To Study the Influence of Social Media on Human Mind Using Statistical Tools

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Abstract: *Now a days most of the peoples are used the social media platform for making discussion of their issues and opinions. Before knowing the aspects of social media people must have to know what is social media? Social media are one of the important tools that allow people to share or exchange information's, ideas, images, videos and even more with each other through a particular network. In this paper we cover all aspects of social media with its positive and negative effect. It gives people a way to stay in touch with people who live far away. It lets people share fun, interesting and informative content. It gives businesses a way to engage with customers.*

Keywords: Social media, Graphical Representation, Testing hypothesis, Level of significance

1. Introduction

Social Networking Sites have become prominent part of life for many people today, be it youth, the working lot & even the elder people. There are more than 2.3 Billion worldwide active social networking sites users. Most people engage with social networking sites without thinking, what are its effects on their lives, whether it is positive or negative. According to various research studies in the field of online social networks, it has been revealed that these sites are impacting the lives of the youth as well as the society greatly. When using these sites such as Twitter, Facebook, Whatsapp, Instagram, Hike Messenger, Skype etc., users forget their primary work & get more involved in it. Social networking sites have both positive and negative impacts on our lifestyle. A social networking site plays a huge role in modern day politics & is one of the most valuable assets that political parties use to gain votes. We can take a look at the recent election campaigns in our country & see how all the parties have spent millions on social networking sites to help tarnish each other's name & policies.

It is inevitable to ignore the fact that now days social networking sites play an essential role in teenagers as well as elders lives. Most of us are spending more than 2 to 3 hrs on these popular social networking sites. Social networking sites help us to get updated with what is happening around the world, it also helps the youth to stay connected and interact with each other even if they are many miles apart. The people who have been interviewed say that social networking sites have become a prominent part of their lifestyle and it makes their life easier and efficient but busy & insecure at the same time

As the users tend to spend many hours on these sites, they are becoming more addictive, they rarely have face-to-face interaction. They become an easy prey of depression & anxiety. Other negative effects of social networking sites include encouraging poor spelling and grammar, lack of sporty nature, increasing number of introverts. In some extreme cases users are forced to attend rehab centres to get over their social networking sites addictions & to help them return to a normal life.

2. Objectives

- To study gender wise distribution of use of different social networking sites.
- To study the distribution of social networking sites users
- To study the area wise distribution of social networking sites users
- To study the purpose wise distribution of social networking sites users
- To study the area wise grading distribution of social networking sites users
- To study proportion of male and female users of social networking sites in rural and urban area.
- To study various effects of social networking sites on lifestyle of users.
- To study which social networking site is widely used.

3. Methodology

For the purpose of studying impact of social networking sites on society, we have collected data from urban and rural area of Kolhapur district. Here we have used simple random sampling method. In order to collect appropriate data, we prepared a questionnaire satisfying characteristics of a good questionnaire, which was used to collect the data in an effective manner. For this study we have collected data from 400 samples out of which 200 are from rural area and remaining 200 are from urban area.

Methods of Data Collection

We have collected primary data from 400 users. The simple random sampling method is used for collecting data from the urban area and rural area

Statistical Tools Used
- Graphical Representation
- Testing of hypothesis
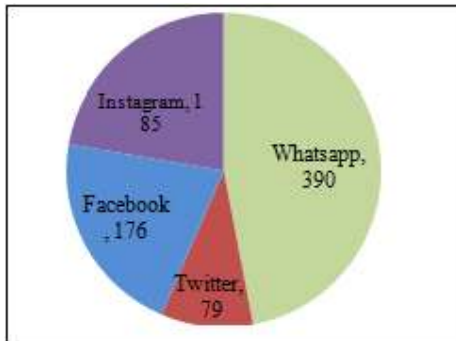
Software's Used
- MS-Excel
- MS-Word

Graphical Representation

Types of SNS	Whatsapp	Twitter	Facebook	Instagram
No. of Users	390	79	176	185

Area	Whatsapp	Twitter	Facebook	Instagram
Urban	200	50	92	110
Rural	190	29	84	75
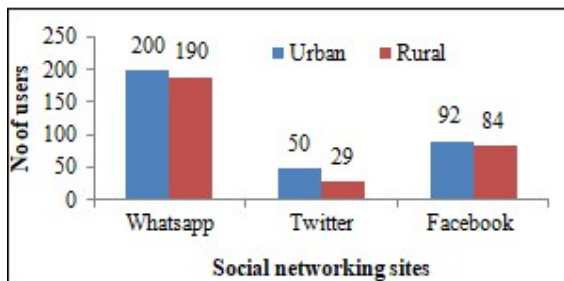
Purpose	Keep in touch	Meet new people	Fun and entertainment
No. of peoples	145	135	70
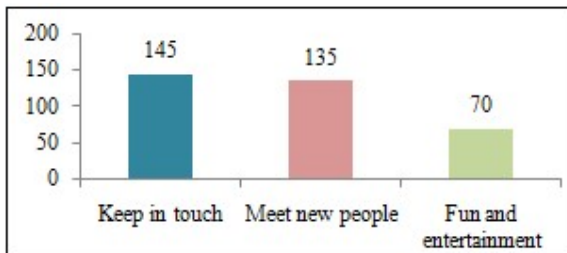
Type of SNS	Whatsapp	Twitter	Facebook	Instagram
Male	275	60	90	135
Female	115	19	86	50
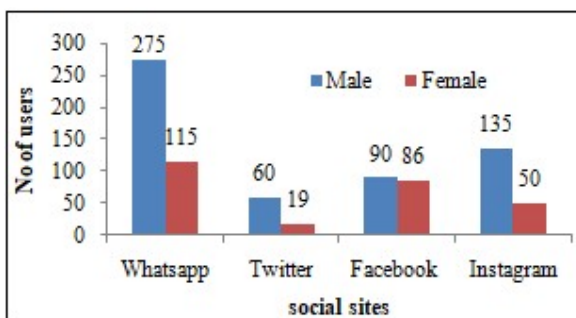
Types of performances	Academic performance	Health
Urban	190	89
Rural	176	75
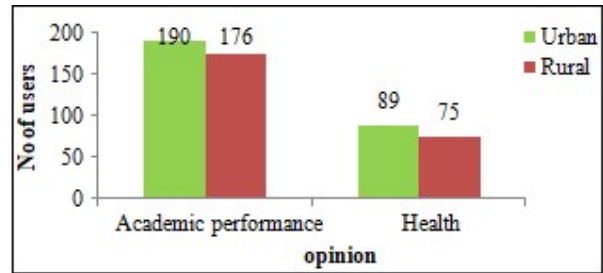
Grading	Best	Better	Good	Bad
Urban	67	56	57	20
Rural	56	69	69	6
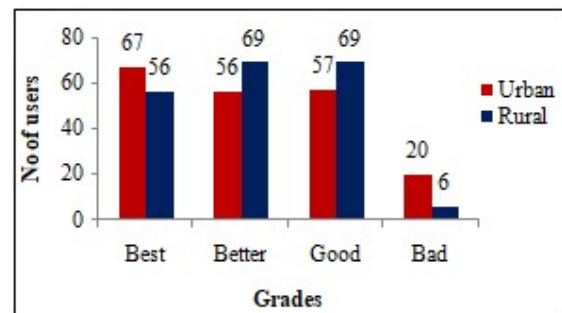
Impact	Positive	Negative
Urban	160	40
Rural	155	45
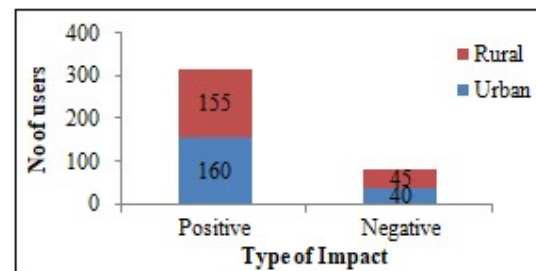
Total Friends	50+	100+	200+	300+
No. of users	89	135	90	86

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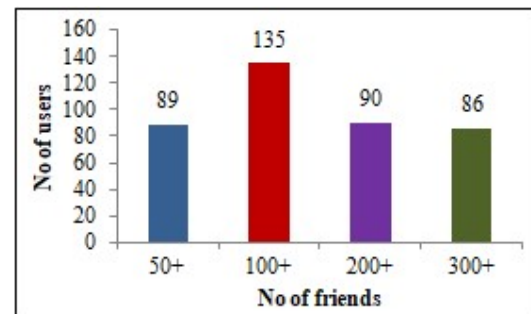
Testing of Hypothesis

A) Test for Independence Between Area And SNS Users:-

Hypothesis

H_0 : SNS users and area are not independent. Vs. H_1 : SNS users and area are independent.

Level of significance = α =5%

Observation Table

SNS users	Area		Total
	Rural	Urban	
Male	110	135	245
Female	90	65	155
Total	200	200	400

Notations:

N = Population size = 300
(a) = Number of male users in rural area(b) = Number of male users in urban area
(c) = Number of female users in rural area(d) = Number of female users in urban are

Test Statistics:

Under H_0 the test statistics,

$$\chi^2 = \frac{N(ad-bc)2}{(a+b)*(c+d)*(a+c)*(b+d)} = 6.5833$$

$\chi^2{}_{cal} = 6.5833$

Critical Value:

$\chi^2{}_{table} = \chi^2{}_{(r-1)(s-1)}$, 5% level of significance
$\chi^2{}_{table} = 3.841$
Therefore, $\chi2{}_{cal.} > \chi^2{}_{table}$

B) Test for Independence Between Area And Effects Of Social Networking Sites On Lifestyle:
Hypothesis:
H_0 : Area and effects of SNS on lifestyle are not independent Vs
H_1: Area and effects of SNS on lifestyle are independent.
Level of significance= α =5%

Observation Table

SNS users	SNS affects your lifestyle		Total
	Yes	No	
Male	140	60	200
Female	160	40	200
Total	300	100	400

Notations:

N = Population size = 400
(a)= Number of male users who think SNS affects their lifestyle.
(b)= Number of male users who don't think SNS affects their lifestyle.

(c) =Number of female users who think SNS affects their lifestyle.
(d) = Number of female users who don't think SNS affects their lifestyle.

Test Statistics:

Under H_0 the test statistics,
$$\chi^2 = \frac{N(ad-bc)2}{(a+b)*(c+d)*(a+c)*(b+d)} = \frac{400[(140*40)-(60*160)]2}{(200)*(300)*(100)*(200)}$$

χ^2 = 5.3333

Critical Value
$\chi^2{}_{table} = \chi^2{}_{(r-1)(s-1)}$, 5% level of significance
$\chi^2{}_{table}$ = 3.841
Therefore, $\chi^2{}_{cal.} > \chi^2{}_{table}$

4. Major Findings

In our study, Whatsapp, facebook and Instagram are user are more in urban area than rural area.98% people in Kolhapur district use Whatsapp while nearly 44% people use Facebook. 46% people use Instagram are user. To keep in touch with family and friends nearly 36% people use social networking sites. In rural area male users of social networking sites are greater in number than female users. And in urban area male users of social networking sites are greater in number than female users. Impact of social networking sites on social life is positive in both the urban as well as rural area. Health and academic performance in rural area is more positively impacted and online friendship is good in case of grading as compared to real world friendship in both areas. Proportion of gender wise users of social networking sites in rural and urban area is not equal. And study area and users of social networking sites as well as effect of use of different social networking sites on lifestyle and area are independent.

References

[1] Becker, Mark W., Reem Alzahabi, and Christopher J. Hopwood. Media Multitasking is Associated with Symptoms of Depression and Social Anxiety. Cyberpsychology, Behavior, and Social Networking 16, no. 2 (2013): 132-35.

[2] Bryfonski, Dedria. The Global Impact of Social Media. 2011 ed. Detroit, MI: Greenhaven Press. 224.

[3] Campbell, Marilyn (2005) Cyber bullying: An old problem in a new guise? Australian Journal of Guidance and Counseling, Australian Academic Press, 2005, 76.

[4] Godin B, Dore C. Measuring the impacts of science; beyond the economic dimension. INRS Urbanisation, Culture et Sociult, HSIT Lecture. 2005. Helsinki, Finland: Helsinki Institute for Science and Technology Studies.

[5] Lubchenco J. Entering the century of the environment: A new social contract for science. Science. 1998; 279(5350): 491–497

[6] Wilder L, Walpole M. Measuring social impacts in conservation: experience of using the Most Significant Change method. Oryx. 2008; 42(4): 529–538