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Sentiments as Noise or Reality - Indian GDP crash

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Abstract

Marketing Strategies help a lot in social change and advertising changes values and lifestyles of the society. So advertising with golden agers motivate people to improve their living styles. Effective advertising not only generates demand for goods and services but changing our life style also. Innovative advertising of including golden agers can knock down the mindset of audiences by making the advertisements exclusive and dynamic. This study focused the impact of Goldenagers in Advertising - Changing the Culture of our Society. The study is significant because our cultural with golden agers are tarnished totally; the new generations are living an alienated life. Now the social media has great role in bringing our golden agers with the youngsters and be part of the family. The purpose of this study is to know the influences of golden agers in advertising are changing our life styles and to find out whether healthy society can be made for this vulnerable group. Survey method with sample of 100 respondents selected from two colleges. The study reveals that its impact is positive and the level of healthy society is building up.

Key words*:* Goldenagers healthy Society Culture Life Styles Advertising

1. Introduction

The traditional economic theory talks about efficient markets and people making rational decisions to maximize profits. But the new emerging school of behavioral economics states that markets are not efficient, especially in the short run and people do not make rational decisions. In his book as per Parag Parekh, there are two ways that investor reacts towards the information released in the market. The first is 90 per cent physical way in which investors overload themselves with information and always try to time the market, which enhances current market volatility. The second is 10 per cent emotional way which states ignore the crowd behavior, and the investor should go against popular opinion. Social media has made information dissemination real-time available. Extraction of such real-time data makes it possible to analyze the stock market movements and link it with those sentiments (Rao & Srivastava, 2011). The short term performance of the stock market movements can be gauged better with the help of sentiment analysis. A lot of work has been done earlier to study the market movements with the help of the contagion effect and stock market integration levels. Such studies are supporting the sentiment analysis as it is because of the contagion and integrated/efficient markets that social media/sentiments have the power to influence the stock market (Chattopadhyay et al., 2016).

The market is utmost dynamic or shows frequent information on Global/ Indian economy status, GDP growth status, Deficit news, FII flows, equity and volatility status etc. Considering GDP growth data extracted from Indian Express news articles, especially during ruling government tenure, it is quite impressive. As in the era of the Ruling government Indian economy is in the time where globally India has performed best across all the Asian countries in terms of its GDP growth. Although this government, in its first three years, showed increasing growth numbers from 7.9per cent to 8per cent and now consecutively for

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two years it showed decelerated growth from 7.2per cent to 7per cent low. The RBI forecast for GDP-projection has been changed from February to December 2019 drastically. RBI projected GDP growth to be 7.4per cent in February, which falls to 5per cent in December 2019. These dynamic paradigms are affecting the financial market as a whole. These are the direct influencer for foreign trade, fiscal deficit, FPI status, global trade or global economic conditions. Considering the power of a piece of new information, the article presented on March 5, 2019, in Indian Express showed the fact that election era in any country does affect the markets. It is difficult for investors to take a pose on investments, but due to Pulwama attack' response investors are more confident for the political stability in the nation. And that was the reason that the stock market got stable when airstrike happened in Pakistan because at that moment, investors were sure that Ruling government is going to win again in upcoming elections. Due to the symptom of political stability, the surety of forthcoming government policies prevails, and that was the reason the stock market was showing all the positive signs in such state of the event. Considering the power of such short term events, any new piece of information can influence the market, providing the capability of such information to influence the economy' several factors. To study how much impact and with what intensity such piece of information affected the market, the event of GDP crash is taken into consideration.

2. Literature Review

2.1 Sentiment analysis and stock movements

From the inception, the stock market movements are influenced by the sentiments that financial players do possess in them. Twitter data is a lot useful to analyze the impact of sentiments. Acknowledging the impact of sentiments upon DJIA, NASDAQ and 13 big cap technological stocks, the significant finding stated that correlation for returns of DJIA (0.88) and on an average correlation between different features was 0.5. Both the values are higher than the previous studies done. This full study tracked Twitter sentiments and connected it with the stock market values (Rao and Shrivastava, 2011). The linkage between sentiments and stock market movements possess the predictive capacity, but such ability can be enhanced with the help of high-frequency data available. Sentiment analysis and stock market prediction via its promising pointers such as Nifty and Sensex implied promising results. Time interval of one second was taken to show the real-time effect of sentiments or moods over the stock prices to express the predictive capacity (Bhardwaj et al., 2015). The articles and annotations both effected and predicted the stock prices and earnings occurring shortly considering the time period of 2005-2012. The manner of the comments was found to be more consistent for predicting stock market performance as followers or readers can differentiate between authors based upon their right or wrong advice publicly (Chen et al., 2013). The model was proposed in which taking social media metrics; it identified non-heterogeneous stock groups and predicted stock co-movements. The sample datasets were taken for companies listed in NASDAQ and NYSE and explored the firms having Twitter accounts recorded higher co-movements than those which did not possess such official accounts (Liu et al., 2015).

The mood series generated by the analytical techniques were correlated with DJIA values. With the help of GPS, emotions such as calm and happiness contained the predictive effect of overstock prices. The study used two important emotions such as open finder (positive v/s negative) and GPOMS (calm, alert, sure, vital, kind, happy) which identified the major role players for settling predictive model (Bollen et al., 2010).

2.2 Predictive Models for Markets

The development of the prediction model in its full sense is worth-full if explained with the accuracy by using TSLDA (Topic sentiment Latent Dirichlet Allocation). The study showed values of historical prices of top 18 stocks and 18 message boards for the same 18 stocks. The result reflected that TSLDA model was affected and had 56 per cent of the accuracy (Nguyen et al.,2015). Due to such prediction stating the trend for the next day was possible, and the author developed two models for the prediction in stock markets as of Daily and Monthly prediction. It was implied that in monthly prediction model trend of one month was least correlated with that of another month whereas in daily prediction model 70 per cent accuracy existed. In this study, two datasets were used, one was of the historical dataset, and another one was of sentiment dataset of the company for a year. Companies from three different sectors such as oil, bank and mining, were taken. At the end study was successful in stating the trend for the next day while paying attention to continuous up/down, the volume traded per day and sentiments of the company (Nayak et al., 2016). While establishing the predictive models, the utmost important factor is to decide upon the predictor. Certain studies proved that financial news was better in predicting stock market volatility than the closing prices. On average, whenever new information (news) appears it was the volatility which has directional patterns in terms of prediction (56 per cent accuracy). In contrast, closing price movements' accuracy was of 49per cent. The study was conducted onto two stock indices as NASDAQ and DJIA with two equities indices Goldman Sachs and J.P. Morgan for the period September 9, 2011, to September 7, 2012. News data were taken from 9-10 am and based on the latest articles, manually, keywords were extracted, and the dataset was prepared (Atkins et al., 2018).

2.3 Sentiment Analysis and Corporate Linkage

Taking the corporate sector' data to settle such linkage is another dimension to explore. Movements in stock markets, news and tweets were found to be interlinked. The analysis carried out on companies such as Apple, Google and Sony for the period 12-26 February 2018 between 3 pm and 4 pm. The analytical part moved as the average of stock prices, news count & stock volume was taken to state the similarity between stock prices & news count with that of stock volume and news count. In the end, it was found that a strong correlation existed between stock movements and sentiment analysis except for one company, i.e. Apple. The company Apple had no likeness between volume and closing prices with that of the news feed and Twitter data (Rai et al., 2018). Selecting the time period, dates, and corporate sector is essential, but the selection of the concurrent event happening is worth-full too. It showed promising effects and causation of sentiments overstock price movements in the short term as study followed event such as UK based political event. The stock market pointers notified in the study were trade volume, market closing price and the average change in daily prices for six days having the occurrences such as pre-election, Election-day and post-election phase etc. (Nisar and Yeung, 2018).

3. Research Methodology

3.1 Research Design

For this study, exploratory and descriptive research design is adopted. This study considered Twitter data to explore the sentiments available in the market about GDP crash. Further, the linkage between sentiments & nifty movements is analyzed.

3.2 Stimuli Development

For understanding the stimuli, the event needs to be segregated in the pre-post phase. The event i.e. GDP growth crash was happened on August 31, 2019.In the pre-phase from August 23 to August 30, 2019, sentiments are concerned with perceptions of masses for current happenings in the market. From September 1 to September 7, 2019, post-event is discussed wherein the public has shown their reaction to such happening event.

3.3 Event Study

For attaining the purpose, the short window event was identified, i.e. Indian GDP growth falls, which is a major crash in past six years. After identifying event the variables relative to it are identified for the purpose of analysis.

3.4 Variables Identified

For this window event, the dependent variable is Nifty closing prices, and independent variables are all the sentiments involved in the event.

3.5 Research Methods

For the event study of GDP crash, the text mining technique is used that consists of two phases containing Accessing Twitter Data followed by Sentiment Analysis. The data was extracted and analyzed using R Software. The data set of extracted tweets is then passed to the text pre-processing stage, and finally, the classification of text into seven emotions as a part of the sentiment of analysis. After exploring the sentiments during the time phases stated, daily closing prices data of benchmark index, i.e. NIFTY for the same time period is considered into the study. Lastly, regression analysis is applied to measure the impact of sentiments on closing prices.

4. Conclusion

As per the above analysis done, it is clear that the pre-post situation of such happening is reflecting two sentiments, i.e. trust & positive and negative & trust, respectively. However, trust consists of an adverse impact on the market when such information was released. From the investor point of view, the existence of such trust sentiment is a positive indication as investors are the primary role player of the economy who trusts the current situation. Even if it is a GDP-crash, still they are not ready to withdraw from the market. But the same stance of investors is working adversely for the stock markets as now due to investors' stringent behavior stock market is showing less volatility which is critical for the whole market.

References

1. Atkins, A., Niranjan, M., &Gerding, E. (2018). Financial news predicts stock market volatilitybetter than close price. *The Journal of Finance and Data Science*, *4*(2), 120-137.
2. Bhardwaj, A., Narayan, Y., & Dutta, M. (2015). Sentiment analysis for Indian stock market prediction using Sensex and nifty. *Procedia Computer Science*, *70*, 85-91.
3. Bollen, J., Mao, H., & Zeng, X. (2011). Twitter mood predicts the stock market. *Journal of computational science*, *2*(1), 1-8.
4. Chen, H., De, P., Hu, Y. J., & Hwang, B. H. (2014). Wisdom of crowds: The value of stock opinions transmitted through social media. *The Review of Financial Studies*, *27*(5), 1367-1403.
5. Liu, L., Wu, J., Li, P., & Li, Q. (2015). A social-media-based approach to predicting stock comovement. *Expert Systems with Applications*, *42*(8), 3893-3901.
6. Nayak, A., Pai, M. M., &Pai, R. M. (2016). Prediction models for Indian stock market. *Procedia Computer Science*, *89*, 441-449.
7. Nguyen, T. H., Shirai, K., &Velcin, J. (2015). Sentiment analysis on social media for stock movement prediction. *Expert Systems with Applications*, *42*(24), 9603-9611.
8. Nisar, T. M., & Yeung, M. (2018). Twitter as a tool for forecasting stock market movements: A short-window event study. *The Journal of Finance and Data Science*, *4*(2), 101-119.
9. Rai, B., Kasturi, M., & Huang, C. Y. (2018). Analyzing Stock Market Movements Using News, Tweets, Stock Prices and Transactions Volume Data for APPLE (AAPL), GOOGLE (GOOG) and SONY (SNE). In *Proceedings of the International Conference on Pattern Recognition and Artificial Intelligence*, 109-112. ACM.
10. Rao, T., & Srivastava, S. (2012). Analyzing stock market movements using twitter sentiment analysis. In *Proceedings of the 2012 international conference on advances in social networks analysis and mining (ASONAM 2012)*, 119-123. IEEE Computer Society.