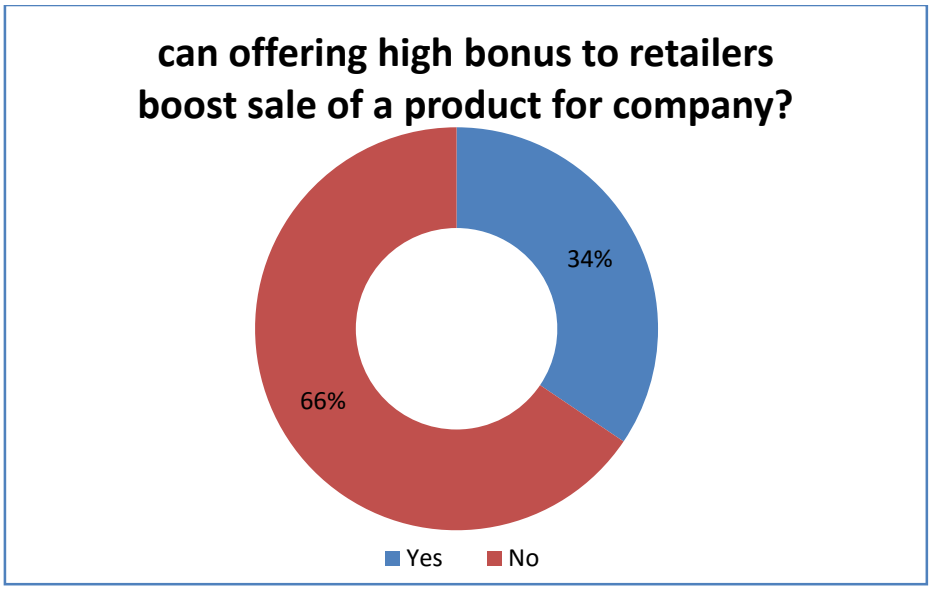
- Overall two factors together explain 92.5% of variation.
- First and Second factor positively loads on, Product's availability in the market (0.857 & 0.484) and Company behind the product (0.533 & 0.820). Overall we may consider factor 1 and 2 as factor of "Availability of product and its brand image". Brand image and availability are positively correlated; as well known products are spread across market.

Q30. Do you think offering high bonus to retailers can boost sale of a product for company?

(With term bonus and trade bonus we mean here free units offer to the dealers/retailers in various products of the company) [*Please tick one*]

Yes ☐ No ☐

Frequency	Yes	No
Collected Data	185	352
%	0.34	0.66



o:	Proportion of respondent who believe that, offering high bonus to retailers can boost sale of a product for company is equal to 30%
H1:	Proportion of respondent who believe that, offering high bonus to retailers can boost sale of a product for company is not equal to 30%

p^ =	367/537	0.34
q^ =	1-p^	0.66
p =	Population proportion (Yes)	0.30
q =	Population proportion (No)	0.70
Alpha	Type I error	5%
Z Cal =	(p^-p)/sqrt((p*q)/n	2.25
Z tab =	Normsniv(0.05)	+/-1.64

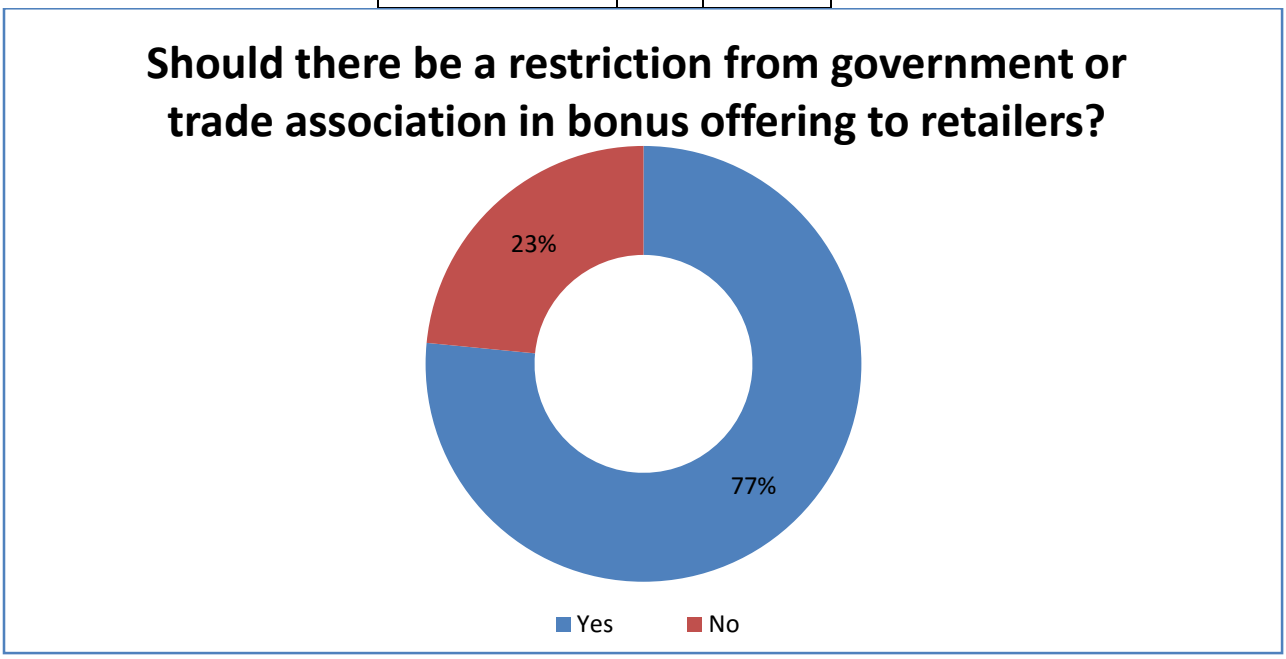
Conclusion:

As calculated value of test statistics 2.25 which is greater than 1.64 so we conclude that Proportion of respondent who believe that, offering high bonus to retailers can boost sale of a product for company is not equal to 30%

Q31. Should there be restriction from government or trade association in bonus offering to retailers? [*Please tick one*]

Yes ☐ No ☐

Frequency	Yes	No
Collected Data	411	126
%	0.77	0.23



Ho:	Proportion of respondent who believe that, there should be restriction from government or trade association in bonus offering to retailers is equal to 75%
H1:	Proportion of respondent who believe that, there should be restriction from government or trade association in bonus offering to retailers is not equal to 75%

p^ =	411/537	0.77
q^ =	1-p^	0.23
p =	Population proportion (Yes)	0.75
q =	Population proportion (No)	0.25
Alpha	Type I error	5%
Z Cal =	(p^-p)/sqrt((p*q)/n	0.82
Z tab =	Normsniv(0.05)	+/-1.64

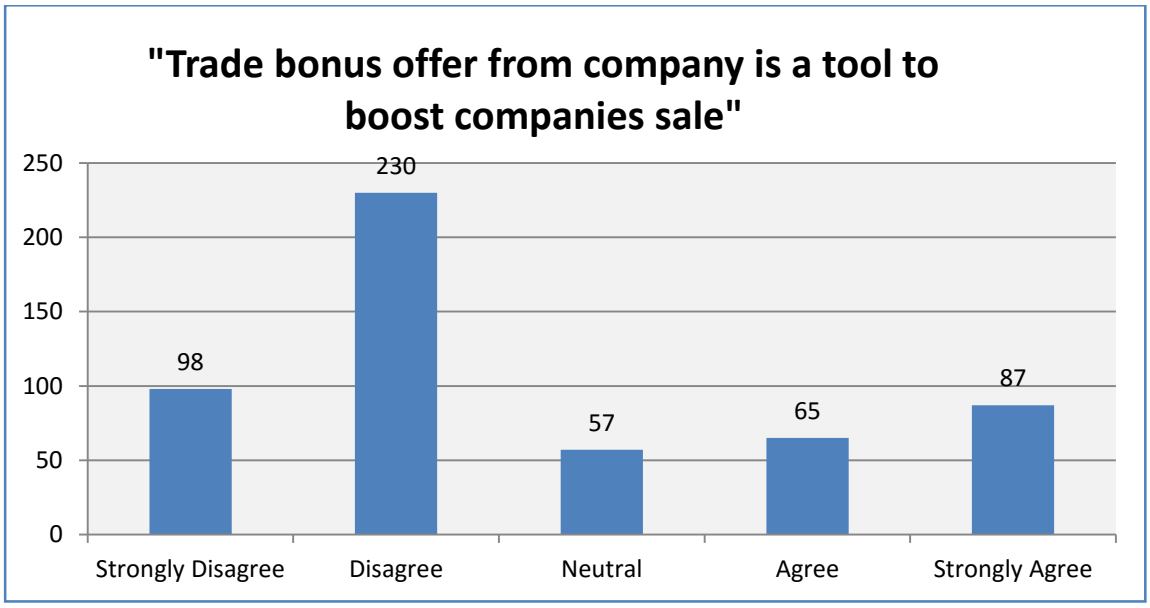
Conclusion:

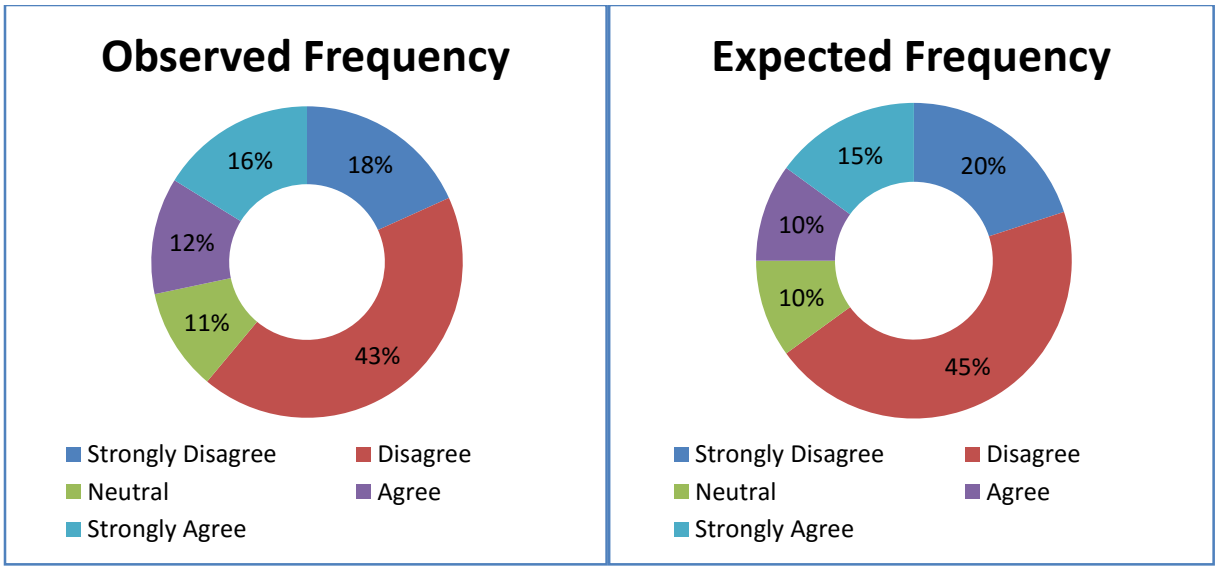
As calculated value of test statistics +0.82 is between +/- 1.64 we conclude that Proportion of respondent who believes that, there should be restriction from government or trade association in bonus offering to retailers around 75%

Q32. Trade bonus offer from company is a tool to boost companies' sale in the market

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Frequency	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Collected Data	98	230	57	65	87
f0	18%	43%	11%	12%	16%
fe	20%	45%	10%	10%	15%





Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: f0	
H0:	The observed distribution of responses is same as expected distribution.
H1:	The observed distribution of responses is not same as expected distribution.

Response	Expected Proportion	Expected Frequency fe
Strongly Disagree	0.2	107.4
Disagree	0.45	241.7
Neutral	0.1	53.7
Agree	0.1	53.7
Strongly Agree	0.15	80.55

Response	f0	fe	(f0-fe)^2/fe
Strongly Disagree	98	107.4	0.82
Disagree	230	241.7	0.56
Neutral	57	53.7	0.20
Agree	65	53.7	2.38
Strongly Agree	87	80.6	0.52
Total	**537**	**537**	**4.48**

Alpha =	5%
k = No. of points on Likert Scale	5
DF = (k-1)	4
Chi Square (Tab)	9.49

Chi Square (Obs.)	4.48

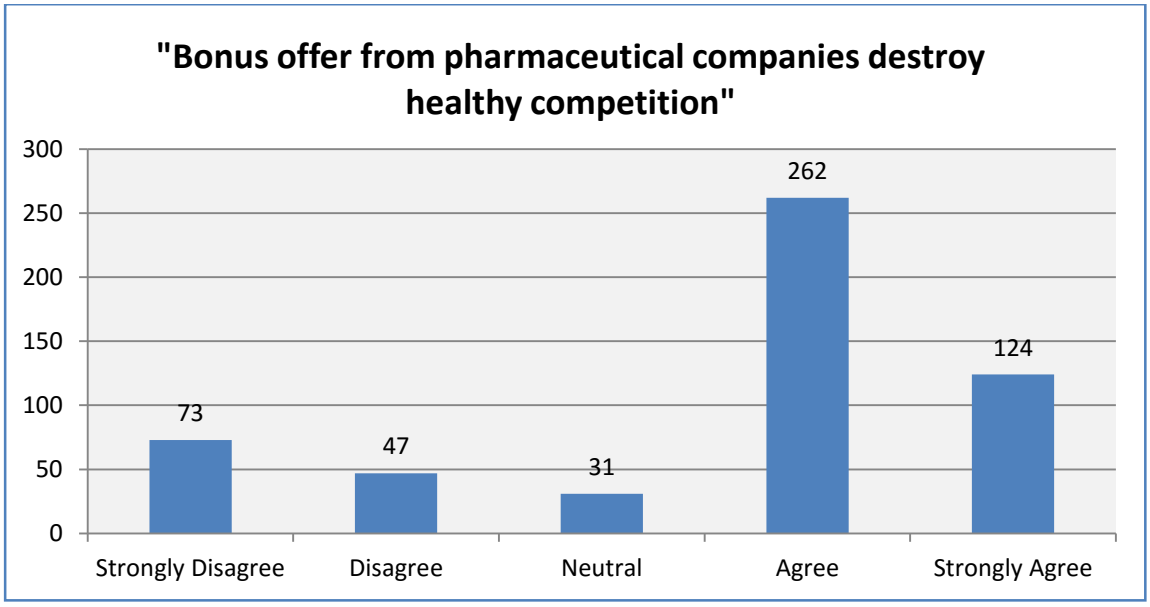
Conclusion:

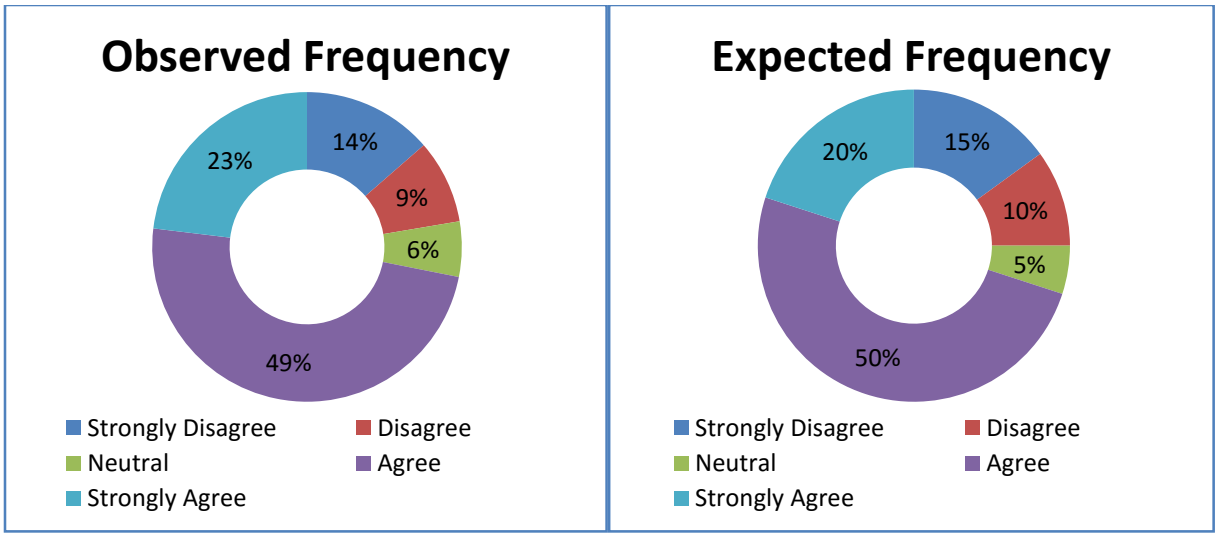
Since observed value of Chi Square is not greater than tabled value of Chi Square we do not reject H0 and conclude that Observed frequencies are same as estimated frequencies. As we can observe around 65% of respondent do believe that, trade bonus offer from company does not help to boost company's sale in the market.

Q33. Bonus offer from pharmaceutical companies destroy healthy competition in the market place.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

Frequency	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Collected Data	73	47	31	262	124
f0	14%	9%	6%	49%	23%
fe	15%	10%	5%	50%	20%





Chi-Square Goodness-of-Fit Test for Observed Counts in Variable: f0	
H0:	The observed distribution of responses is same as expected distribution.
H1:	The observed distribution of responses is not same as expected distribution.

Response	Expected Proportion	Expected Frequency fe
Strongly Disagree	0.15	80.6
Disagree	0.1	53.7
Neutral	0.05	26.85
Agree	0.5	268.5
Strongly Agree	0.2	107.4

Response	f0	fe	(f0-fe)^2/fe
Strongly Disagree	73	80.6	0.71
Disagree	47	53.7	0.84
Neutral	31	26.9	0.64
Agree	262	268.5	0.16
Strongly Agree	124	107.4	2.57
Total	**537**	**537**	**4.91**

Alpha =	5%
k = No. of points on Likert Scale	5
DF = (k-1)	4
Chi Square (Tab)	9.49

Chi Square (Obs.)	4.91

Conclusion:

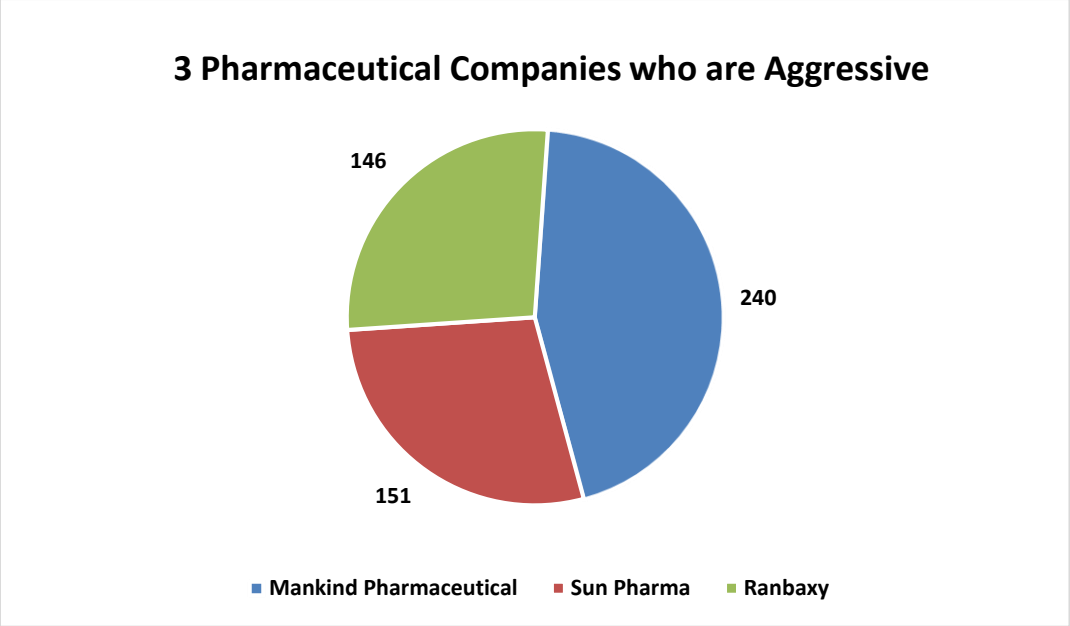
Since observed value of Chi Square is not greater than tabled value of Chi Square we do not reject H0 and conclude that Observed frequencies are same as estimated frequencies. As we can observe around 70% of respondent do believe that, bonus offer from pharmaceutical companies destroy healthy competition in the market place.

Q34. Please name 3 pharmaceutical companies whom you consider to be most aggressive in their marketing practices in India.

a)_____

b)_____

c)_____



5.3 Research Questions:

Human beings are now more civilized with ease and simplicity supported by technology might be environmental load is throwing major challenge to the innovators so go green slogan

emerging with a pace. Under this context researcher tried to raise some of the question with adequate scientific evidence supported by statistical comparison to draw a rational conclusion.

Questions are associated with past, present and future reason being industry had a different shape, today quite mature with complexity while expectations are dynamics will change further.

Major question under this research is establishing the need of the study with comparison to industry dynamics in developed world and finally how a business decision model can be constructed which can fit the best in Indian context with sustainability. So, exit from business also has been considered in the proposed model as business decision and evaluation through research question.