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Statistical Analysis of Deviation of Media and Entertainment Sector from Established Sources

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ABSTRACT

The media industry has been a significant example of the globalization of data and westernization of content throughout the country. As we grew older, the already established sources of viewing of entertainment like television have been steady yet dynamic in its own ways. If we compare today's scenario with that of one decade ago, we can point out the numerous methods and sub- branching of the media industry.

Once we had flexibility in channels, the evolution of media hit us with the variety in where we view it. The internet acted as the further catalyst to this movement and positively drove it forward to a ludicrous sector of the economy.As we grew up watching television throughout our childhood and today, we barely watch television anymore, we had the knack to further make this shift quantitative, rather than only base it on our intuitive watch over the society.

Further, the nature of our undergraduate study interested and provoked us to look into real life data and put it into the language of statistics, of course withthe help of mathematics and economics.

The motivation was also because we were curious and aware about the vastnature of the topic where we studied every age group, and people from all aspects of the society.

The main driving force of the selection of this project was the scope of this topic. The studying and analyzing of this topic directly gave us a solid idea about the contribution of the media sector to the economy and the underlyingpsychology behind shifting from traditional sources of the media.

We got curious just by the heterogeneity of the population watching another setof heterogeneous sources of media. Even in an inchoate stage the data we received was varying and was open to a lot of interpretations.

We watched out fellow batch mates indulge and via different forms of media sector like online streaming, etc. and ourselves too and our families too, such isthe young and growing nature of the topic.

The media sector also plays a very important impact on the society on some levels. The proportion of viewers watching it as a daily habit or in leisure alsogave us an idea on how important this sector was to people.

INTRODUCTION

In the age of instant gratification, we live by the rule “Here and Now” these days. Be it online ordering of food or riding a cab when and where required, companies are working hard to fulfil our desires. Now we want entertainmenton demand because watching television shows at the given time is too mainstream for us. With the soaring number of users turning to online video streaming we can only wonder if the end of traditional cable TV is near.

One of the most obvious reasons why people are turning to online streaming is the ease and the control they have on what they want to watch and when they want it. They can watch whatever they like as any times as they want, skip or repeat any parts of the video. Unlike the traditional television, that provides content, based more on the geographical location. Online video streaming givesthe freedom to view whatever video content there is worldwide. So, one has way too many options to what type of content they want to view.

Online streaming has become a big business in recent years, with services such as Netflix rapidly increasing in popularity. Improvements in streaming technology look set to continue this trend further, allowing advertisers to engagewith consumers in new ways. Looking at the possible future of online streamingcan help you see how your business can interact with potential customers in future.

In the early decades of television, technological limitations meant that relativelyfew channels could be broadcast. As a result, these channels tended to carry a broad mix of programming, with something to suit everyone. In contrast, streaming allows for virtually unlimited channels to be transmitted cheaply, with costs continuing to fall as the technology improves. These reduced costs mean that we may see an explosion in very specific channels aimed at niche markets, as content providers will no longer need a large audience to remain profitable.

DESCRIPTION AND COLLECTION OF DATA

- First, we look into the nature of data to be collected and need to be analyzed. It was trend and based on observation of the present and paststate of the data, thus we concluded to collect primary data.

- Then to collect sample, we first categorized the population fundamentally based on where they belong or come from, that is, rural and urban.

- Once the nature of the sample was decided, we put together a questionnaire first, based on the needs and taking care of the psychological aspects of individuals of every age groups. The questionswere further filtered and chosen to suit people of both urban and rural areas.

- The forms were further divided into manual and digital collection basiswhere we took into account the ease of form filling of individuals

- We spread the forms evenly into places where different age groups were readily available. Thus we put together a bunch of heterogeneous samplescollected from varied places over pune.

STATISTICAL THEORY AND DATA ANALYSIS

PROPORTION TEST

In proportion test we discuss the cases when two samples are taken from two distinct populations or materials. Suppose a sample is drawn from each of the populations. The test statistic is based on both samples. Suppose these samplesgive proportions of specific items as p1 and p2 respectively. We want to knowwhether the population proportions from which these samples are chosen are same.

Let, n1= Size of sample drawn from first population
n2= Size of sample drawn from second population
p1= proportion of specific items in first population
p2= proportion of specific items in second population

HYPOTHESIS:

H_0: p1=p2 Against H_1: p1≠p2

TEST STATISTIC:

$$z = \frac{(p1-p2)}{\sqrt{p(1-p)(\frac{1}{n1}+\frac{1}{n2})}}$$

DECISION RULE: If p-value= ($|N(0,1)| > |Z_{calc}|$)< l.o.s , Reject H_0Accept otherwise.

Source of Entertainment Vs Gender

1. **Online Streaming Vs Gender**

H_0 : proportion of males and females watching online content is same.

	Online streaming	Total
Male	44	153
Female	29	112
Total	73	265

H_1 : proportion of males and females watching online content is not same.

prop.test(c(44,29),c(153,112),alternative="two.sided",conf.level=0.95) 2-sample test for equality of proportions with
continuity correction

data: c(44, 29) out of c(153, 112)
X-squared = 0.1418, df = 1, p-value = 0.7065alternative hypothesis: two.sided
95 percent confidence interval:
-0.08736302 0.14466927
sample estimates:prop 1 prop 2
0.2875817 0.2589286
prop.test(c(44,29),c(153,112),alternative="two.sided",conf.level=0.90) 2-sample test for equality of proportions with
continuity correction

data: c(44, 29) out of c(153, 112)
X-squared = 0.1418, df = 1, p-value = 0.7065alternative hypothesis: two.sided
90 percent confidence interval:
-0.06995383 0.12726009
sample estimates:prop 1 prop 2
0.2875817 0.2589286

Decision: As p-value is greater than 0.05 and 0.10 for both the confidenceintervals i.e., 95% and 90% respectively.
Hence, we accept H_0.

Conclusion: From above data, it is evident that, proportion of males andfemales watching online content is same.

2. Television Vs Gender

H_0 : proportion of males and females watching television content is same.
H_1 :proportion of males and females watching television content is not same.

	Television	Total
Male	25	153
Female	22	112
Total	47	265

> prop.test(c(25,22),c(153,112),alternative="two.sided",conf.level=0.95) 2-sample test for equality of proportions with
continuity correction

data: c(25, 22) out of c(153, 112)
X-squared = 0.28364, df = 1, p-value = 0.5943alternative hypothesis: two.sided
95 percent confidence interval:
-0.13481562 0.06875586
sample estimates:prop 1 prop 2
0.1633987 0.1964286
prop.test(c(25,22),c(153,112),alternative="two.sided",conf.level=0.90) 2-sample test for equality of proportions with
continuity correction

data: c(25, 22) out of c(153, 112)
X-squared = 0.28364, df = 1, p-value = 0.5943
alternative hypothesis: two.sided90 percent confidence interval:
-0.11969431 0.05363455
sample estimates:prop 1 prop 2
0.1633987 0.1964286

Decision: As p-value is greater than 0.05 and 0.10 for both the confidenceintervals i.e., 95% and 90% respectively.
Hence, we accept H_0.
Conclusion: From above data, it is evident that, proportion of males andfemales watching television content is same.

3. Both Platforms Vs Gender

H_0 : proportion of males and females watching both platform content is same.
H_1 :proportion of males and females watching both platform content is notsame.

	Both platforms	Total
Male	69	153
Female	56	112
Total	125	265

prop.test(c(69,56),c(153,112),alternative="two.sided",conf.level=0.95) 2-sample test for equality of proportions with
continuity correction

data: c(69, 56) out of c(153, 112)
X-squared = 0.44233, df = 1, p-value = 0.506alternative hypothesis: two.sided
95 percent confidence interval:
-0.17837114 0.08033192
sample estimates:prop 1 prop 2
0.4509804 0.5000000

prop.test(c(69,56),c(153,112),alternative="two.sided",conf.level=0.90)

2-sample test for equality of proportions withcontinuity correction

data: c(69, 56) out of c(153, 112)
X-squared = 0.44233, df = 1, p-value = 0.506alternative hypothesis: two.sided
90 percent confidence interval:
-0.15881798 0.06077876
sample estimates:prop 1 prop 2
0.4509804 0.5000000

Decision: As p-value is greater than 0.05 and 0.10 for both the confidenceintervals i.e., 95% and 90% respectively.
Hence, we accept H_0.
Conclusion: From above data it is evident that, proportion of males and femaleswatching both platform content is same.

4. Other activities Vs Gender

H_0 : proportion of males and females preferring other activities is same.
H_1 :proportion of males and females preferring other activities is not same.

	Other activities	Total
Male	15	153
Female	5	112
Total	20	265

prop.test(c(15,5),c(153,112),alternative="two.sided",conf.level=0.95) 2-sample test for equality of proportions with
continuity correction
data: c(15, 5) out of c(153, 112)
X-squared = 1.9325, df = 1, p-value = 0.1645alternative hypothesis: two.sided
95 percent confidence interval:
-0.01502394 0.12181665
sample estimates: prop 1 prop 2
0.09803922 0.04464286

> prop.test(c(15,5),c(153,112),alternative="two.sided",conf.level=0.90) 2-sample test for equality of proportions with
continuity correction

data: c(15, 5) out of c(153, 112)
X-squared = 1.9325, df = 1, p-value = 0.1645alternative hypothesis: two.sided
90 percent confidence interval:
-0.005266905 0.112059622
sample estimates: prop 1 prop 2
0.09803922 0.04464286

Decision: As p-value is greater than 0.05 and 0.10 for both the confidenceintervals i.e., 95% and 90% respectively.
Hence, we accept H_0.
Conclusion: From above data it is evident that, proportion of males and femalespreferring other activities is same.

Type (Paid / Unpaid) of service Vs Area

1. **Paid online service users Vs Area**

H_0 : proportion of Paid online services users in Urban and Rural is same. H_1 : proportion of Paid online services users in Urban is greater than Rural.

	Paid online services users	Total
Urban	219	281
Rural	61	83
Total	280	364

prop.test(c(219,61),c(281,83),alternative="greater",conf.level=0.95)

2-sample test for equality of proportions with continuity correctiondata: c(219, 61) out of c(281, 83)

X-squared = 0.48394, df = 1, p-value = 0.2433

alternative hypothesis: greater 95 percent confidence interval:

-0.05285806 1.00000000

sample estimates:prop 1 prop 2

0.7793594 0.7349398

prop.test(c(219,61),c(281,83),alternative="greater",conf.level=0.90)

2-sample test for equality of proportions with continuity correctiondata: c(219, 61) out of c(281, 83)

X-squared = 0.48394, df = 1, p-value = 0.2433

alternative hypothesis: greater 90 percent confidence interval:

-0.0330957 1.0000000

sample estimates:prop 1 prop 2

0.7793594 0.7349398

Decision: As p-value is greater than 0.05 and 0.10 for both the confidenceintervals i.e., 95% and 90% respectively.

Hence, we accept H_0.

Conclusion: From above data it is evident that, proportion of Paid onlineservices users in Urban and Rural areas is same.

2. Free online service users Vs Area

H_0 : proportion of Free online services users in Urban and Rural is same.

H_1 : proportion of Free online services users in Urban is greater than Rural.

	Free online services users	Total
Urban	254	281
Rural	72	83
Total	326	364

prop.test(c(254,72),c(281,83),alternative="greater",conf.level=0.95)

2-sample test for equality of proportions withcontinuity correction

data: c(254, 72) out of c(281, 83)
X-squared = 0.56217, df = 1, p-value = 0.2267alternative hypothesis: greater
95 percent confidence interval:
-0.03906234 1.00000000
sample estimates:prop 1 prop 2
0.9039146 0.8674699

prop.test(c(254,72),c(281,83),alternative="greater",conf.level=0.90) 2-sample test for equality of proportions with

continuity correction

data: c(254, 72) out of c(281, 83)
X-squared = 0.56217, df = 1, p-value = 0.2267alternative hypothesis: greater
90 percent confidence interval:
-0.02410851 1.00000000
sample estimates:prop 1 prop 2
0.9039146 0.8674699

Decision: As p-value is greater than 0.05 and 0.10 for both the confidenceintervals i.e., 95% and 90% respectively.
Hence, we accept H_0.
Conclusion: From above data it is evident that, Free online services users inUrban and Rural areas is same.

People watching TV and digital platforms more than two hours Vs Area

H_0 : proportion of people watching TV and digital platforms more than twohours in Urban and Rural area is same.
H_1 : : proportion of people watching TV and digital platforms more than twohours in Urban and Rural area is not same.

	Time>2 hrs	Total
Urban	161	281
Rural	53	83
Total	214	364

```
prop.test(c(161,53),c(281,83),alternative="two.sided",conf.level=0.95)

2-sample test for equality of proportions with continuity correctiondata:  c(161, 53) out of c(281, 83)
X-squared = 0.88347, df = 1, p-value = 0.3473alternative hypothesis: two.sided
95 percent confidence interval:
-0.1918399  0.0606389
sample estimates:prop 1 prop 2
0.5729537 0.6385542

> prop.test(c(161,53),c(281,83),alternative="two.sided",conf.level=0.90)
        2-sample test for equality of proportions with continuity correctiondata:  c(161, 53) out of c(281, 83)
X-squared = 0.88347, df = 1, p-value = 0.3473alternative hypothesis: two.sided
90 percent confidence interval:
-0.17279850  0.04159754
sample estimates:prop 1 prop 2
0.5729537 0.6385542
```

Decision: As p-value is greater than 0.05 and 0.10 for both the confidenceintervals i.e., 95% and 90% respectively.

Hence, we accept H_0.

Conclusion: From above data it is evident that, proportion of people watching TV and digital platforms more than two hours in Urban and Rural area is same.

People who find their sleep affected by more than 2 hours Vs Area

H_0: Proportion of people who find their sleep affected by more than 2 hours inUrban and Rural areas is same.

H_1: Proportion of people who find their sleep affected by more than 2 hours inUrban area is greater than Rural area.

	Sleep time affected by more than 2 hours	Total
Urban	74	151
Rural	9	41
Total	83	192

prop.test(c(74,9),c(151,41),alternative="greater",conf.level=0.95)

2-sample test for equality of proportions withcontinuity correction

data: c(74, 9) out of c(151, 41)
X-squared = 8.5467, df = 1, p-value = 0.001731alternative hypothesis: greater
95 percent confidence interval:
0.1294162 1.0000000
sample estimates:prop 1 prop 2
0.4900662 0.2195122
prop.test(c(74,9),c(151,41),alternative="greater",conf.level=0.90) 2-sample test for equality of proportions with
continuity correction

data: c(74, 9) out of c(151, 41)
X-squared = 8.5467, df = 1, p-value = 0.001731alternative hypothesis: greater
90 percent confidence interval:
0.1571647 1.0000000
sample estimates:prop 1 prop 2

0.4900662 0.2195122

Decision: As p-value is less than 0.05 and 0.10 for both the confidence intervalsi.e., 95% and 90% respectively.
Hence, we reject H_0.

Conclusion: From above data it is evident that, proportion of people who findtheir sleep affected by more than 2 hours in Urban area is greater than Rural area.

People paying more than 200 Rs. for Television Vs Area

H_0: Proportion of people paying more than 200 Rs. for Television is same inUrban and Rural areas.
H_1: Proportion of people paying more than 200 Rs. for Television Is greater inUrban than Rural areas.

	Cost>200	Total
Urban	201	281
Rural	49	83
Total	250	364

> prop.test(c(201,49),c(281,83),alternative="greater",conf.level=0.95) 2-sample test for equality of proportions with
continuity correction

data: c(201, 49) out of c(281, 83)
X-squared = 4.0873, df = 1, p-value = 0.0216alternative hypothesis: greater
95 percent confidence interval:
0.01792159 1.00000000
sample estimates:prop 1 prop 2
0.7153025 0.5903614

> prop.test(c(201,49),c(281,83),alternative="greater",conf.level=0.90) 2-sample test for equality of proportions with
continuity correction

data: c(201, 49) out of c(281, 83)
X-squared = 4.0873, df = 1, p-value = 0.0216
alternative hypothesis: greater 90 percent confidence interval:
0.03983562 1.00000000
sample estimates:prop 1 prop 2

0.7153025 0.5903614

Decision: As p-value is less than 0.05 and 0.10 for both the confidence intervalsi.e., 95% and 90% respectively.
Hence, we reject H_0.
Conclusion: From above data it is evident that, proportion of people payingmore than 200 Rs. for Television Is greater in Urban than in Rural areas.

People paying more than 200 Rs. for online streaming Vs Area

H_0: Proportion of people paying more than 200 Rs. for online streaming is samein Urban and Rural areas.
H_1: Proportion of people paying more than 200 Rs. for online streaming Isgreater in Urban than Rural areas.

	Cost>200	Total
Urban	53	281
Rural	12	83
Total	65	364

prop.test(c(53,12),c(281,83),alternative="greater",conf.level=0.95) 2-sample test for equality of proportions with
continuity correction

data: c(53, 12) out of c(281, 83)
X-squared = 0.57338, df = 1, p-value = 0.2245alternative hypothesis: greater
95 percent confidence interval:
-0.03796484 1.00000000
sample estimates:prop 1 prop 2
0.1886121 0.1445783
prop.test(c(53,12),c(281,83),alternative="greater",conf.level=0.90) 2-sample test for equality of proportions with
continuity correction

data: c(53, 12) out of c(281, 83)
X-squared = 0.57338, df = 1, p-value = 0.2245alternative hypothesis: greater
90 percent confidence interval:
-0.02157721 1.00000000
sample estimates:prop 1 prop 2
0.1886121 0.1445783

Decision: As p-value is greater than 0.05 and 0.10 for both the confidenceintervals i.e., 95% and 90% respectively.

Hence, we accept H_0.

Conclusion: From above data it is evident that, proportion of people payingmore than 200 Rs. for online streaming is same in Urban and Rural areas.

Logistic Regression Analysis using R-software

In our project we came across situations where outcome or response variable isdichotomous or binary variable that can assume only two mutually exclusive values. In our case, these values are usually coded as y=1(yes) for success and y=0(No) for failure.

Since, y has only two values we can assume that y is Bernoulli random variable.Suppose we have single Regressor X

Y	1	0
Conditional Probability	P(Y=1|X)= π(x)	P(Y=0|X)= 1-π(x)

E[Y|X]= π(x)

In Logistic Regression model we assume that $\pi(x)= \frac{e^{(a+bx)}}{1+e^{(a+bx)}}$

π(x) is called Logistic function in XTherefore,

$e^{(a+bx)} = \frac{\pi(x)}{1-\pi(x)}$

So that regression model becomes

$\log_e \frac{\pi(x)}{1-\pi(x)} = a+bx$

$\log_e \frac{\pi(x)}{1-\pi(x)}$ is called Logit transformation.

For urban Population

H_0: Based on time in hours of viewing, people don`t find themselves addicted(Independent).

H_1: Based on time in hours of viewing, people find themselves addicted(Dependent).

X: Total time spent on Television and Digital platforms in Hours. Y: Addicted(Yes=1) or Not addicted(No=0).

```
> y=Logistic$addiction
> x=Logistic$Total_time
> fit=glm(y~x,family="binomial")
```

```
> summary(fit)

Call:
glm(formula = y ~ x, family = "binomial")

Deviance Residuals:
Min             1Q    Median         3Q       Max
-0.8879  -0.8607  -0.8606          1.5310     1.5318

Coefficients:
Estimate Std. Error z value Pr(>|z|)
(Intercept) -0.8030542  0.1327789  -6.048 1.47e-09 ***
x              0.0002499  0.0070655         0.035      0.972
---
Signif. codes:
0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
(Dispersion parameter for binomial family taken to be 1)Null deviance: 347.76  on 280  degrees of freedom
Residual deviance: 347.76 on 279 degrees of freedomAIC: 351.76

Number of Fisher Scoring iterations: 4
```

Interpretation:

The estimates of a and b are -0.8030542 and 0.0002499 respectively.

The reduction formula is given byY=a+bX.

Y=(-0.803054)+(0.0002499)X

The standard error of the corresponding estimates are 0.1327789 and0.0070655 respectively.

TO TEST:

H_0: a=0 vs H_1: a≠0 Observing the p-value,

Coefficient a is highly significant.To test:

H_0: b=0 vs H_1: b≠0.

Observing the p value, coefficient b is not significant.Odds ratio estimate is: 1.000249931

Null deviance: 347.76

Residual deviance: 347.76

G=(Null deviance-Residual deviance)

=0

$\chi^2_1 = 3.841$

Decision Criterion: Reject H_0 at 5% l.o.s. if$G \geq \chi^2_1$

Decision: Accept H_0

Conclusion: Based on time in hours of viewing, people don`t find themselves addicted(Independent).

For Rural Population

H_0: Based on time in hours of viewing, people don`t find themselves addicted(Independent).
H_1: Based on time in hours of viewing, people find themselves addicted(Dependent).
X: Total time spent on Television and Digital platforms in Hours. Y: Addicted(Yes=1) or Not addicted(No=0).

```
> y=Logistic$addiction_rural;
> x=Logistic$Total_time_rural;
> fit=glm(y~x,family="binomial")
> summary(fit)

Call:
glm(formula = y ~ x, family = "binomial")

Deviance Residuals:
Min 1Q Median 3Q Max
-1.4330 -0.8593 -0.7634 1.1657 1.9064

Coefficients:
Estimate Std. Error z value Pr(>|z|) (Intercept) -1.6398 0.4822 -3.401 0.000672 ***
x 0.2779 0.1111 2.502 0.012339 *
---
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1(Dispersion parameter for binomial family taken to be 1)
Null deviance: 107.41 on 82 degrees of freedom Residual deviance: 100.45 on 81 degrees of freedom (198 observations deleted due to missingness)
AIC: 104.45
Number of Fisher Scoring iterations: 4
```

Interpretation:

The estimates of a and b are -1.6398 and 0.2779 respectively.The reduction formula is given by
Y=a+bX.
Y=(-1.6398)+(0.2779)X
The standard error of the corresponding estimates are 0.4822 and 0.1111respectively.
TO TEST:
H_0: a=0 vs H_1: a≠0 Observing the p-value,
Coefficient a is highly significant.To test:
H_0: b=0 vs H_1: b≠0. Observing the p value, Coefficient b is significant.
Odds ratio estimate is: 1.320354155Null deviance: 107.41
Residual deviance: 100.45
G=(Null deviance-Residual deviance)
=6.96

$\chi^2_1 = 3.841$

Decision Criterion: **Reject H_0 at 5% l.o.s. if $G \geq \chi^2_1$**

Decision:

Reject H_0.

Conclusion:

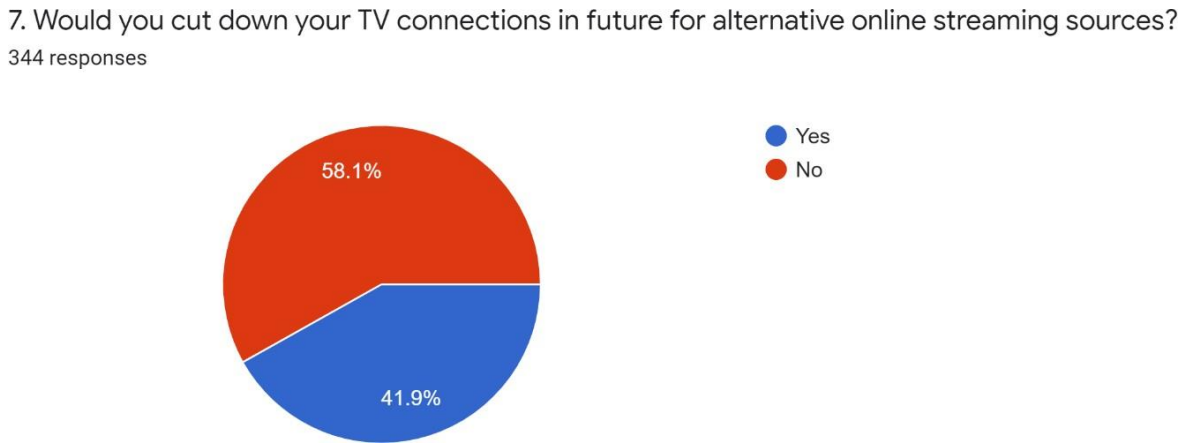
Based on time in hours of viewing, people find themselves addicted(Dependent).

GRAPHICAL REPRESENTATION AND INTERPRETATION

Cord Cutting

Cord-cutting refers to cancelling or forgoing a pay TV subscription in favour ofan alternative internet-based service.

The young may be moving away from TV but there may not be cord-cutting yet, as in a single TV household, these youngsters may still not be the decisionmakers. However, these are the people who may not introduce the cord when they set up homes.



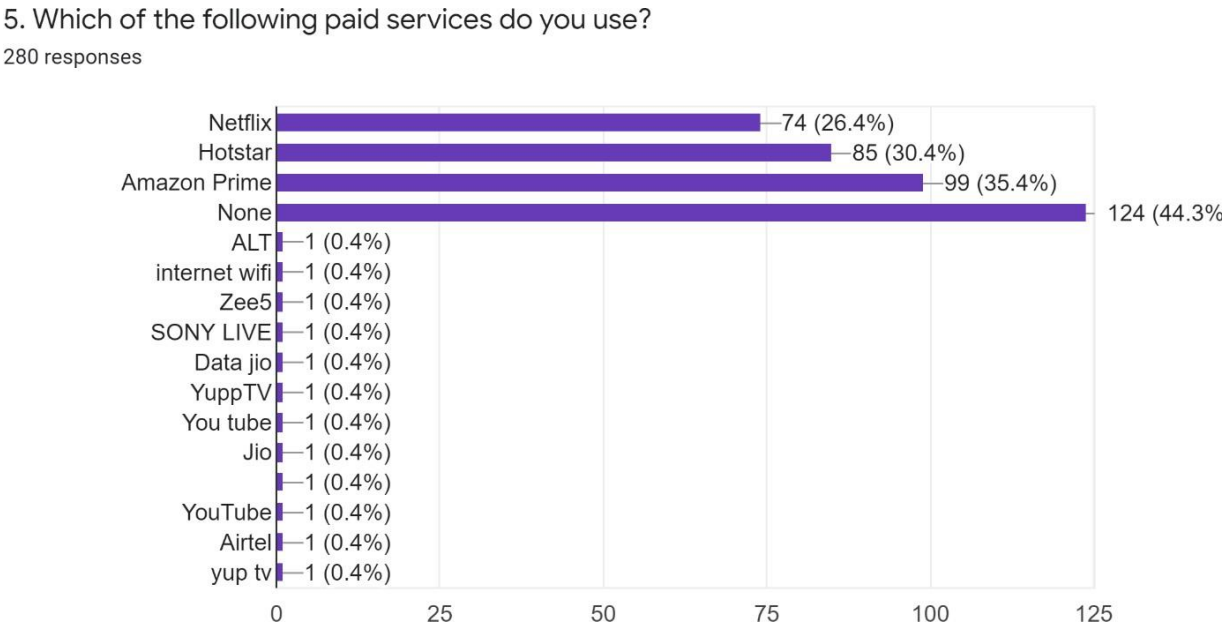
Interpretation:

Though viewers on digital platforms are increasing people still enjoy w atching television due to which they wouldn`t prefer cord cutting even for alternative streaming sources.

Another reason why cord cutting is not preferred in Rural areas is may be because of lack ofawareness of other sources.

Paid Services Vs Free Services

According to our data, we have obtained the following graphs:

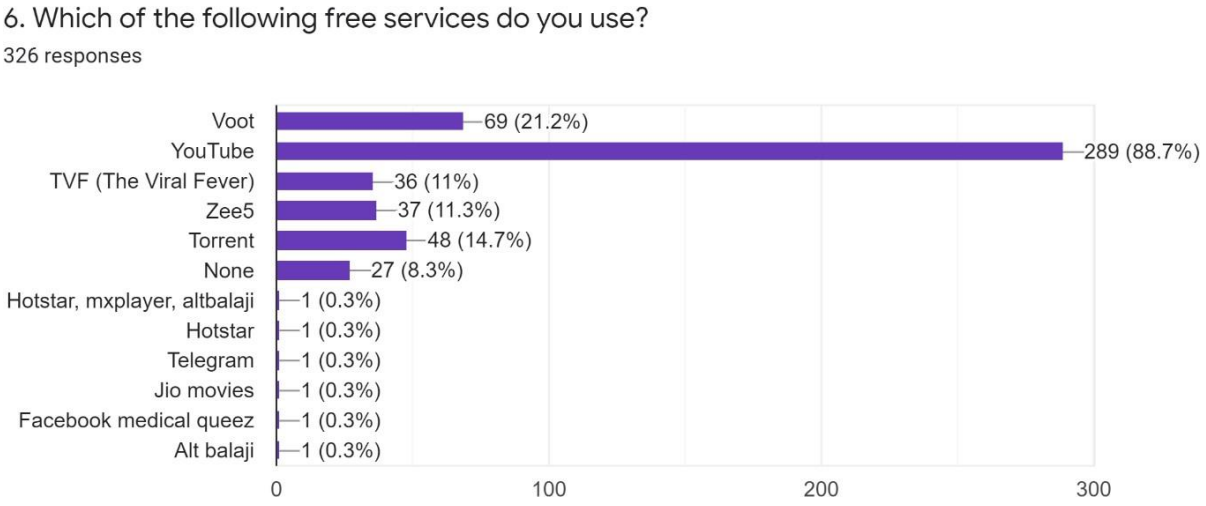


Interpretation :

Most of the people prefer using free services.

But among paid services , Amazon prime is the most used paid service followedby hotstar and then Netflix.

Netflix is the least preferred paid service due to its high subscription cost.



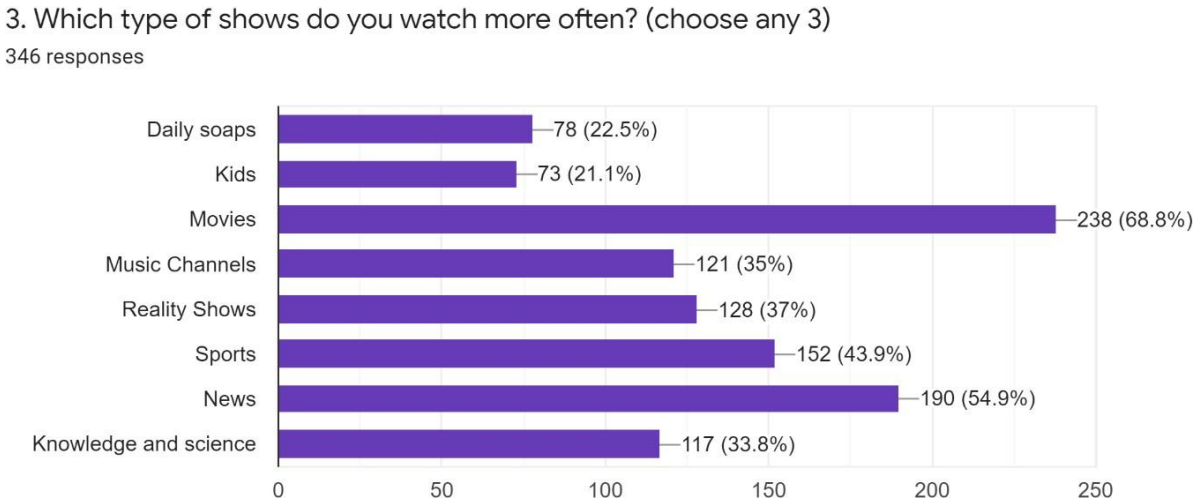
Interpretation :

YouTube is the most preferred free service followed Voot ,Torrent , Zee5 and then TVF.

MOST PREFFERED GENRE ON TV AND ONLINE STREAMINGGENRE ON TV

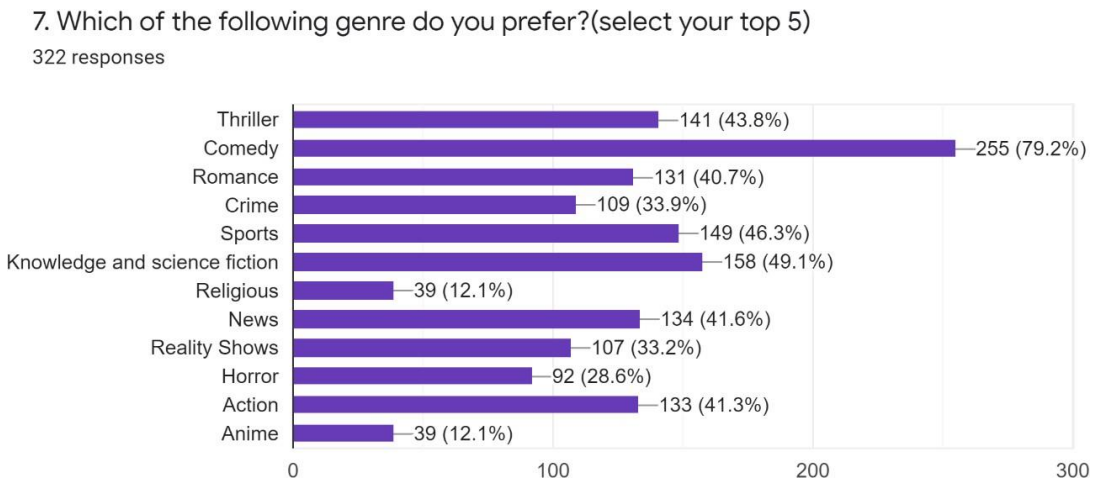
Interpretation:

Movies are the most preferred genre irrespective of the age groups. Followed byNews i.e. More preferred



by the older generation. The kids Channels are the lea st preferred among all the age groups.

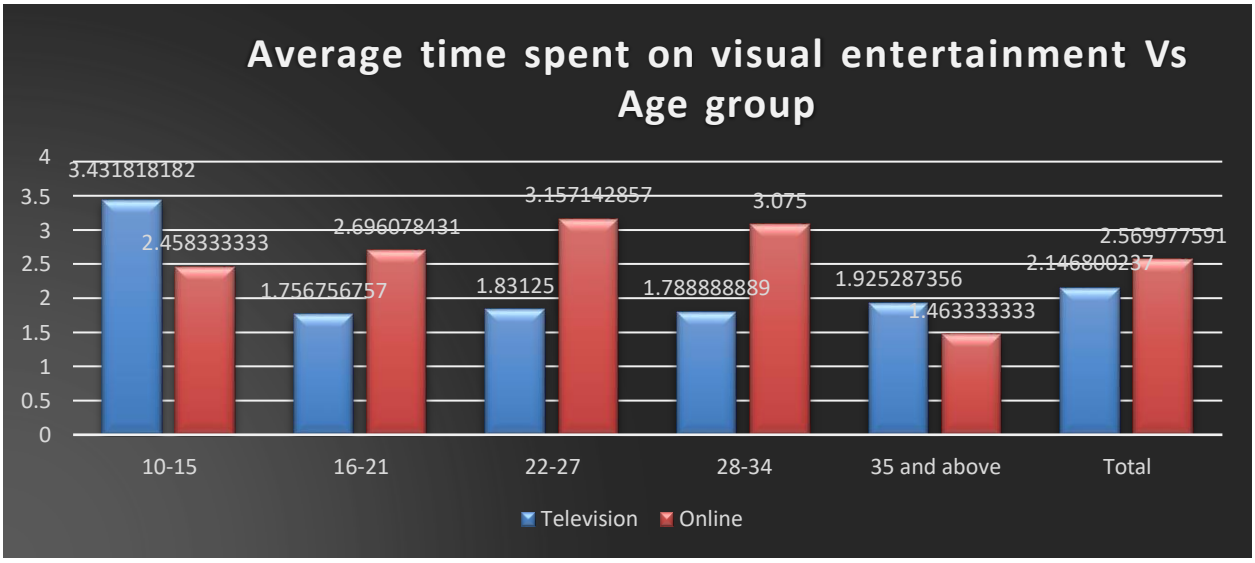
GENRE ON ONLINE STREAMING



Interpretation:

Comedy is the most preferred genre irrespective of age groups on digital platforms.
Followed by Knowledge and Science Fiction which is the second most preferred amongst younger generation. It is also observed that Religious and Anime genres are least preferred irrespective of age groups.

Average time spent on visual entertainment Vs Age group



	Television	Online
10-15	3.431818	2.458333
16-21	1.756757	2.696078
22-27	1.83125	3.157143
28-34	1.788889	3.075
35 and above	1.925287	1.463333
Total	2.1468	2.569978

Interpretations:

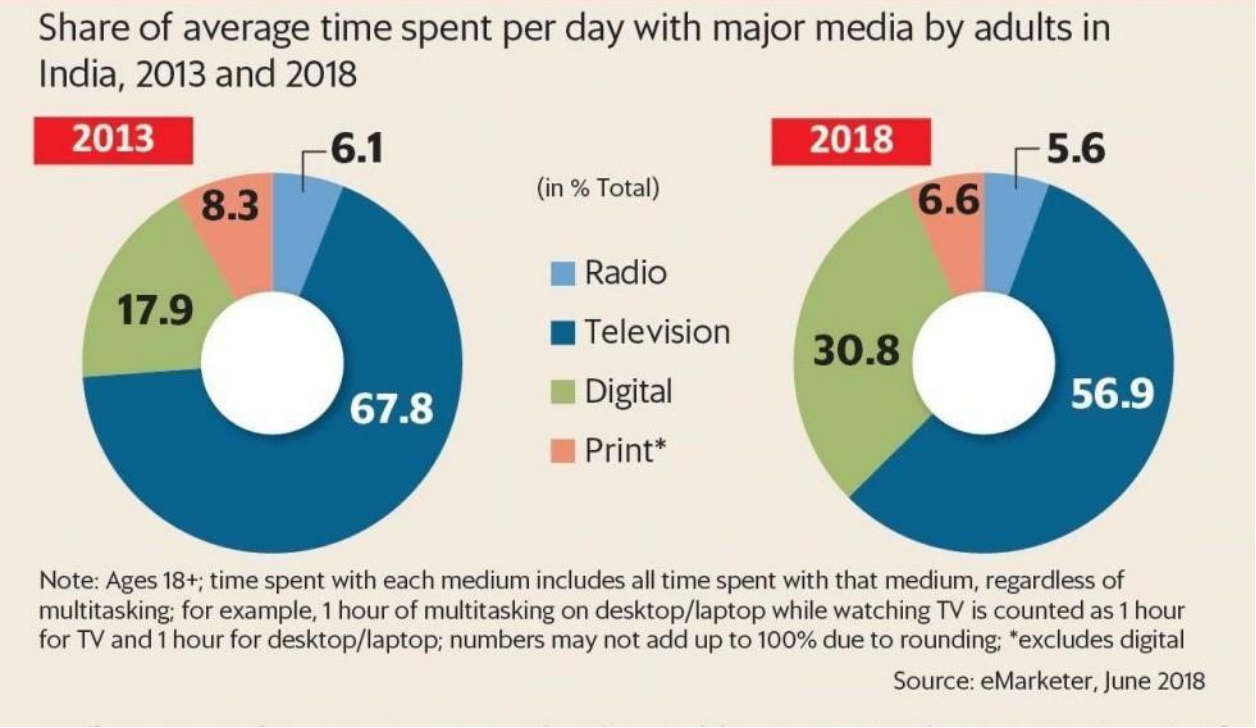
Based on the average hourly data for Television, the age group 10-15spends highest amount of average time i.e., 3.431818 hours on television

whereas the least amount of average time spent on television is of the age group16-21 i.e., 1.756756 hours on a daily basis.

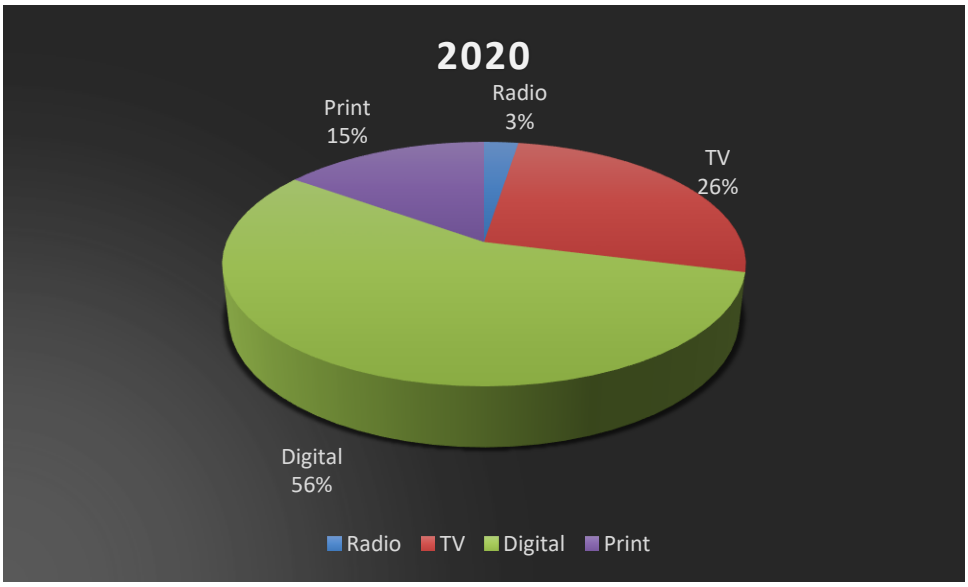
Based on the average hourly data for Online streaming, the age group 22-27 (younger millennials) spends the highest amount of average time i.e., 3.15714 hours on a daily basis, whereas the least amount of average time spent on online streaming is of the age group 35 and above i.e., 1.463333 hours on a daily basis.

From the above graph, we can clearly observe that Digital Platforms aremore preferred over traditional media amongst all age groups.

Comparison of data with year 2013 and 2018.



Graph obtained from our data:

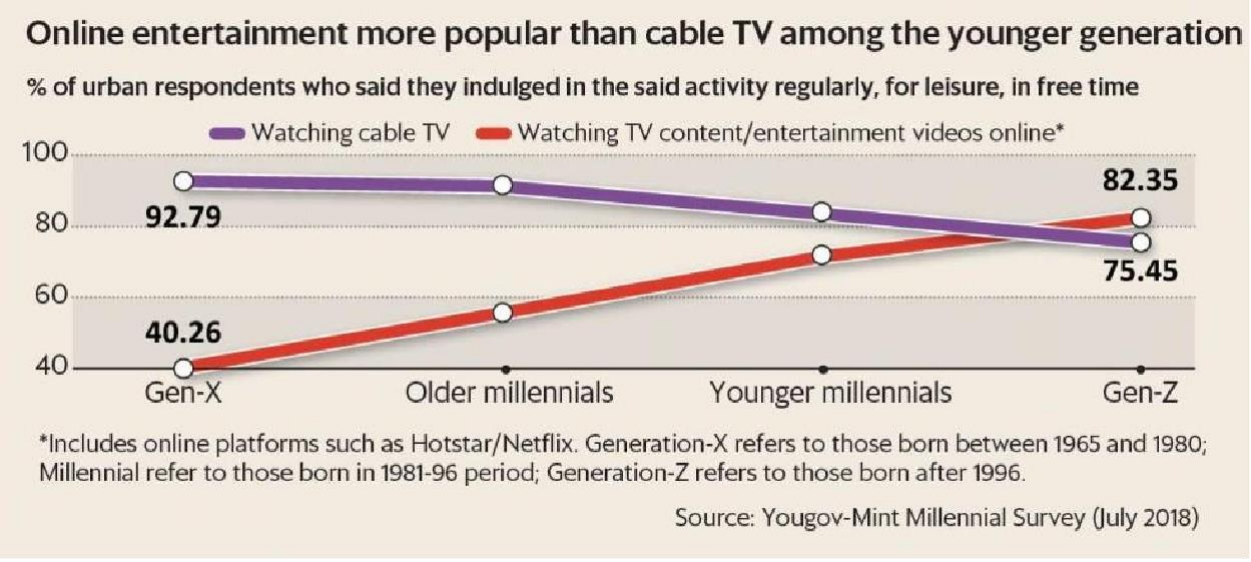


Interpretation:

We can observe that there is an immense growth in the viewers of digitalplatform from the year 2018 to 2020 and an immense decrease in viewers of television.

The listeners of Radio have further decreased from year 2013 to 2020 by about50.0%.

Data from previously done survey



Interpretations:

We can observe that Television is mostly preferred to watch by older generation and digital platforms are mostly preferred by younger generations.

CONCLUSION:

1. We can observe that there is an immense growth in the viewers of digital platform from the year 2018 to 2020 and an immense decrease in viewers of television.
   The listeners of Radio have further decreased from year 2013 to 2020 by about 50.0%.
2. We can observe that Television is mostly preferred to watch by older generation and digital platforms are mostly preferred by younger generations.
3. Proportion of males and females watching online content is same.
4. Proportion of males and females watching television content is same.
5. Proportion of Paid onlineservices users in Urban and Rural areas is same.
6. Proportion of people paying more than 200 Rs. for online streaming is same in Urban and Rural areas.
7. Based on time in hours of viewing, people do not find themselves addicted for Urban population
8. Based on time in hours of viewing, people do not find themselves addicted for Rural population

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