INDIAN INSTITUTE OF TECHNOLOGY, KANPUR
Department of Industrial and Management Engineering

MBA633A
MARKETING RESEARCH

Vodafone Idea Limited
An Aditya Birla Group & Vodafone Partnership

Project Report

A Market Research project on Vodafone Idea Ltd.

Submitted to:
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PROBLEM DEFINITION

Vodafone is British multinational telecommunications conglomerate with more than 470 Million customers across the globe. It is currently operating in India after merger with Aditya Birla Group's Idea Cellular Limited, as Vodafone Idea Limited. As of November 2018, Vodafone Idea has 35.94% market share in India with 421.076 million subscribers, making it the largest mobile telecommunications network in India and second largest mobile telecommunications network in the world. Although company is currently in leadership position but it is facing fierce competition from old rival Airtel as well as emerging competitor Jio, which has conquered significant market share in very small span of time. Company is struggling to retain his old customers and apparently failing to get new customers in comparison with competitors.

Management Decision Problem

What steps should the management take to increase or retain its customers amidst fierce competition in Indian Telecommunication market?

Market Research Problem

- To find out the factors which are responsible for customer churning.
- To find out the criteria by which a customer chooses a network over another.
- To find out how good is the price structure of the plans when compared with the competitors.
- To find out which segment of customers are the most loyal.

APPROACH TO THE PROBLEM

Focus Group and Personal Interviews

The qualitative techniques of market research such as interview with decision makers and focus group were conducted to gain a first-hand insight of the problem. Attendees of the focus group was a bunch of our classmates who represent the cities that we focused on in this research. We also had a telephonic discussion with one of the company executives regarding the research problem to get the companies POV.

Theoretical Frameworks

The motive behind the conduction of this research is to find the parameters that an individual deems important for selecting a telecommunication network. Also, we aim to provide our analysis to the management that can be useful for it to formulate a solution to the management decision problem. The underlying assumption is that there are various factors that motivate a person's choice.

a. **Verbal Model**
This model says that the awareness about the different telecommunication network is primary and a person's evaluation of a network under the light of various judgement criterion comes next. His/her judgement on those criterion decides his/her preference of a particular network over another.

b. **Graphical Model**
This model designs an interrelation relation between myriad variables going in the research model. The models complement each other to understand the causality of the factors of selecting any food joint by helping in identification of research questions and hypotheses.

See **Appendix 1** for Graphical Model we are employing in our research.

Research Questions and Hypotheses

S. No.	Research Question	Hypothesis
1	Can customers be segmented based on psychographic characteristics?	There are distinct segments of customers.
2		Each segment is motivated to use a network for a different reason
3		Brand Loyalty is high among Vodafone customers in all segments.
4	What are the possible reasons for customer churn?	Customer dissatisfaction towards Vodafone
5		Emergence of Jio

Factors Influencing the Research Design:

The factors influencing the Research Design of the problem in hand are:

1.Availability of Secondary Data.
2. Proper choosing of variables addressing our Market Research Problem.
3. Unbiased answers of survey takers.

RESEARCH DESIGN

Survey Preparation Method:

The questions of the survey were framed using focus group discussions in which the participants shared about the features that they consider while selecting telecom service. **Focus group** comprised PG students. There were 8 students, 5 males and 3 females.

Scaling techniques: The scaling technique used in the survey are Rank order comparative scaling for understanding the choices made by a person on several factors. Rank order scaling is used when telecom companies are ranked according to the different criteria mentioned in the questions. Five point Forced rating scales (non-comparative) are used, which can be easily ensured in the **google form** that we used to conduct the survey to understand the various service provided by Vodafone Idea ltd

Questionnaire development and pretesting:
The questions were structured to avoid ambiguity and were kept neutral in nature to ensure the respondents are unbiased. **Pretesting** of the questionnaire was done on a sample of 5 students which helped in making the survey questionnaire more objective and precise.
See **Appendix 2**for Questionnaire.

Sampling techniques:
So, the target audience is from four major states in India viz Tamil Nadu, West Bengal, Uttar Pradesh and Gujarat. The **sample size collected is 444**. Sample technique was completely random where **Sampling frame** is active social media user account. Reward in paytm/UPI was offered to randomly selected respondents for filling the survey.

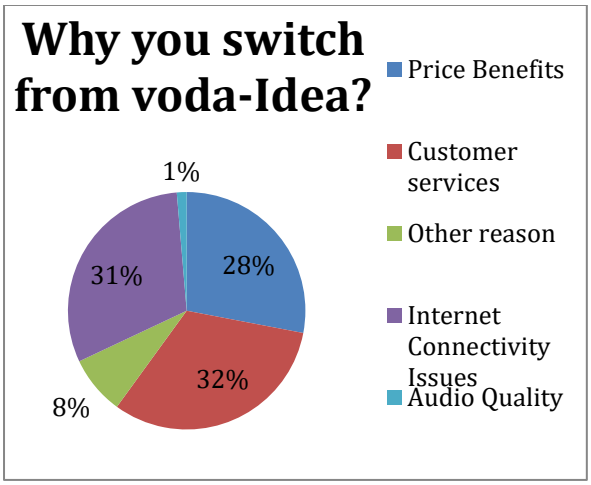
Fieldwork:
The survey has been administered through online mode. We deployed it in a Google form. The online mode was chosen for the convenience of the customer as the open internet Google form was floated because it can be easily accessed with a smartphone and works even during weak network.

DATA ANALYSIS

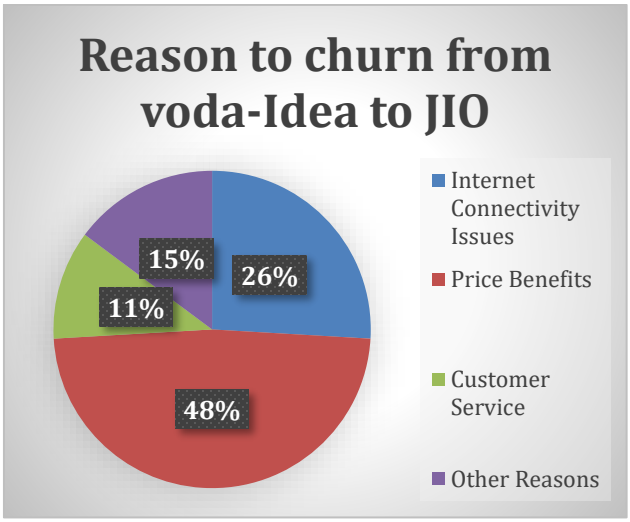
First, we filter out respondent based on the primary sim card that they are using currently. Those who were using Vodafone-idea as their primary sim card were asked to rate Audio call quality, Internet speed, how cost effective is the existing plans and How satisfied are they with the customer service in a scale of 1-5. Where 1 stands for very bad service and 5 stands for very good service. Respondent were asked to rate.

We found that the existing plans received a neutral rating of 3.06 followed by customer services which received an average rating of 3.50. So the current customer are not very satisfied with the customer services and cost of plans which support our hypothesis for customer churning.

Audio call Quality	Internet speed	Cost effective plan	Customer service
4.12	3.71	3.06	3.50



For the other respondents who were not using Vodafone-Idea as their primary sim card currently we asked if they had ever used Vodafone-Idea. The people who responded positive were further asked Why you switch to another telecom provider. 28% of the respondent marked Price benefits and 32% of them marked customer services as their major reasons to switch.



Also, analysis was done to know why people who have ever used Vodafone-Idea but now using JIO. The results were in tandem with above observations and we concluded that the emergence of JIO arouse a sensation of price benefits to existing Vodafone-Idea customers which resulted in customer churning.

1**. Occupation vs Recommendation Cross Tabulation:**

In this test we tried to test the null hypothesis that occupation does not affect brand loyalty. But the chi- square test results proved it statistically that indeed it does affect the brand loyalty and we had to reject the null hypothesis.

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	20.903[a]	8	.007
Likelihood Ratio	17.313	8	.027
N of Valid Cases	444		

		Recommend					Total
		1.0	2.0	3.0	4.0	5.0	
Occupation	Self Employed	10	7	8	8	5	38
	Student	25	55	72	98	48	298
	Working Professional	8	32	20	28	20	108
Total		43	94	100	134	73	444

2. Gender vs Preference cross tabulation:

Here we tested the null hypothesis that male and female have same preferences, when it comes to type of service preferred and we rejected this null hypothesis statistically using chi-square test. So there is an association between gender and service preference.

		Pref1			Total
		Call	Internet	sms	
Gender	Female	12	52	7	71
	Male	120	195	58	373
Total		132	247	65	444

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.708[a]	2	.005
Likelihood Ratio	11.215	2	.004
N of Valid Cases	444		

3. Occupation vs Preference cross tabulation:

Here we tried testing the null hypothesis that occupation has no effect on preferences. But surprisingly the chi-square test showed that it does effect and there is an association between them.

		Pref			Total
		Call	Internet	sms	
Occupation	Self Employed	18	11	9	38
	Student	90	168	40	298
	Working Professional	24	68	16	108
Total		132	247	65	444

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14.411[a]	4	.006
Likelihood Ratio	14.667	4	.005
N of Valid Cases	444		

4. States vs Internet rating:

Here we tried to test if the customer's behavior towards Internet service depends on demographics or not. Surprising after performing ANOVA test, we found that all states have different rating means and company needs to come up with policies according to that particular region rather than going for general policies**.**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.333	3	1.111	1.520	.002..
Within Groups	90.667	124	.731		
Total	94.000	127			

5.Age vs Preference Cross Tabulation:

Here null hypothesis is that there is no relationship between Age and preference. Chi-square test statistically reject the null hypothesis.so there is a relationship between these two and age does affect preference of services.

Count		Preference			Total
		Call	Internet	sms	
Age	10-19	3	0	3	6
	20-25	113	220	53	386
	26-30	8	16	8	32
	31-40	4	12	0	16
	40-50	4	0	0	4
Total		132	248	64	444

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	25.549[a]	8	.001
Likelihood Ratio	28.710	8	.000
N of Valid Cases	444		

6. Age groups Vs Plan Ratings ANOVA TEST:

Here Null hypothesis is that there is no difference in impression about existing plans across age groups and we statistically reject the null hypothesis and we came to conclusion that current plans have mixed perspectives around different age groups and company must customize plans for each age group.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.052	2	.026	.020	.001
Within Groups	159.448	125	1.276		
Total	159.500	127			

7. Occupation Vs Audio Quality ANOVA TEST:

Here Null hypothesis is that there is no difference in impression about existing plans across customers having different occupation but here also we statistically reject the null hypothesis which strongly suggest to customize plans for each different type of user.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.656	2	.828	.656	.001
Within Groups	157.844	125	1.263		
Total	159.500	127			

8. States Vs Plan Ratings ANOVA TEST:

Here Null hypothesis is that Audio quality is same for different state. And we statistically reject null hypothesis i.e Audio quality vary from state to state.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.542	3	1.847	2.283	.002
Within Groups	100.333	124	.809		
Total	105.875	127			

Results

1.*CROSS TABULATION*: Occupation vs Recommendation.

The occupation of the respondent was broadly classified into 4 categories (Student, Working Professional, Self Employed, Others) and Recommendation was measured in a scale of 1-5 where 1 was Not Recommended and 5 was Highly Recommended. The null hypothesis was "Occupation does not affect Brand Loyalty". We performed chi-square test that statistically proved the null hypothesis to be wrong, that a person's occupation does affect the brand loyalty. So, we had to reject the null hypothesis.

2.*CROSS TABULATION*: Gender vs Preference:

The gender was a categorical variable with three categories (Male and Female) and Preference was also a categorical variable with three categories (Calls, Internet, SMS) . The null hypothesis was "Male and Female have the same preference". We again performed a chi-square test which proved our null hypothesis to be false.

3.*CROSS TABULATION*: Occupation vs Preference:

We already know about the variables Occupation and Preference from the above-mentioned results. This time we tried testing the null hypothesis "Occupation has no effect on Preference". We used chi-square test which failed to accept the null hypothesis. This matched our intuition that people in different occupation have different needs.

4.*ANOVA*: State vs Internet Rating:

Since we had distributed our forms to each of our own states, there were 4 different states of India (West Bengal, Tamilnadu , Uttar Pradesh and Gujarat) and Internet Rating was measured in a scale of 1-5 where 1 was Least Satisfied and 5 was Highly Satisfied. Surprisingly, after performing ANOVA test, we found that different states have different needs. So in-order to survive in this kind of a market a company should not promote a generalized pan India plan. Instead they should address the needs of different states with different plans.

5. *CROSS TABULATION*: Age vs Preference:

Age in years was again a categorical variable with 5 levels (10-19, 20-25, 26-30, 31-40, 40-50) and Preference was a categorical variable with 3 levels (Internet, Calls, SMS). After performing a chi-square test, we statistically failed to reject the null hypothesis that "Age has no effect on Preference".

6.*ANOVA*: Age vs Plans Being Economical:

Age like mentioned before was a categorical variable with 5 levels and Plans being Economical was measured in a scale of 1-5 where, 1 was Lease Economical and 5 was Highly Economical. Our Null hypothesis was "Existing plans of Vodafone-Idea Ltd. is equally economical for all age groups. The ANOVA test that we made on this hypothesis made us to reject the null hypothesis and hence proved the opposite that "Existing plans are not equally economical for all age groups".

7. *ANOVA*: Occupation vs Plans Being Economical:

The variables Occupation and Plans Being Economical have already been discussed earlier. The null hypothesis this time was "Existing plans of Vodafone-Idea Ltd. is equally economical for people with different occupation. After performing an ANOVA test on this null hypothesis, we statistically reject the null hypothesis and hence we proved that "The existing plans are equally economical for people with different occupation".

LIMITATIONS AND CAVEATS:

- Due to large Customer base of Vodafone-Idea, the true population size was very large. We collected only 444 samples from the populations which barely represents the population.

- Data errors due to question non-responses may exist. The number of respondents who choose to respond to a survey question may be different from those who chose not to respond, thus creating bias.

- Since we had written in the Disclaimer of the front page of the survey there could have been some respondents who would have answered the survey just for the "Lucky Draw". This would have created some biased responses on the questionnaire

CONCLUSION AND RECOMMENDATIONS:

- 81% of the users, who are currently using Vodafone-Idea, are their old customers. Which shows decline in number of new customers. To attract new customers, company should first segment the customers and target different segments with different type of advertisement/ offers based on their preference.

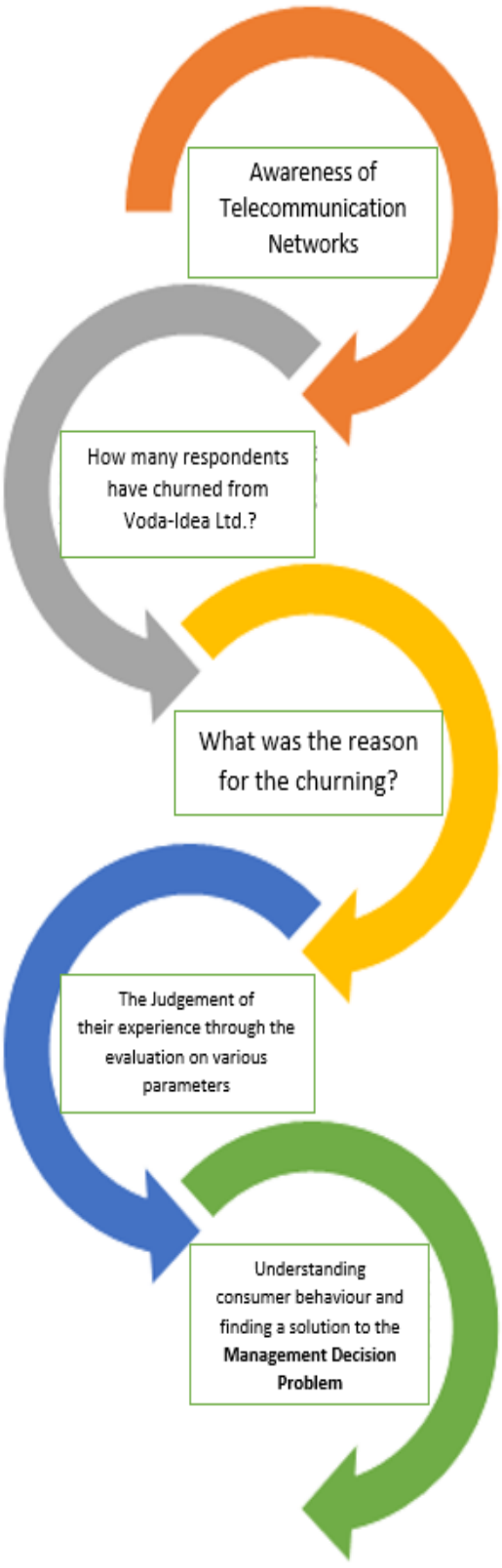
- 32% of the customers who have churned from Vodafone-Idea to other company marked customer service as the reason for churning while 28% have marked price benefits by competitors. This indicates that company must improve his customer service and also should come up with new, economical plans by keeping in mind about the popular plans of other rival companies.

- We analyzed effect of emergence of JIO separately and found that 48% of the customers switched to JIO from Vodafone-Idea just because of cost benefits, So company must understand that in a price sensitive market such as India, making economical plans is very essential.

Contribution:

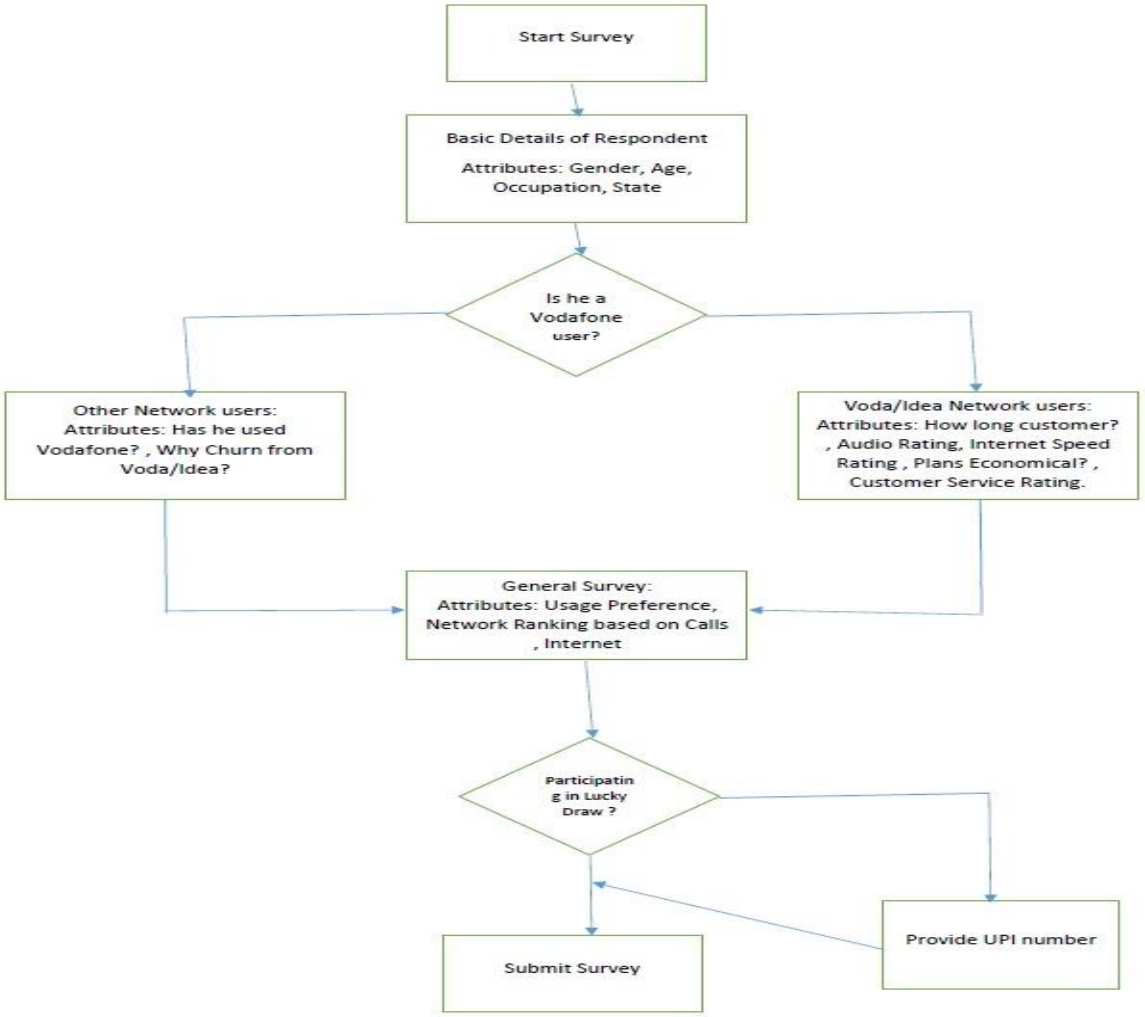
Danish: Data Analysis, Limitations, Rating:10/10
Dhruv: Data Analysis, Conclusions, Rating:10/10
Karthik: Approach to the problem, Results, Rating:10/10
Motilal: Research Design, Data Analysis, Rating:10/10

APPENDIX 1:


Awareness of Telecommunication Networks
How many respondents have churned from Voda-Idea Ltd.?
What was the reason for the churning?
The Judgement of their experience through the evaluation on various parameters
Understanding consumer behaviour and finding a solution to the **Management Decision Problem**

APPENDIX 2:

Dynamic Form Design:



IIT KANPUR : A Market Research on Vodafone Idea Ltd.

This survey is meant for research purpose as a part of our project on Market Research at IIT KANPUR. All the data provided by you will be kept confidential .

$$ Don't miss the Lucky Draw Question at the end of the form $$

Section 2 of 6

Common Questions

Description (optional)

What is your Gender? *

- Female
- Male
- Others

What is your age group? *

- 10-19
- 20-25
- 26-30
- 31-40
- 41-50
- 51+

What is your Occupation? *

- Student
- Working Professional
- Self Employed
- Retired

Which State in India do you belong to? *

Short answer text

Section 3 of 6

Telecom Service Provider Details:

Description (optional)

Which Telecom Service Provider do you currently use?(Your Primary Sim card based on usage) *

- Vodafone/Idea
- Airtel
- BSNL
- JIO
- Others

Which is your secondary sim card?(If any)

- Vodafone /Idea
- Airtel
- BSNL
- JIO
- Others

Section 4 of 6

Vodafone/Idea Users Survey:

Description (optional)

Since how long have you been using Vodafone/Idea? *

- 0-6 Months
- 7-12 Months
- 13-24 Months
- More than 2 years

How would you rate the audio call quality? *

	1	2	3	4	5	
Extremely Bad	○	○	○	○	○	Extremely Good

How would you rate the internet speed? *

	1	2	3	4	5	
Extremely Slow	○	○	○	○	○	Extremely Fast

How economical are the existing plans? *

	1	2	3	4	5	
Expensive	○	○	○	○	○	Cheap

On the scale of 5 how would you recommend Vodafone/Idea to others? *

	1	2	3	4	5	
Not at all Recommended	○	○	○	○	○	Highly Recommended

Do you think that there are sufficient number of Vodafone/Idea customer service centers in your locality. *

- ○ Yes
- ○ No

How would you rate customer service of Vodafone/Idea. *

	1	2	3	4	5	
Very Bad	○	○	○	○	○	Very Good

Section 5 of 6

Airtel/Jio/BSNL/Others :

Description (optional)

Have you ever used Vodafone/Idea? *

- ○ Yes
- ○ No

If Yes, why did you switch to other service provider?

- ○ Price Benefits
- ○ Internet Connectivity Issues
- ○ Audio Quality
- ○ Customer Service
- ○ Other Reasons

Section 6 of 6

General Survey:

Description (optional)

Rank the following parameters according to your usage. *

	Preference 1	Preference 2	Preference 3
Internet	○	○	○
Calls	○	○	○
SMS	○	○	○

Rank the following telecom service providers (based on Network Connectivity/Audio call quality.(1 for Highest preference & 4 for lowest preference) *

	1	2	3	4
Vodafone/Idea	○	○	○	○
Jio	○	○	○	○
BSNL	○	○	○	○
Airtel	○	○	○	○

Rank the following telecom service providers (based on Internet Service)(1 for Highest preference & 4 for lowest preference) *

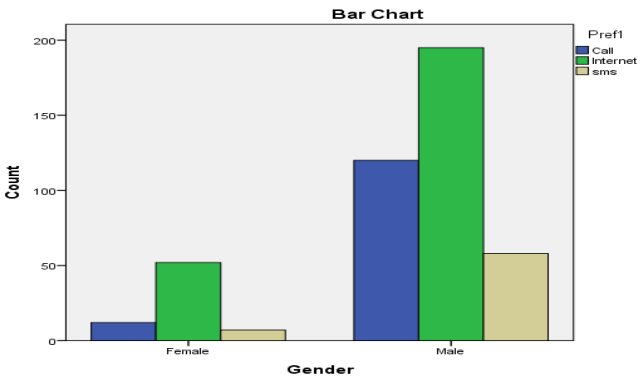
	1	2	3	4
Vodafone/Idea	○	○	○	○
Jio	○	○	○	○
BSNL	○	○	○	○
Airtel	○	○	○	○

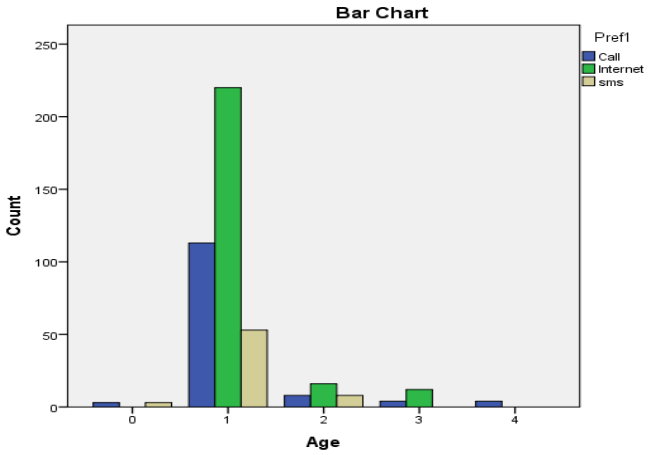
If you want to participate in lucky draw contest , please provide your UPI/Paytm number: (Optional)

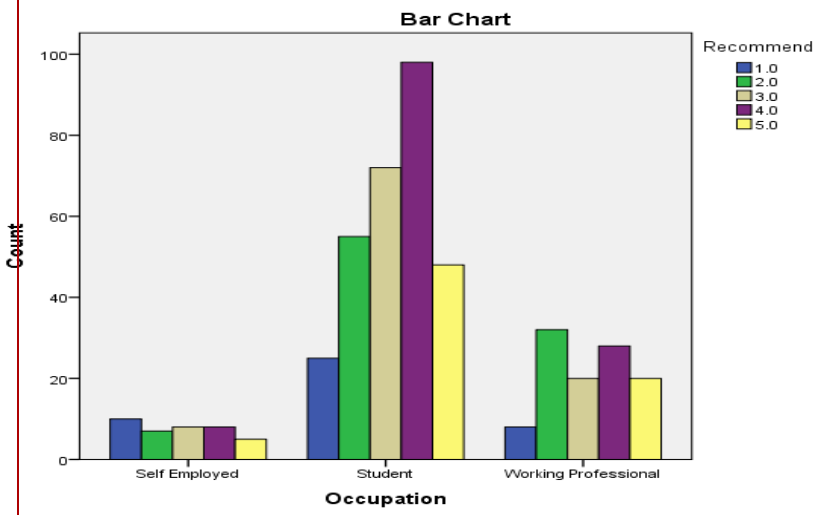
Short answer text

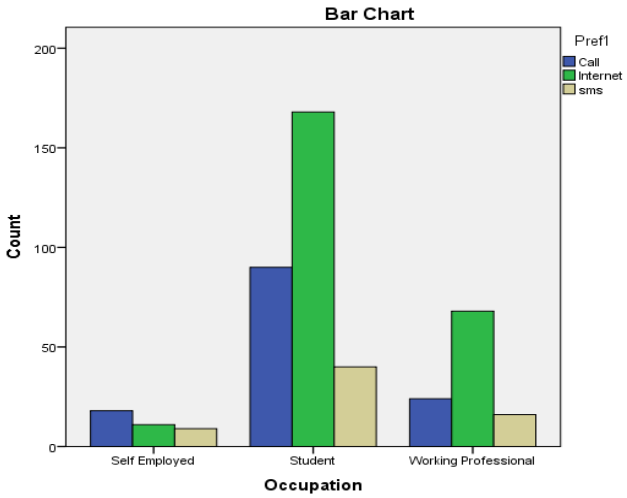
If you want to receive the final report after the survey, Please share your email Id. We will love to share the report with you. (Optional)

Short answer text


Bar Chart
Pref1
Call
Internet
sms
Count
200
150
100
50
0
Female
Male
Gender


Bar Chart
Pref1
Call
Internet
sms
Count
250
200
150
100
50
0
0
1
2
3
4
Age


Bar Chart
Recommend
1.0
2.0
3.0
4.0
5.0
Count
100
80
60
40
20
0
Self Employed
Student
Working Professional
Occupation


Bar Chart
Pref1
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Self Employed
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Occupation