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Effects of Digitisation and Social Media on Stock Markets

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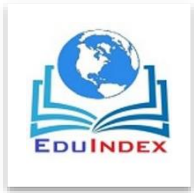
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ABSTRACT

Our country has progress leaps and bounds in connecting the citizens through internet. There has been an upswing in the usage of Digital Media at all the levels by each strata of the society. The Indian securities market also has witnessed a sea change in its operations in last two decades. Initially the investors used to interact with the brokers and they were accessible to people in handful cities. The trading used to happen manually and the instruments used to be in hard copies. There were situations when the allotment used to take 3 to 6 months time after one has applied to the Initial public issue. Today with the advancement of the digital media the process has become fast and efficient, the brokerage have reduced with more transparency is achieved in the execution of orders. Saving, Securing and trading of shares have improved a lot. The geographical barriers have been eliminated, also the success stories have reached the rural folks and the participation from across the strata has gone up. E-trading has saved time and has given direct access to the investor saving his expenses and energy. Social Media presence has created an interest in the investor community and also has attracted the normal citizens to involve themselves into securities trading. The much required info and knowledge about the stocks are available with ease on Apps/Tabs/computers etc. Social Media has helped to grow the awareness and add more investors to the stocks.

The paper addresses the present state of securities markets and its growth in past few years. It also underlines the security threat it poses for the regulators. The paper also talks about the benefits of digitization of securities in India and how it has helped the investors also the concerns regarding the online security. The paper also looks at the future use of Business Intelligence and Artificial Intelligence / Machine Learning for the benefit of trading.

Key words : Stock Markets In India, Internet, Online Stock Trading, Security



HISTORY OF STOCK MARKET

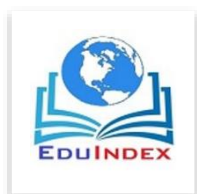
The trading society says that in the middle of 13th century, Venetian bankers started trading in Government Securities. In 14th Century banks in Verona and Pisa also began to trade in Government Securities. It is also believed that the Dutch East India Company was the first joint stock company to get a fixed capital stock and by consequence of which regular trading in stock happened on Amsterdam Exchange. Stock market is said to be the barometer of any economy. There are stock exchanges in almost every country of the world. Some of the leading stock exchanges in the world include New York Stock Exchange, NASDAQ QMX, Shanghai Stock Exchange, Tokyo Stock Exchange, London Stock Exchange, Hong Kong Stock Exchange, BSE, NSE, SGX etc.

INTRODUCTION:

The Universe has already been digitalised in each and every strata of business, India has also been catching up with the same off late. The Current govt's push on the digitalisation of the banking/payment process in order to have cashless transactions across the nation has had a significant impact on the lives of the countrymen. Currently India boasts of a 600 million Internet users with the evergrowing %age of the users. It is estimated that India will have around 70% of its population having access to the internet by 2025.

In India, Stock markets introduced Internet trading (online-trading) in February 2002 which has brought a tremendous change in trading. The National Stock Exchange (NSE) started the first form of online trading wherein user/investors can buy/sell stocks in a day without much paper work. The Usage of Internet has reduced the trading cycle and made the transfer of shares more efficient and instant. In the last decade, Indian capital markets have recorded 1488% of growth in exchange turnover.

It projected a double digit growth for 2019 and estimates that the number of internet users will reach 627 million by the end of this year. Of the total user base, 87 percent or 493 million Indians, are defined as regular users, having accessed internet in last 30 days. Nearly 293 million active internet users reside in urban India, while there are 200 million active users in rural India, it said. "It is fascinating to note that the digital revolution is now sweeping small towns and villages perhaps driven by increased accessibility at



affordable data costs. The increase in the usage of digital in rural India, where more than two-thirds of active internet users are now accessing the internet daily to meet their entertainment and communication needs," According to the Kantar IMRB MD.

The growing reach of Internet has enabled the online stocks to expand and penetrate the population of the country via websites, online solutions, Social Media, Mobile Apps and emails.

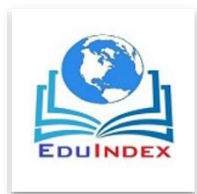
ONLINE STOCK TRADING IN INDIA

Online stock trading in India has gained ground in the last 15 years. WIT Beer for first time, way back in 1969, had introduced the idea of online stock trading. Online stock trading in India is being provided by host of companies / banks and brokers. ICICIDirect, Sharekhan, AnandRathi , SBI, 5paisa, angel broking, Upstox, Zerodha, tradejini, tradeplus, Geojit securities, Indiabulls, Religare, Kotak Securities, Motilal Oswal Securities, Reliancemoney, India Infoline.com Securities limited , and IDBI Paisabuilder are the major players in online Indian stock trading.

LITERATURE REVIEW

Prof Ajay Shukla & Dr Shriram Nerlekar (Feb 2019) wrote in their paper that the biggest gainers of the Internet technology are companies like Facebook, Twitter, Google, Amazon, Netflix etc, also it has impacted the companies which are in Oil and Gas domain along with Stores, shops and marts catering to end customers, as a result they have a reduced growth. According to them the digital wave is not going to hamper the other businesses to a larger extent since Healthcare and Financial sector are strictly regulated.

Dr. Sarika Srivastava in her paper Impact of Internet Growth on the Online Stock Trading in India (2011) has concluded that Capital market is a vital source of providing liquidity which provides access to growth for the firms which are having certain financial constraints. The paperless trading has brought transparency and the companies have started benefitting out of it. The technological advances has also some security issues related with cyber attacks and theft of vital information via viruses. The digital commerce has been



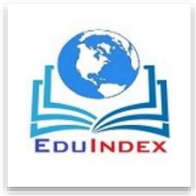
expanding and has made inroads into rural users, care has to be taken to provide fast and secure internet access at an economical cost to boost the virtual trading

Shivangi Jaiswal,, Pankaj Joge, Nisha Saw, in their paper analyzed the online trading and suggested that all transactions should happen thru computers and online. Computerised trading helps in enhancing the liquidity and the funds flow also in the system increases which leads to the growth. Only the concern area to be noted is the security, but technology is available to enable secure e-commerce experience. Fast and secure internet will lead to growth of the stock market.

Haroun Alryalat, Yogesh Kumar Dwivedi, Jasna Kuljis, and Ray J. Paul (2006) analyzed the effect of online and traditional trading on effective market performance on the NASDAQ. The paper's objective was to present a critical analysis on the competition between online (ECN) and traditional (Market Maker (MM)) trading on the NASDAQ stock exchange. Online stock trading mechanisms at the exchanges are often a hybrid of dealer and auction markets. Different aspects of trading execution, which is the most commonly used market centre at present, were analyzed. This leads to a discussion on: (1) the path that executes order is organized and (2) its impact on the effective market performance, trading cost and investor behavior.

Nidhi Walia and Ravinder Kumar (2007) wrote in their research paper, which was published in Indian journal of marketing, that there is no denying the fact that internet trading offered investors convenience of trading along with reduced cost. But Indian investors have not yet fully realized the importance of using technology for stock trading. The major findings of the study are the Indian investors are more conservative, they do not change brokers for trading, whereas net traders are more comfortable with online trading for its transparency and complete control of the terminal.

DR. A. Abdhul Rahim in his paper prospects and problems of online share trading practices in India mentioned that technological advancement in the software being used for the online trading is required. New trading mechanism can be formed to allow the trading of stocks in the world's global companies. There has to be special emphasis on customer education and relationship management. Major hurdles for the growth of online stock trading are computer illiteracy, poor infrastructure, risk adverse attitude of investors etc. So with the growth of educated investors and support from SEBI, online trading is sure to grow faster.



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Brad M. Barber and Terrance Odean (2002) analyzed 1,607 investors who switched from phone based to online trading during the 1990s. Those who switched to online trading perform well prior to going online, beating the market by more than 2% annually. After going online, they trade more actively, more speculatively, and less profitably than before—lagging the market by more than 3% annually. Reductions in market frictions (lower trading costs, improved execution speed, and greater ease of access) do not explain these findings. Overconfidence—augmented by self attribution bias and the illusions of knowledge and control—can explain the increase in trading and reduction in performance of online investors. They found that investors who choose to make investments online are better performers than those who do not go online before the switch but worse performers after the shift. The idea is that overconfidence induces them to switch but then excessive trading after the switch dissipates their profits.

RESEARCH OBJECTIVES

The present study focuses with the following objectives.

To find out the reach and benefits of online share trading.

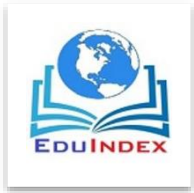
To analyze the concerns of online share trader.

To offer suggestion for future prospects in digital world.

RESEARCH METHODOLOGY

The study conducted is both descriptive and analytical in nature. It is a study based on secondary data. The secondary data has been collected from the books, journals and websites which deal with online share trading.

PRESENT STATUS OF INDIAN STOCK MARKET

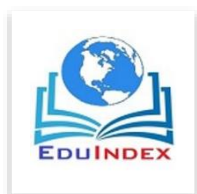


A) Trading Volume

Trading volume is the value of shares traded on various bourses in the country. The major entities are investors/traders, stock brokers, clearing corporation and the exchanges. A broker acts as an intermediary between you and the exchange. Companies that raise money by issuing shares to the public get listed on the exchanges. Through IPO, shares are issued to the investors in the primary market and once IPO gets over, the company gets listed on the exchange that gives an opportunity to trade in shares. The share market is regulated by SEBI. It is essential for any trader or investor to understand what is nse and bse in share market and the difference between nse vs bse before entering the stock market. NSE and BSE are the major national exchanges in India. You can trade in stocks by opening a demat or trading account with a depository participant or stockbroker. Once you open an account you are free trade via app or online.

B) Market Capitalization

Market capitalization is the complete measure of corporate size of a country. It shows the current stock price multiplied by the number of outstanding shares. It is commonly referred to as Market cap. It is calculated by multiplying the number of common shares with the current price of those shares. This term is often confused with capitalization, which is the total amount of funds used to finance a firm's balance sheet and is calculated as market capitalization plus debt (book or market value) plus preferred stock. While there are no strong definitions for market cap categorizations, a few terms are frequently used to group companies based on its capitalization. The Table-1, shows the market capitalization of various stock markets in the world. Based on the above study, it can be observed that India is 15th in the world ranking of Market capitalization. This is in spite of having the third largest investor base, after Japan and USA, and having the largest number of companies listed. United States leads the list of countries with the highest market capitalization. India has the highest number of companies listed in the stock market. Out of this, about 75 % of the companies are listed with the Bombay Stock Exchange.

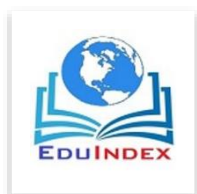


The top 5 countries including USA (others are China, Japan, Hong Kong, and France) account for 71.37% of it. The world's total market capitalization was estimated at 67,599,996 million US dollars in 2018. India ranks 6th Worldwide.

Source : The Global Economy		
Sr No	Country	Market Capitalization in Million USD
1	USA	30436
2	China	6324
3	Japan	5296
4	Hongkong	3819
5	France	2365
6	India	2083
7	Canada	1937
8	Germany	1755
9	Switzerland	1441
10	South Koria	1413
11	Australia	1262
12	Brazil	913
13	South Africa	865
14	Spain	723
15	Singapore	687

C) Online Trading In India

Online trading is buying and selling of assets through a brokerage's internet based proprietary trading platform or thru Trading Apps via Mobile / TABS / PC's it is also known as E-trading or Self Directed Investing. In India the on-line trading system is used by companies to make it is a fully automated screen based bidding system that allows trading members to enter bids on behalf of their clients. All bids received by the system are numbered, time stamped, and stored in the book till the last day of the book building process and the offer price is determined after the bid closing date. While ensuring efficient price discovery, this system reduces time taken for completion of the issue process. Online trading in India has been increasing over the last decade. The volume of the trades show a positive negative growth based on multiple

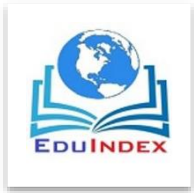


factors including economic conditions, disposable income and the returns from Stocks. The trading volume was around Rupees 14624067 crores in 2015-16 which has risen to Rupees 72786298 in the year 2018-19. Of the total inline trades around 50% online trades are from the retails investors.

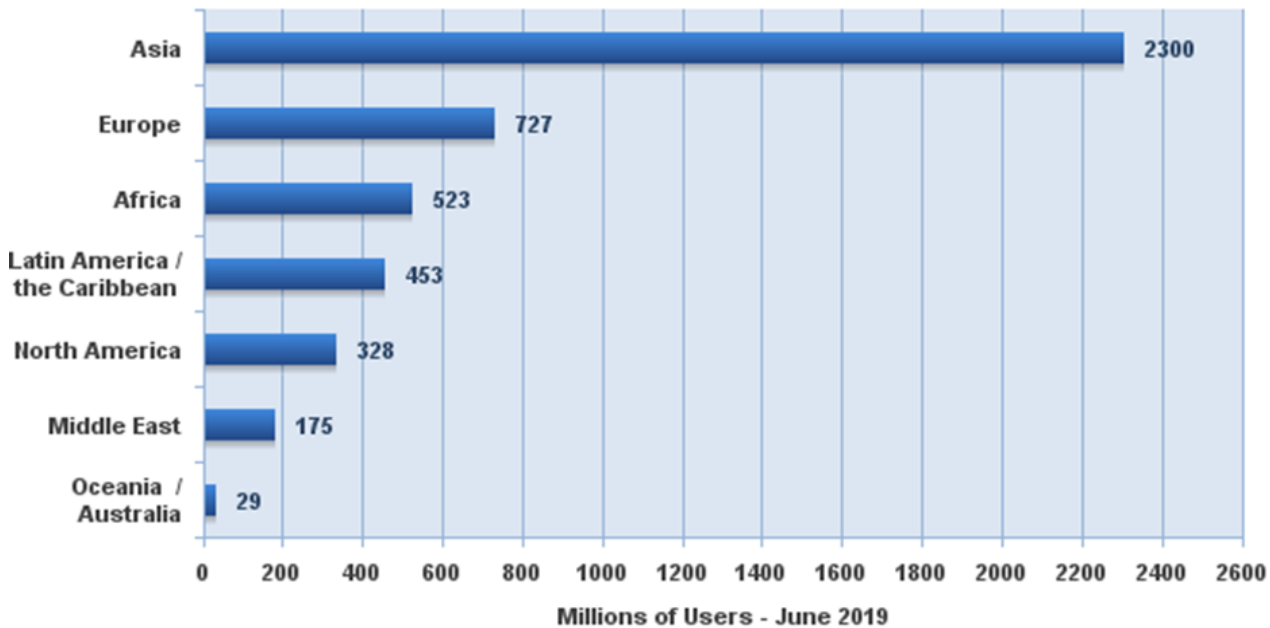
INTERNET TRADING ASSISTS IN ECONOMIC GROWTH

The focus of the current government is to connect all the panchayats in the country thru BroadBand paving way for cheap and accessible internet. The steps taken by the government of India through IT Policy have paid rich dividend in the form of increase in share of IT in GDP, Foreign Exchange reserves and Foreign Direct Investment from multi nationals in IT sector (Bajwa 2003). India is emerging as the fastest hub in the world as IT's Contribution to country's GDP has increased from 1.2%in 1997-98 to 5.2%in 2006-07. The current regulatory bodies of India have been actively involed in expanding the in investors base. With the growth of Internet trading Companies are able to keep costs down by bringing goods and services to markets around the world more easily. Individuals are able to compare prices, search and find information or items and communicate and learn things in an improved new way. With the introduction of E-governance Governments are able to serve its citizens much more easily. According to the report there are more than 3 million internet users worldwide. The report also stated that the Internet has wide spread impact on the growth and prosperity of the country by reducing the problem of unemployment in the country. In Table II we can see that Asia has the largest internet users in the world.

TABLE : II



Internet Users in the World by Geographic Regions - Mid-Year 2019



Source: Internet World Stats - www.internetworldstats.com/stats.htm

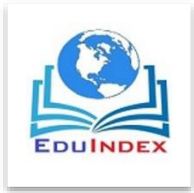
Basis: 4,536,248,808 Internet users estimated in June 30, 2019

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IMPACT of INTERNET GOWTH : Shifting Trading Pattern

The access to cheap data along with the availability of affordable Smartphones / Tabs etc., has had a cascading effect on the customer engagement, it is now much easier and comfortable to engage the customers. The access to information and knowledge about the Stock Markets have never been so enriching in the past. Investors are being feeded with online content thru, WhatsApp, Twitter, Financial sites, etc.

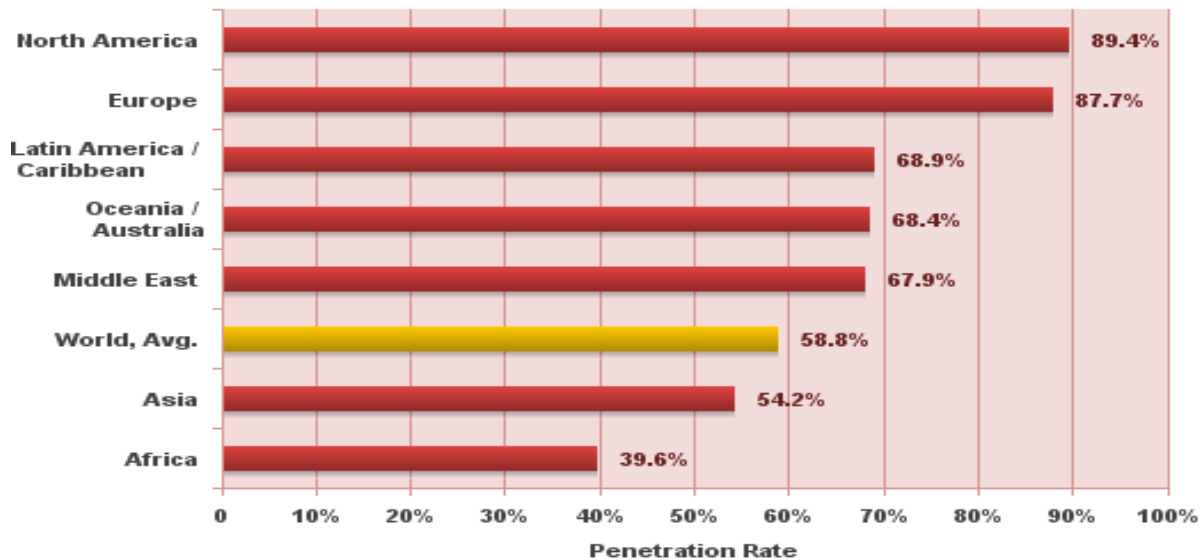
The digital media has been very efficient and economical in reaching the prospective investors. It has been possible for the big brands to constantly remind the investors ultimately leading to a higher recall. The social media aslo has been very helpful in exapnding the reach of the stock markets to the rural folks also, it has been supporting the cause of making the high networth Individuals invest in stock markets and add value to their financial returns.



With many analytics tools available to the stake holders in the business, it has been very convenient to catch with the latest trends and the behaviour of the markets, economy and Industry. Technology has come to aid the investors with more accurate predictions, there have been charts which predict the daily/ weekly/monthly movements of the stocks. Business Intelligence with the help of Big Data tools has been in use for deriving maximum benefits from trading.AI has only started to make progress. Another method, known as deep learning, has driven recent advances in AI, such as image recognition and speech translation. Researchers are trying to bring it to finance, though its use is still limited. Zack Lipton, a professor at Carnegie Mellon, has co-authored a paper showing one possible approach. It addresses the noise problem by predicting not stock prices, but the changes in company fundamentals—such as revenue or profit margins—that ultimately drive returns. Table III shows the penetration of the Internet users worldwide. It indicates the the we in India still have a large population to be connected with the Internet, which in itself is a huge market to be covered looking at the huge population of the country.

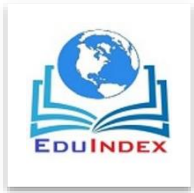
TABLE : III

Internet World Penetration Rates by Geographic Regions - Mid-Year 2019



Source: Internet World Stats - www.internetworldstats.com/stats.htm Penetration Rates are based on a world population of 7,716,223,209 and 4,536,248,808 estimated Internet users in June 30, 2019. Copyright © 2019, Miniwatts Marketing Group

SOCIAL MEDIA : Impact on Trading And The Markets

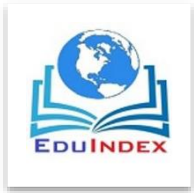


Social Media has encroached on the living space of most of the investors in the country. Facebook, Twitter, Instagram, TikTok, Youtube etc. Facebook boasts more than 800 million active users. These users are making social media an increasingly significant part of their daily activity and decision making processes, with consumers utilizing brand pages and recommendations from within their network to help define their purchasing habits. Businesses have also followed suit, by analyzing the trends and behavior of consumers to help improve their own product or service accordingly. In fact, 2011 saw social media begin to influence the global investment markets, to the point where it is now playing a significant role in helping to determine trading strategy and stock value. As for now the social media has become the single largest source of online data, and research conducted by the Universities of Manchester and Indiana in 2010 suggested that the scrutiny of this data could actually help to reveal stock market trends and movements.

The sheer number of people on the social media and the influencing trends on the same has evolutionizing the way in which businesses market themselves and interact with consumers, social media is now having a significant influence on traders and the ways in which they choose to evaluate potential investments.

CONCLUSION

The paper suggests that with the advancement in the Information, Communication and Telecom industry, the penetration on the Internet has majorly covered the urban area and now slowly engulfing the economically strong rural belts of the country. The Stock market trading currently in India is almost done through Computers/laptops/Mobiles or Tabs. Stock Market development is a key indicator of the economic health of a country. With digitalisation the advantages are immense, like adequate liquidity, access to Foreign investors. Security while performing a trade and exposure to the online trade invites lot of hackers which is a huge challenge for the cyberexperts. Organisations and the Commerce bodies are investing a lot in securing the trades and have been developing technology to safeguard and secure the transactions every moment. Off late In India access to internet connection at lower prices has given a boost to digital commerce regime, the ever growing presence of the investors on the social media has helped the Investors community to grow and enhance their share of contribution in order to have high returns. The Online trading has saved precious time of the investors and also the knowledge and the information gained out of the Social Media and the online comparative sites has helped them to reap the benefits.



People have been working on programs and application that take help of the Machine Learning and Deep learning to predict the future movement of the stocks. But due to the ever changing data related to trading the predictions have not yet been able to win the confidence of the customers. The uncertain nature of the stocks have made the task difficult for the data scientists to evolve and app for future analysis.

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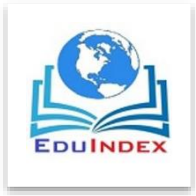
Impact of digitization transformation on financial markets, Prof Ajay Shukla* Dr Shriram Nerlekar*

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