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“Analyzing the effect of Social Medianews on the behavioral biases of an individual investor in the Stock market”^{By}

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Abstract

“Analyzing the effect of Social Media news on the behavioral biases of an individual investor in the Stock market” is the title of my research after having several discussion between us and we finalized this title, Started with finding the literature reviews then setting up of research methodology and begun with creating Google forms to collect the data from the potential population since there had been lockdown throughout the period of our research, we were left with no other choice than using the Google forms to collect data.

This research is very carefully done by collecting form filled by 102 respondents so out of the 102 respondents male are 68% that is 66.67% and Female are 32 that is 31.4% and Two people chose Prefer not to say option that is 2 % of the total respondents, so we have a very feasible mix of male and female respondents in the research. So if we look at the education factor of respondents there is a huge chunk of respondents those who have done Postgraduate that is 71 respondents it means 69.65 and there are 27 respondents who have done their graduation they make 26.47% and there are 3 PhD holders they make 3% and there is only respondent who has done only 12Std he makes only 1% of total respondents, look at the Occupation part then we have 37 respondents that is 36.3% respondents those who work in private sector and 13 respondents that is 12.07% respondents those who work in public sector and there are 22 self-employed respondents that is 21% and there are 29 students who make 28.4% of total respondents and there is only One Defense personnel. Since Social media has the effect on behavior of investors so it is important to know how much time they spend on Social media, there are 17 respondents who spend less than 30 Mins on Social media and they make 16.7% of respondents, there are 33 respondents who spend 30 mins to 1 hour on social media they make

32.4% and there are 23 respondents who make 22.5% they spend 1 hour to 2 hours on Social media and there are 29 respondents who make major 28.4% they spend more than Two hour per day on Social Media.

Social Medias respondents have been following mainly for updates on Stock market they have replied that out of 102 respondents 47 using Facebook that is 46%, 44 Respondents are using WhatsApp that is 43% and 21 respondents are using Twitter that is 21% and 32 Respondents are using LinkedIn that is 31% and 30 Respondents are using Instagram that is 29% of the total respondents – we can clearly see that Facebook and WhatsApp has got more followers mainly for Stock Markets updates. The Information we get from Social media influences our behavior in stock market so when we asked respondents about the information they get on social media is trustworthy or not 27 respondents said that they feel information is reliable they make 26.5% of respondents next 25 respondents that is 24.5% said they don't feel the information from Social Media is trustworthy and a massive 50 respondents who make 49.02% of respondents they said they are not sure about the reliability of information from Social Media

Keywords

Social Media, Investor, Stock Market, Influence, Sentiment.s

Research Methodology

Sources of information and data collection

- Primary data

Surveying the Investors and traders in Stock market.

Research Design

- Survey

Survey

- Sample Unit – Investors in Hubli-Dharwad
- Sampling technique – Judgement sampling.
- Sample size – 102
- Survey tool – Structured Questionnaire (Google Forms)
- Research type – Descriptive research.
- Data analysis – Using SPSS and MS Excel.
- Statistical techniques – Bar Graphs, Phi Charts, Percentages, Homogeneity test

Review of Literatures

1. Title – “Impacts of Public News on Stock Market Prices: Evidence from S&P5001”

Author – Mihaly Ormos

Published Journal – Research Gate

Published year – March 2011

Learnings – Learned about the trading settlements and settlement cycles

2. Title – “Social media, news media and the stock market”

Author – Peiran Jiao, Andre Veiga, Ansgar Walther.

Published Journal – Research Gate

Published year – January 2016

Learnings - We contrast the impact of traditional news media and social media coverage on stock market volatility and trading volume. We develop a theoretical model of asset pricing and information processing, which allows for both rational traders and a variety of commonly studied behavioral biases.

3. Title – “News which Moves the Market: Assessing the Impact of Published Financial News on the Stock Market”

Author – Yu Chiang SOON

Published Journal – Library.smu.edu

Published year – 2010

Learnings - Learnings - large increase in the volume of financial news available to investors daily. What has traditionally been restricted to print media has now evolved to include the internet and satellite television as important media sources for financial news. With this overwhelming flow of information available to investors, the impact of financial news on market prices is at best uncertain

4. Title – “Understanding Role of Social Media in Investor Reactions”

Author – Naresh Reddy Bollampelly

Published Journal – Dublin Business School

Published year – August 2016

Learnings - Financial behaviour has been studied but the effect of news and social media news has not been covered to a great extent. The first research of news involved in the financial behaviour started in 2008 when Tetlock studied the concept of Stale news. The researcher undertakes the study to identify how financial news in the social media has made decision making difficult.

Data analysis and interpretation

Reliability Test

Reliability Statistics

Cronbach's Alpha	N of Items
.750	24

Table 1: Reliability test

Interpretation

To check the reliability of the data and consistency of the data this reliability test is done so in this test Cronbach's Alpha is measured, so more near to the 1 Cronbach's Alpha is the more is the consistency of the data so in this research the Cronbach's Alpha is measured at 0.750 it means that the data is reliable.

Gender

Gender	Frequency	Percent
Female	32	31.4
Male	68	66.7
Prefer Not to say	2	2.0
Total	102	100.0

Table 2: Gender

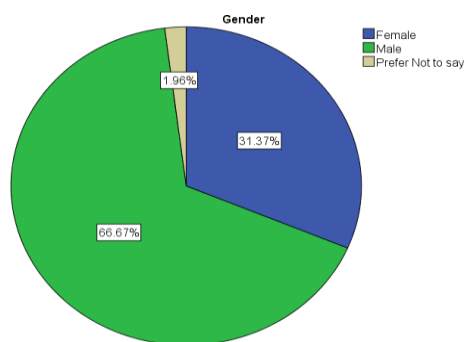


Figure 1: Gender

Interpretation

This research is very carefully done by collecting form filled by 102 respondents so out of the 102 respondents male are 68% that is 66.67% and Female are 32 that is 31.4% and Two people chose Prefer not to say option that is 2 % of the total respondents, so we have a very feasible mix of male and female respondents in the research.

Age

	Frequency	Percent
Less than 30 years	47	46.1
31 to 40 Years	20	19.6
41 to 50 years	22	21.6
More than 50 Years	13	12.7
Total	102	100.0

Table 3: Age

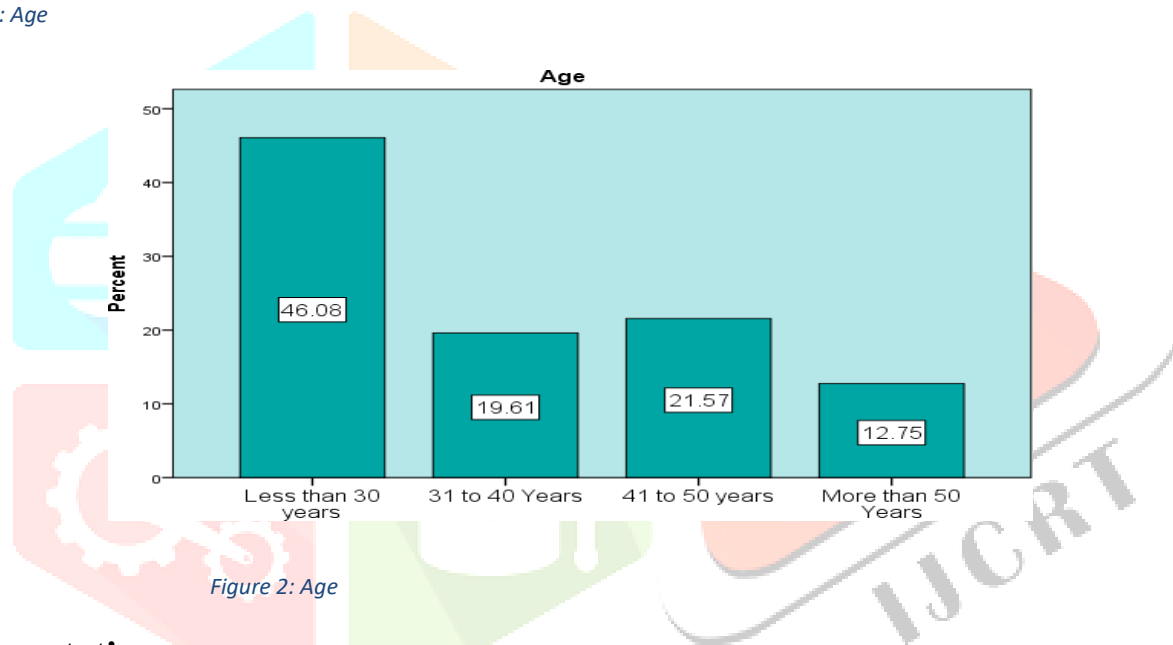


Figure 2: Age

Interpretation

So if we look at the age factor of respondents then we have majority of respondents that 47 respondents means 46% fall in the range of Less than 30 years of group and next comes the range that is 41 to 50 years in this group there are 22 respondents means 21.6% of total respondents then comes 20 respondents those who fall in 31 to 40 years of age group they make 19.61% of respondents and last comes more than 50 years of age group there are 13 respondents means 12.7%.

Marital Status

	Frequency	Percent
Single	72	70.6
Married	30	29.4
Total	102	100.0

Table 4: Marital Status

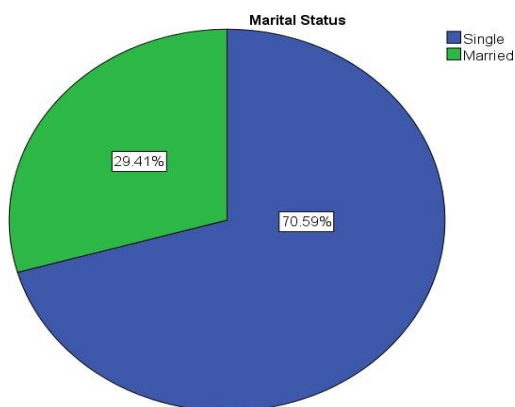


Figure 3: Marital Status

Interpretation

Marital status is one of the main variable in demographics data so in our research there are 72 respondents who are single this 70.59% and the 30 respondents are Married and they are 29.42

Education

	Frequency	Percent
12th Std	1	1.0
Graduate	27	26.5
Postgraduate	71	69.6
PhD	3	2.9
Total	102	100.0

Table 5: Education

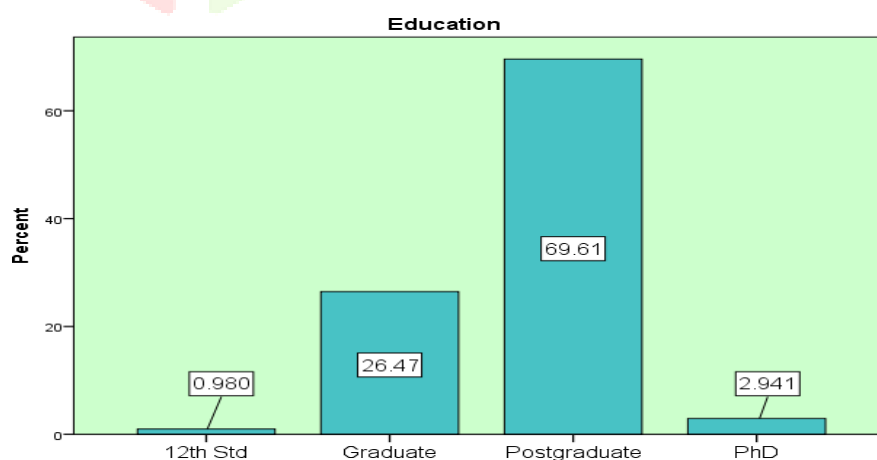


Figure 4: Education

Interpretation

So if we look at the education factor of respondents there is a huge chunk of respondents those who have done Postgraduate that is 71 respondents it means 69.65 and there are 27 respondents who have done their graduation they make 26.47% and there are 3 PhD holders they make 3% and there is only respondent who has done only 12Std he makes only 1% of total respondents

Occupation

	Frequency	Percent
Student	29	28.4
Self-Employed	22	21.6
Public Sector	13	12.7
Private Sector	37	36.3
Defense	1	1.0
Total	102	100.0

Table 6 :occupation

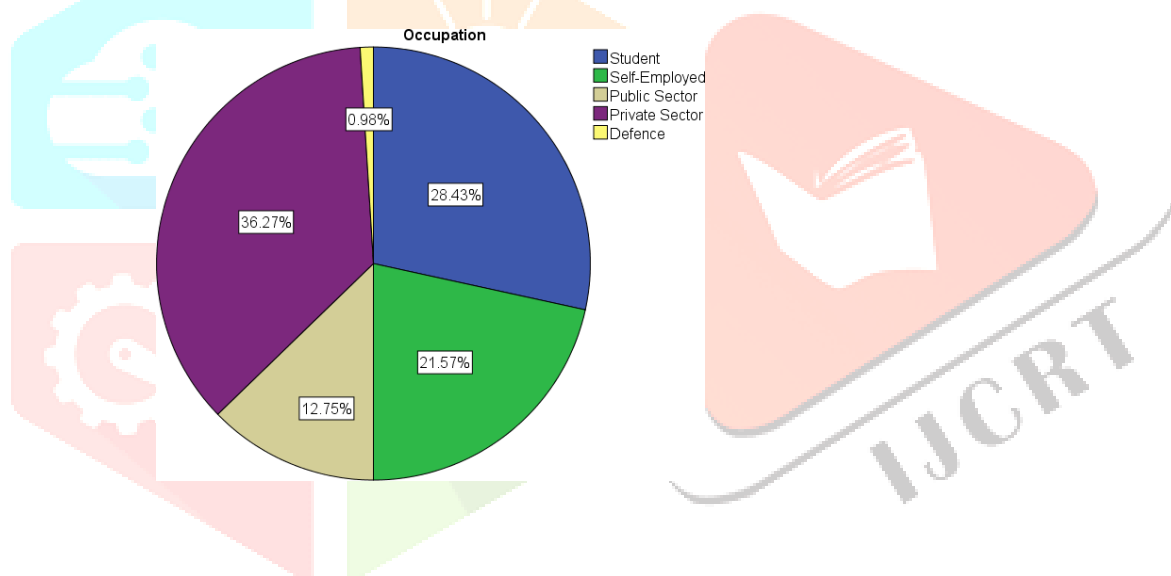


Figure6:occupation

Interpretation

So is we look at the Occupation part then we have 37 respondents that is 36.3% respondents those who work in private sector and 13 respondents that is 12.7% respondents those who work in public sector and there are 22 self-employed respondents that is 21% and there are 29 students who make 28.4% of total respondents and there is only One Defense personnel.

Exchange

	Frequency	Percent
NSE	34	33.3
BSE	18	17.6
BOTH	50	49.0
Total	102	100.0

Table 7: Exchange

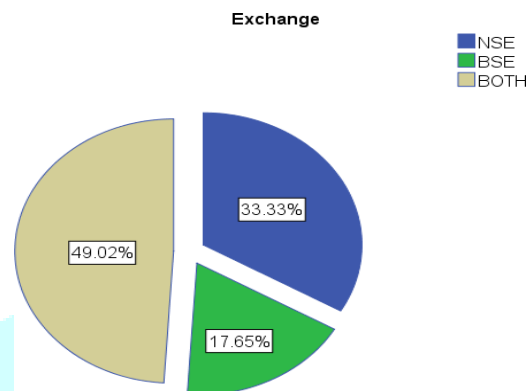


Figure 6: Exchange

Interpretation

In India mainly there are Two Stock Exchanges they are National Stock Exchange (NSE) Bombay Stock Exchange (BSE) for this question 50 respondents said that they trade in Both exchanges they make 49% of total respondents and 34 respondents said they trade only in NSE they make 33.33% and 18 respondents said they trade only in BSE and they make 19.6% of total respondents

Time Spent on Social media per day

	Frequency	Percent
Less than 30 Mins	17	16.7
30 mins to 1 hour	33	32.4
1 hour to 2 hour	23	22.5
More than 2 hours	29	28.4
Total	102	100.0

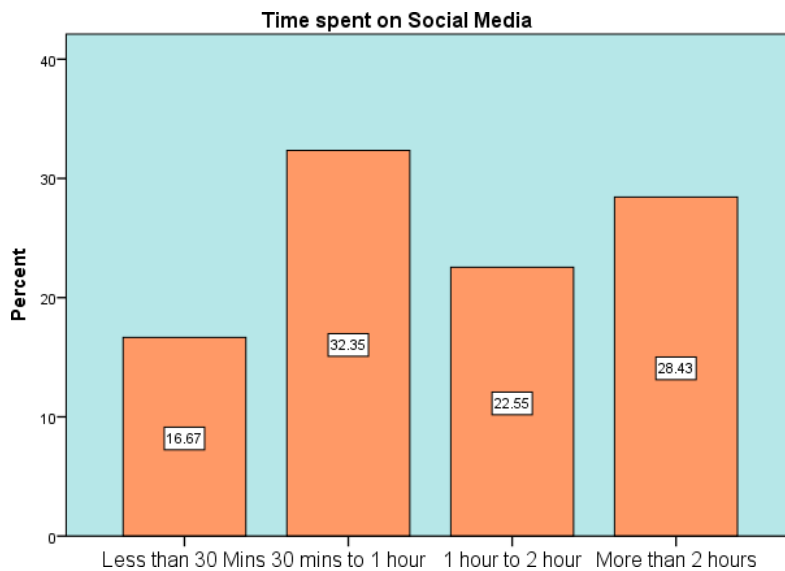


Table 8: Time Spent on Social media per day

Interpretation

Since Social media has the effect on behavior of investors so it is important to know how much time they spend on Social media, there are 17 respondents who spend less than 30 Mins on Social media and they make 16.7% of respondents, there are 33 respondents who spend 30 mins to 1 hour on social media they make 32.4% and there are 23 respondents who make 22.5% they spend 1 hour to 2 hours on Social media and there are 29 respondents who make major 28.4% they spend more than Two hour per day on Social Medi

Social Medias been using

Facebook	WhatsApp	Twitter	LinkedIn	Instagram
74	87	42	38	98
72%	84%	41%	37%	95%

Table 9: SoOcial Medias been using

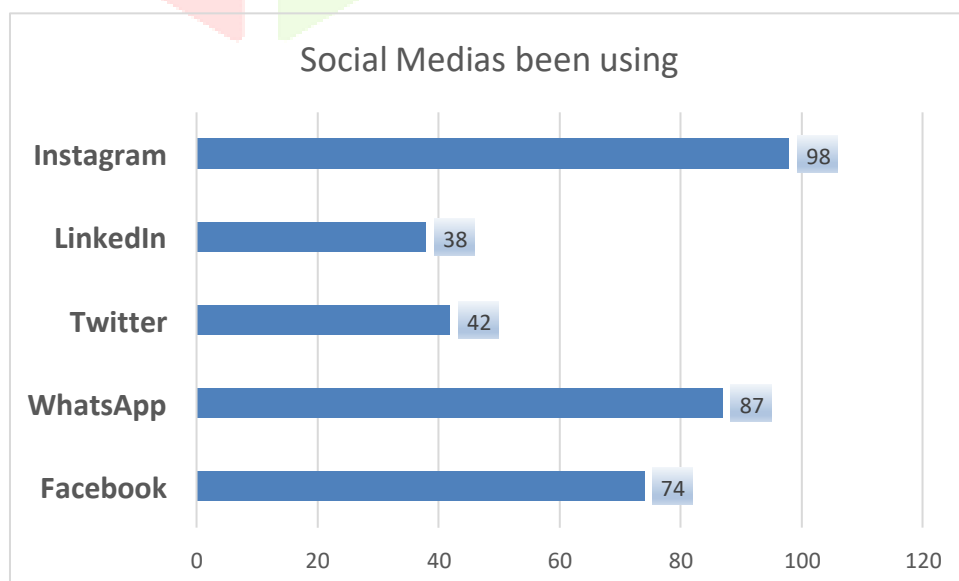


Figure 8: Social Medias been using

Interpretation

For this question how many Social Medias they have been using out of 102 respondents 74 using Facebook that is 72%, 87 Respondents are using WhatsApp that is 84% and 42 respondents are using Twitter that is 41% and 38 Respondents are using LinkedIn that is 37% and 98 Respondents are using Instagram that is 95% of the total respondents.

Social Media Been following for Stock Market update

Facebook	WhatsApp	Twitter	LinkedIn	Instagram
47	44	21	32	30
46%	43.3%	21%	31%	29%

Table 10: Social Media Been following for Stock Market update

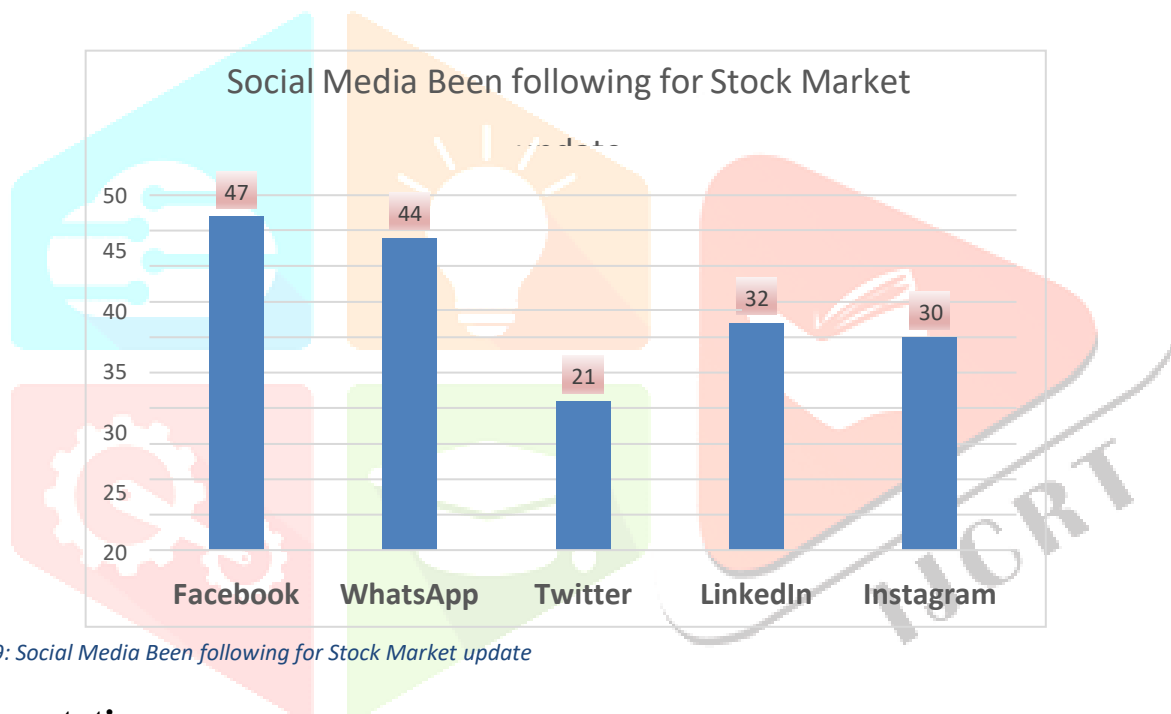


Figure 9: Social Media Been following for Stock Market update

Interpretation

For this question how many Social Medias they have been following mainly for updates on Stock market they have replied that out of 102 respondents 47 using Facebook that is 46%, 44 Respondents are using WhatsApp that is 43% and 21 respondents are using Twitter that is 21% and 32 Respondents are using LinkedIn that is 31% and 30 Respondents are using Instagram that is 29% of the total respondents – we can clearly see that Facebook and WhatsApp has got more followers mainly for Stock Markets updates.

Is Social Medias news Trustworthy

	Frequency	Percent
Yes	27	26.5
No	25	24.5
May be	50	49.0
Total	102	100.0

Table 11: Social Media's news Trustworthy

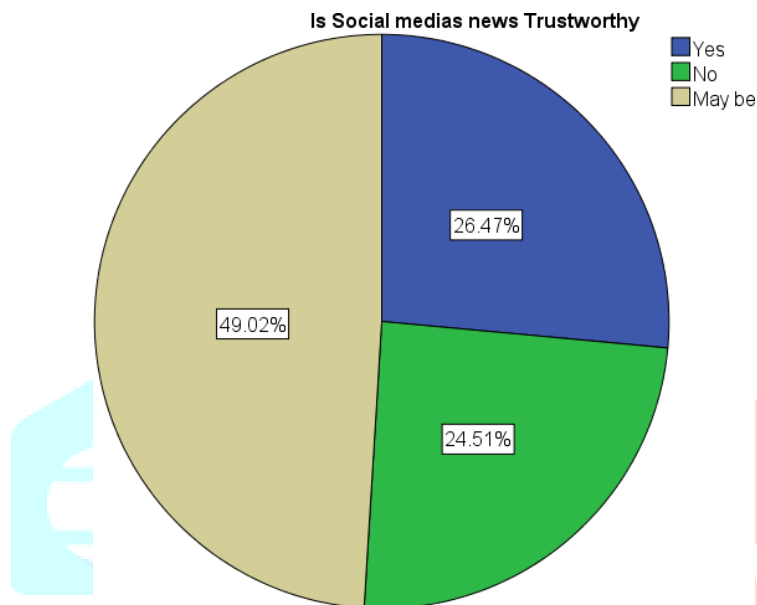


Figure 10: Social Medias news Trustworthy

Interpretation

The Information we get from Social media influences our behavior in stock market so when we asked respondents about the information they get on social media is trustworthy or not 27 respondents said that they feel information is reliable they make 26.5% of respondents next 25 respondents that is 24.5% said they don't feel the information from Social Media is trustworthy and a massive 50 respondents who make 49.02% of respondents they said they are not sure about the reliability of information from Social Media.

The Most reliable Social media for Stock Market update

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.815
Approx. Chi-Square		87.595
Bartlett's Test of Sphericity	df	10
	Sig.	.000

Table 12: KMO and Bartlett's Test

Component Matrix^a

	Component		
	1	2	3
Reliable Social Media Facebook	.704	.379	.265
Reliable Social Media WhatsApp	.553	.600	.278
Reliable Social Media Twitter	.690	-.536	.291
Reliable Social Media LinkedIn	.594	-.657	-.008
Reliable Social Media Instagram	.665	.242	-.703

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Table 13: Component Matrix^a

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.914
Approx. Chi-Square	999.439
Bartlett's Test of Sphericity	
df	55
Sig.	.000

Table 14: KMO and Bartlett's Test:

Interpretation

For analysis I have considered the Five most used and the Five influential social medias so for this question – what is the most reliable social media for stock market updates we have got replies from respondents and let's interpret the results now, Kaiser-Meyer- Olkin Measure of Sampling Adequacy is 0.815 it means that this data is adequate for the factor test, value between 0.8 and 1 are adequate for test.

And to extract the top three most reliable social Medias I have used Principal Component Analysis Varimax rotation so as we see in the graph that PC value for Facebook is high in the first Column that is 0.704 so it is the most reliable among the five and next is in the second column we can see that the highest value is WhatsApp with PC value of 0.690 so the second most reliable social media is WhatsApp and the third is Twitter because we see that in the column three the highest value is 0.291 so Twitter is the third most reliable social media for stock market update.

Agreeness level of Respondents towards the question

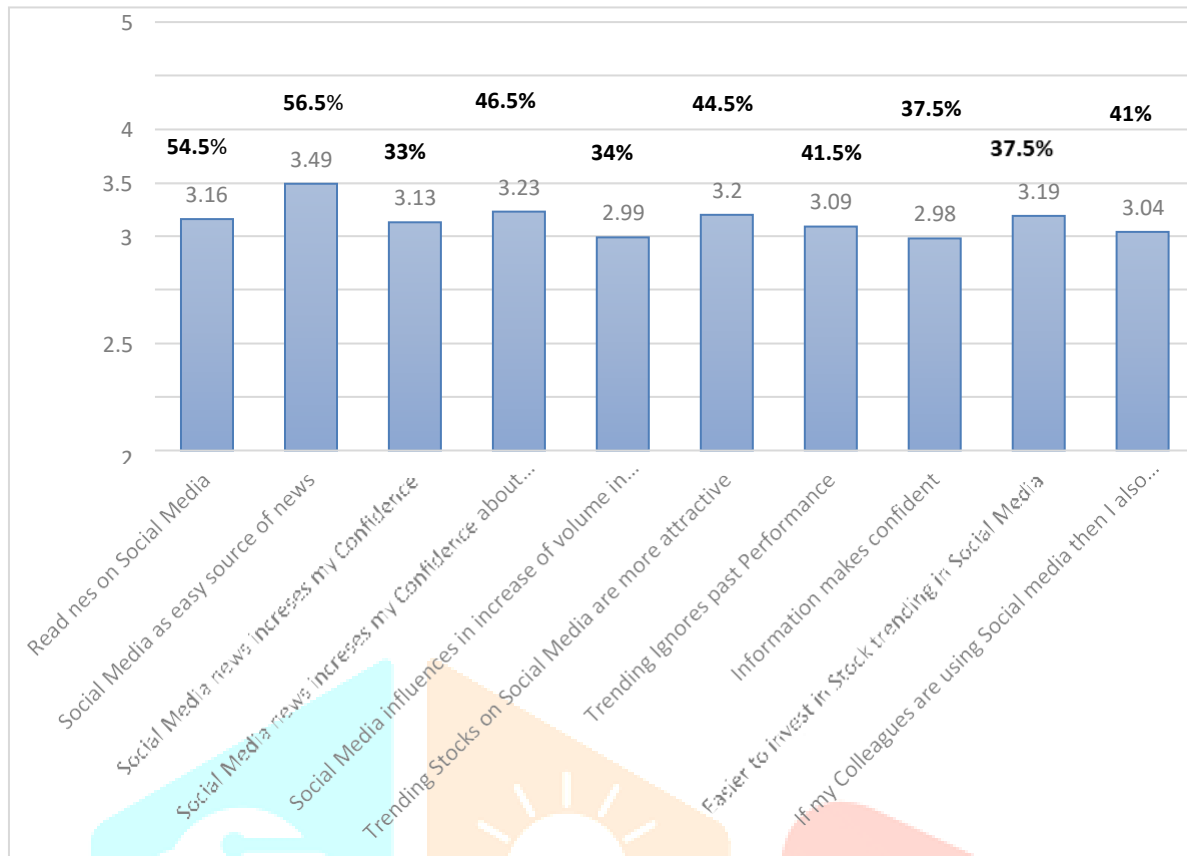


Figure 11: Agreeness level of Respondents towards the question

Component Matrix^a

	Component		
	1	2	3
Q1	.970	-.033	-.004
Q2	.447	.820	-.015
Q3	.719	.349	-.004
Q4	.785	.258	-.043
Q5	.827	-.195	.246
Q6	.815	-.101	.356
Q7	.808	-.275	-.431
Q8	.809	-.193	.307
Q9	.891	-.071	-.081
Q10	.841	-.120	-.358
Q11	.858	-.001	.032

Table 15: Component Matrixa

a. 3 components extracted.

Interpretation

Kaiser-Meyer-Olkin Measure of Sampling Adequacy is 0.815 it means that this data is adequate for the factor test, value between 0.8 and 1 are adequate for test.

From the above Principle component analysis chart we can see that the Question 1 has the highest PC value in the first column and in the second column we can see that Question 2 has the highest PC value and in the third and the last column we can see that Question number 6, So these 3 Questions are the most effective questions among the other questions which were asked.

I often read news on Social Media-For this statement there are total 55 people who agree and strongly agree so it shows that social media is playing essential role in disseminating information related to Stock market.

I find it easy to use Social Media as a source of news - For this statement there are total 57 people who agree and strongly agree so it shows that social media is playing essential role in disseminating information related to Stock market

I believe that trending stocks on news on Social Media are more attractive - For this statement there are total 45 people who agree and strongly agree so it shows that social media is playing essential role in disseminating information related to Stock market

Major Findings

1. One of the major findings is that out 102 respondents there are 38 respondents' trade only in NSE and 18 respondents' trade only in BSE and the remaining major chunk that is 50 respondents which makes up 49% of the total respondents trade in both NSE and BSE.

2. 29 respondents that is 28.5% of the total respondents spend more than 2 hours on social media and 33 respondents that is 32.4% spend 30 mins to 1 hour.

3. Instagram, WhatsApp and Facebook are the social medias with highest number of active users Instagram has 98 users that is 95% of the total respondents and WhatsApp has 87 respondents that is 84% of total respondents and Facebook has 74 users that is 72% of total respondents.

4. Here I would like to describe about the social medias been followed by investors for updates on social market Facebook has 47 followers that is 46% of total respondents and WhatsApp has 44 respondents that is 43% of total respondents, While LinkedIn and Instagram have almost similar respondents that is 32 and 30 respectively.

5. This is one of the very important finding is that 27 respondents feel that Social media is trustworthy that is 26.5% and 25 respondents feel Social media news is not trustworthy

Suggestions

1. Since Social Media has been one of the major platform for dissemination of information it is advisable to the Social Media Companies that they should have a strong vigilance team and should be monitoring the fake news or rumoursspreading on social media.
2. Social Media Companies to develop a strong security encryption for Social Medias so Public data can't be theft.
3. As an Investor or trader in stock market one should not completely rely on Social Medias for Updates on Stock Markets.
4. Investors or traders should be careful about all kinds of fake news, fake people and fake companies on Social Media.

Conclusion

“Analysing the effect of Social Media news on the behavioural biases of an individual investor in the Stock market” it was my topic of research and it explored me to the new heights of Research, it was a great learning throughout the Two months, my research topic aimed at analysing the individual biasness in stock market caused by information acquired from Social Medias.

I would like to conclude my research here by giving some key suggestions to investors or traders in stock market that

- There is huge fake information and fake profiles in Social Media so Investors have to be very cautious about these kind of fake materials.
- Instead of completely depending on Social Media Investors or traders should go for some trusted sources for Stock Market updates.