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*Editor-in-Chief*  
**Dr. R. K. Patra**

*Sponsored By:*  
**Bharatiya Vidya Bhavan Institute of  
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Bharatiya Vidya Bhavan Institute of Management Science, Kolkata, India was started in the year 2000 under the aegis of Bharatiya Vidya Bhavan as a promising B-School under Maula Abul Kalam Azad University of Technology (MAKAUT). Our MBA program is affiliated to the MAKAUT and is approved by the All India Council for Technical Education (AICTE), Ministry of Human Resource Development, Govt. Of India and Department of Higher education (Technical Education), Govt. Of West Bengal. The Institute conducts a 2 year MBA program on a regular basis.

The 1st and 2nd semesters contain core subjects. In the 3rd and 4th semesters, students have to specialize in a particular field of Management. At present, we offer a specialization in four areas, Marketing, Human Resources, Finance and Business Analytics. To make the students better equipped to handle the ever-changing business scenario, dual specialization is now offered. Students are required to select 3 courses from one area (Major Specialization) and one course from a different area (Minor Specialization).

MBA students of our Institute continued to perform the best in the University securing top 7 positions in 2015-2016. The students are functional in the industry with pride, displaying a commendable performance. The focus of our teaching is to provide that cutting edge for industrial assignments through Seminars, Industry Visits, Case Studies and Interactive Session with the industry stalwarts.

# BIMS Journal of Management

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## EDITORIAL NOTE

**Dr. Ramakanta Patra**

*Principal, BIMS, Kolkata*

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“I am not afraid of storms, for I am learning how to sail my ship.” – **Louisa May Alcott**

The ongoing pandemic has a global toll on every sector and higher education is not an exception. The challenging part with most of the HEIs in India is to manage the sudden and unprepared shift towards online teaching and learning. This includes updating technical infrastructure, student real time communication, capacity building of faculties on tech-based distance education, student training on new methods and obviously a macro factor of existing telecommunication infrastructure.

Another challenge is to conduct examinations. The overnight demand of shift in examination pattern to proctored online method calls for constant dialogue and updation among the stakeholders. The great financial restrictions due to delayed or reduced tuition fee payment, partially due to a potential drop in student enrolment and placements, were among the biggest concerns stemming from the COVID-19 pandemic.

But the situation is not only bad at all. It has some great positive experiences too. The COVID-19 crisis enforced a move towards online teaching and learning, thereby creating space for more flexible learning potentials, exploring blended learning, and mixing synchronous learning with asynchronous learning. The pandemic has led to the capacity building of staff and faculty, convincing them to learn and test new tools and systems for online teaching and learning. This obviously will lead to an increase in innovation in teaching pedagogies, as well as delivery modes.

At here in BIMS, we undertook several initiatives to build resilience, ensure continuity, and create an impact in times of COVID-19. These included the transition to online classrooms to maintain academic continuity, knowledge creation through Webinars, ensuring emotional wellness by building strength, support, and awareness, the launch of learning and development by building access for student communities to online MOOCs and e-resources etc. At the Government level, All India Council for Technical Education launched the Best Institution Award under the theme “India Fights Corona” and introduced a course on Universal Human Values. To help the students under duress amidst the lockdown, a web portal (<https://helpline.aicte-india.org>) was created to support stranded students and re-connect them to their family, schools, colleges and meet their urgent personal needs, including psychological support. The Government of India also announced a National Educational Alliance for Technology (NEAT) as a Public-Private partnership model to bring the best technological products in education

technology on a single platform for the convenience of learners. The Enhancement in Learning with Improvement in Skills (ELIS) portal was created to provide all students with content to enhance learning for regular subjects and increase valuable skillsets required for the actual work environment. According to a report of AIU, digital footfalls tripled in the country just a week after the lockdown on digital initiatives, like SWAYAM ‘Study Webs of Active Learning for Young Aspiring Minds,’ which provides an integrated platform for various online courses across levels and subject areas, including skill sector courses. SWAYAM hosted about 2000 complete courses, including teaching videos, weekly assignments, examinations, and credit transfers educational.

I would like to conclude the editorial with a quote of **Jeanette Coron** - “Everybody goes through difficult times, but it is those who push through those difficult times who will eventually become successful in life. Don't give up, because this too shall pass.”

**Dr. Ramakanta Patra**

*Principal, Bharatiya Vidya Bhavan Institute of Management Science, Kolkata & Chief-Editor, BIMS Journal of Management*



# A STUDY ON FACTORS THAT DETERMINE INVESTMENT DECISIONS

N. Geetha<sup>\*</sup>, M. Ramesh<sup>\*\*</sup>

## ABSTRACT

*This study attempts to find out the significance of demographic factors of population such as gender, age, education, occupation, income, savings and family size over several elements of investment decisions like priorities based on characteristics of investments, period of investment, reach of information source, frequency of investment and analytical abilities. The study was made by conducting a survey in Nagapattinam district of Tamilnadu, South India and the statistical inferences were deduced using computer software tools. The study reveals that the demographic factors have a significant influence over some of the investment decision elements and insignificant in others elements too. The study also discloses a general view of investors perception over various investment avenues.*

**KEYWORDS:** *Investment, Investment Decision Process, Physical Investments, Financial Investments, Return on Investments, Risk. JEL Classification: M00*

## 1. INTRODUCTION

Investment has different meaning in the context of finance and economics. Finance investment is putting money into something with the expectation of gain that upon thorough analysis has a high degree of security for the principle amount, as well as security of return, within an expected period of time. In contrast, putting money into something with an expectation of gain without making thorough analysis is speculation or gambling. Thus, Finance Investment involves decision making process in order to ensure security of both the principle amount and the return on investment

(ROI) within an expected period of time. In economics, investment means creation of capital or goods capable of producing other goods or services.

The two main classes of investments are i) Fixed Income Investment such as bonds, fixed deposits, preference shares and ii) Variable Income Investment such as business ownership (equities) or property ownership. On the basis of tenure, the investments are classified as i. Short-term Investment and ii. Long-Term Investment. Investments made for a period of one to three years are termed as short-term investments and that are invested for more than three years are termed as long-term investments. Almost everyone holding some portfolio of investment in the form of financial assets like bank deposits, bonds, stocks and so on; and real assets like motorcycle, house, gold etc.

With reference to individuals, investment decisions should be made very wisely and with proper research and analysis. Investment is always attached with the element of risk of losing the invested money and this loss is not under the control of the investor. Hence, it is always advisable to measure and analyze all risks involved before making investments. Plenty of investment avenues available for the investors make their decision-making process more critical and complex. There are a number of factors which influence the people to make their investment decisions. Demographic factors of investors such as gender, age, education, family size, annual income, and savings have much significance in the Investment Decision Making Process, especially in the Indian context, it assumes greater significance. A study has been undertaken in Nagapattinam district of Tamilnadu state to find its

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significance and the outcome of the study is narrated in the foregoing paragraphs.

## 2. DEFINITIONS

- Eminent authors of finance and economics have defined the term Investment in their own ways. Some of the definitions coined by distinguished authors are:
- Investment is the process of “sacrificing something now for the prospect of gaining something later”.
- Investment may be defined as “the allocation of monetary resources to assets that are expected to yield some gain or positive return over a period of time.”
- Investment means “the commitment of funds made in the expectation of some rate of return.”

## 3. INVESTMENT AVENUES

In India, a number of investment avenues are available for the investors. Some of them are marketable and liquid while others are non-marketable. And some of them are highly risky while others are almost riskless. The people have to choose proper avenue among them, depending upon his specific need, risk preference, and return expected. A brief roundup of various investment avenues is presented under the following heads.

- **Bank Fixed Deposits:** When a deposit is made for a certain sum in a bank with a fixed rate of interest and for a specified time period, it is called a bank Fixed Deposit (FD). At maturity, you are entitled to receive the principal amount as well as the interest earned at the pre-specified rate during that period. They are one the most common savings avenue and account for a substantial portion of an average investor’s savings.
- **Company Fixed Deposits:** Fixed deposits in companies that earn a fixed rate of return over a period of time are called Company Fixed Deposits. Financial institutions and Non-

Banking Finance Companies (NBFC) also accept such deposits. Such deposits are governed by the Companies Act under Section 58A. These deposits are unsecured, i.e., if the company defaults, the investor cannot sell the company to recover his capital, thus making them a risky investment option.

- **Recurring Bank Deposits** Under a Recurring Bank Deposit, investment is made for a specific amount in a bank on a monthly basis for a fixed rate of return. The deposit has a fixed tenure, at the end of which the investor will get his principal sum as well as the interest earned during that period. The rate of interest, calculated quarterly or as specified by the bank, varies between 4 and 6 per cent, depending on the maturity period and the amount invested. A Recurring Bank Deposit is a powerful tool for regular savings.
- **Public Provident Fund (PPF):** A long term savings instrument with a maturity of 15 years but the number of contributions annually is limited to 16 and interest payable is at 8% per annum compounded annually. The subscriber to a PPF has to make minimum of deposits of Rs.100 annually. A PPF account can be opened through a nationalized bank at anytime during the year and is open all through the year for depositing money. Tax benefits can be availed for the amount invested and interest accrued is tax-free. A withdrawal is permissible every year from the seventh financial year of the date of opening of the account and the amount of withdrawal will be limited to 50% of the balance at credit at the end of the 4th year immediately preceding the year in which the amount is withdrawn or at the end of the preceding year whichever is lower. The subscriber to the PPF is eligible to take loan from the third year after opening of account and interest for that loan is 1 % higher than PPF interest rate.
- **Employees Provident Fund (EPF)** The Employees Provident Fund (EPF) was first

established on 1 October 1951 under the EPF Ordinance 1951 which was subsequently known as the EPF Act 1951. The EPF Act 1951 has since then been replaced by the EPF Act 1991 in June 1991. Besides being the world's oldest national provident fund, EPF is also one of the most successful funds of its kind, providing a compulsory savings scheme for employees to ensure their security and well being in their old age.

- **Life Insurance** A life insurance policy is a contract between an individual (termed as insured) and an Insurance company (insurer) to pay the insured, or his nominated heirs, a specified sum of money on the happening of an event. The event could be the expiry of the insurance policy or the death of the insured before the expiry (date of maturity) of the policy as per the terms of the policy. There are many variants of a life insurance policy:
  - **Whole Life Assurance Plans:** These are low-cost insurance plans where the sum assured is payable on the death of the insured
  - **Endowment Assurance Plans:** Under these plans, the sum assured is payable on the maturity of the policy or in case of death of the insured before maturity of the policy.
  - **Term Assurance Plans:** Under these plans, the sum assured is payable only on the death of the insured before expiry of the policy.
  - **Pension Plans:** These plans provide for either immediate or deferred pension for life. The pension payments are made till the death of the annuitant (person who has a pension plan) unless the policy has provision of guaranteed period.
- **Small Savings:** Small Savings Schemes are basically of two types: *i) Post Office Savings:* Savings Deposits; Recurring Deposits; Time Deposits; & Monthly Income Account and *ii) National Savings:* Public Provident Fund; National Savings Certificates; & Kisan Vikas Patra.
- **Bullion investment:** The bullion offers investment opportunity in the form of gold, silver, art objects (paintings, antiques), precious stones and other metals (precious objects). Specific categories of metals are traded in the Metal Exchange. The bullion market presents an opportunity for an investor by offering returns and the end value of future. It has been absurd that on several occasions, when stock market failed, the gold market provided a return on investments.
- **Real Estate** Investment in real estate also made when the expected returns are very attractive. Buying property is an equally strenuous investment decisions. Real estate investment is often linked with the future development plans of the location. At present investment in real assets is booming.
- **Mutual Funds** Mutual funds are investment companies that use the funds from investors to invest in other companies or investment alternatives. They have the advantage of professional management, diversification, convenience and special services such as cheque writing and telephone account service. Mutual funds come in various types, allowing you to choose those funds with objectives, which most closely match your own personal investment objectives.
- **Equity Share** Equity, also called shares, is the basic building blocks of a company. A company's ownership is determined on the basis of its shareholding. Shares are, by far, the most glamorous financial instruments for investment for the simple reason that, over the long term, they offer the highest returns. Predictably, they're also the riskiest investment option. The Bombay Stock Exchange (BSE) sensx is the most popular index that tracks the movements of shares of 30 blue-chip companies on a weighted average basis. The rise and fall in the

value of the sensex, measured in points, broadly indicates the price-movement of the value of shares.

- **Debentures/Bonds** A Bond is a loan given by the buyer to the issuer of the instrument. Companies, financial institutions, or even the government can issue bonds. Over and above the scheduled interest payments as and when applicable, the holder of a bond is entitled to receive the par value of the instrument at the specified maturity date. Bonds can be broadly classified into Tax-Saving Bonds and Regular Income Bonds

#### 4. REVIEW OF LITERATURE

Headen and Lee (1974) studied the effects of financial market behavior and consumer expectations on purchase of ordinary life insurance and concluded that life insurance demand is inelastic and positively affected by the change in consumer sentiments; interest rates playing a role in the short run as well as in the long run. Lewellen (1977) found that age, sex, income and education affect investor's preferences. Truett et al. (1990) discussed the growth pattern of life insurance consumption in Mexico and United States in a comparative framework, during the period from 1964 to 1984. They concluded the existence of higher income inelasticity of demand for life insurance in Mexico with low income levels. Age, education and income were significant factors affecting demand for life insurance in both countries. Gupta (1994) made a household investor survey with the objective to provide data on the investor preferences on Mutual Funds and other financial assets. The findings of the study were more appropriate, at that time, to the policy makers of mutual funds to design the financial products for the future. Kulshreshta (1994) offers certain guidelines to the investors in selecting the mutual fund schemes. Shankar (1996) points out that the Indian investors do view mutual funds as commodity products and suggested that the AMC's should follow the consumer product distribution model to capture the market. Jambodekar (1996)

conducted a study to assess the awareness of Mutual Funds among investors, to identify the information sources influencing the buying decision and the factors influencing the choice of a particular fund. The study reveals among other things that income schemes and open ended schemes are more preferred than growth schemes and close ended schemes during the prevalent market conditions. Sikidar and Singh (1996) carried out a survey with an objective to understand the behavioral aspects of the investors of the north eastern region towards mutual funds investment portfolio. The survey revealed that the salaried and self-employed formed the major investors in mutual fund primarily due to tax concessions. Bandgar (1998) in his study found that investors are educated in investment decision making.

Shanmugham (2000) conducted a survey of 201 individual investors to study the information sourcing by investors, their perceptions of various investment strategy dimensions and the factors motivating share investment decisions. Rajarajan (2000) found an association between lifestyle clusters and investment related characteristic. Soch and Sandhu (2000) have studied perceptions of bank depositors on quality circles, customer's complaint cell, quality banking, tele-banking, and customer meets in private banks. Study of Rafael La porta et al., (2000) reveals that a strong investor protection is a manifestation of the security of property. Karmaker (2000) has found that the life insurance policy is the most popular investment avenues. Huberman (2001) opine that a person is more likely to invest in companies known to him and shy away from the unknown avenues. Zietz (2003) and Hussels et al. (2005) has reviewed the efforts of research to explain consumer behavior concerning the purchase of life insurance for almost 50 years. The review of earlier studies concludes that bulk of the empirical studies undertaken finds a positive association between increase in savings behavior, financial services industry and demand for life insurance. There are two detailed studies on the determinants of life insurance demand, one taking into consideration only the Asian countries

and the other based on 68 countries. Kadiyala and Rau (2004) investigated investor reaction to corporate event announcement. They concluded that investors appear to under-react to prior information as well as to information conveyed by the event, leading to different patterns; return continuations and return reveals, both documented in long-horizon return. They found no support for the over-reaction hypothesis.

Rajeswari and moorthy (2005) observed that investors demand inter-temporal wealth shifting as they progress through the life cycle. Tesfatsion (2006) argues, that privately motivated agents in an agent-based framework include economic, social, biological and physical entities, and that agents are able to communicate with each other by using different techniques. It is also important to allow that artificial agents have learning capabilities and are able to develop it in time. People differ in the level of their knowledge, capabilities, abilities, reasoning, skill and experiences, emotions, social networks they are involved in, attitude towards risk, time and different types of assets, wealth, luck and many other characteristics, all of which are important elements in building one's preferences, which are so important for asset markets. Avinash Kumar Singh (2006) to analyze the investment pattern of people in Bangalore city and Bhubaneswar analysis of the study was undertaken with the help of survey conducted. It is concluded that in Bangalore investors are more aware about various investment avenues and the risk associated with that. And in Bhubaneswar, investors are more conservative in nature and they prefer to invest in those avenues where risk is less like bank deposits, small savings, post office savings etc.

Omar and Frimpong (2006) stressed the importance of life insurance and regarded it as a saving medium, financial investment, or a way of dealing with risks. Chowdhury et al. (2007) have found in a survey that a good number of people are choosing insurance companies with a view to earn higher return on deposited money. Rajkumar (2007) identified the customers' attitude towards purchase

of insurance products concludes that there is a low level of awareness about insurance products among customers in India. Alinvi and Babri (2007) are of view that customers preferences change on a constant basis, and organization adjust in order to meet these changes to remain competitive and profitable. Stenner et al. (2007), conclude that advisor allows a mutual understanding of all aspects related to investments.

Sudalaimuthu and senthil kumar (2008), in their study, has made an attempt to understand the financial behavior of mutual fund investors in connection with the scheme preference and selection. An important element in the success of a marketing strategy is the ability to fulfill investors' expectation. The result of these studies through satisfactory on the investors' perception about the mutual funds and the factors determining their investment decisions and preferences. Sunil Gupta (2008) found that the investment pattern among different groups in Shimla had revealed a clear as well as a complex picture. Most of the horticulturists in Shimla city who belong to Apple belt, though being rich, have a tendency of investing their surpluses in fixed deposits of banks, provident funds, Post Office savings, real estates, etc. for want of safety and suitability of returns. Manish Mittal and Vyas (2008) have tried to classify the investors on the basis of their relative risk taking capacity and the type of investment they make. Empirical evidence also suggests that factors such as age, income, education and marital status affect an individual's investment decision. This paper classifies Indian investors into different personality types and explores the relationship between various demographic factors and the investment personality exhibited by the investors. Fatima Alinvi (2008) suggests that customers change their preference according to their life circumstances and while certain preferences are well-defined others can be inconsistent. In an increasingly competitive environment, where insurance companies fight for the same customers, having a customer-oriented culture is extremely important not only to retain customers but also acquire new ones.

## 5. PROBLEM IDENTIFICATION

Relevance of demographic factors of individuals in investment decision making process has been identified as a problem for the study. Demographic factors, apart from other factors, exhibit the major characteristics of individual investors. Investment decisions differ from individual to individual who in turn differ demographically. The study is to find whether the demographic factors, to what extent, such as gender, age, education, occupation, income, savings and family size have influence over several elements of investment decisions. The elements of investment decisions include priorities based on characteristics of investments, period of investment, reach of information source, frequency of investment and analytical abilities. The problem study assumes greater significance as the result could be utilized effectively in investment product development by the financial institutions.

## 6. OBJECTIVES OF THE STUDY

- To study the investment pattern of the people.
- To study the investment decisions of different classes of the people in terms of age group, education, income level etc
- To analyze the influence of demographic factors of investors in investment decision making process, frequency of investment, period of investment, access to the source of information and analytical abilities.
- To study the general perception of investors on different investment avenues.

## 7. RESEARCH DESIGN AND METHODOLOGY

Methodology is a way to systematically solve the research problems. It explains the various steps that are generally adopted by the researcher in studying the research problems along with the logic behind it.

This study is based on both primary and secondary data. There are various methods to conduct research

study. For collecting primary data the researcher feels that the Interview Schedule method is the most suitable. In this method researcher can explain the nature, purpose and meaning of the question. Wherever the respondent feels any doubt in regard with any question it may be easily clarified by the researcher immediately.

### • SAMPLE SIZE

Since the population is large the survey has been carried among a sample of 475 respondents who are the people of *Nagapattinam* district in *Tamilnadu*, India. The sample size of 475 respondents is considered adequate to represent the characteristics of the entire population.

### • SAMPLING TECHNIQUE

The sampling technique followed in this study is non-probability convenient sampling. Simple random techniques are used to select the respondent from the available database. The research work has been carried on the basis of structured questionnaire. The study restricted to the people of the *Nagapattinam*, *Vedaranyam*, *Nagore*, *Sirkazhi*, *Mayiladuthurai* towns of *Tamilnadu*, India.

### • SAMPLING DESIGN

The validity of any study is based on the systematic method of data collection and analysis. The present study is descriptive research, based on survey method. The data collected for the study include both primary and secondary data. The primary data has been collected by a selecting a convenient random sample of 475 respondents from the towns. Survey method by direct personal interviewing of every respondent has been followed to collect the required data. An interview schedule prepared was quite simple and understanding for the respondents to express their opinion freely. Adequate care has been taken to collect unbiased data.

## • SOURCE OF DATA

The study has been carried out with the support of primary data. The secondary data has also been used to a limited extent. The data has been collected using a structured questionnaire.

## • STATISTICAL TOOLS USED

The collected data have been processed both manually and also with the help of computer software. Statistical inferences have been drawn up using statistical package for social science (SPSS). The following statistical tools are used in the study.

- ANOVA
- Chi-square test

## 8. HYPOTHESIS

- Ho: There is no significant relationship between demographic factors and the factors influencing the investment decision making process.
- Ho: There is no significant relationship between demographic factors and the periods of investment made by the people.
- Ho: There is no significant relationship between demographic factors and sources of awareness on investment.
- Ho: There is no significant relationship between demographic factors and frequency of investment by the people.
- Ho: There is no significant relationship between demographic factors and analysis on the investment by the people.

## 9. RESULTS AND DISCUSSIONS

**Hypothesis:** There is no significant relationship between demographic factors and the factors influencing the investment decision making process.

There are various factors that influence investment decision making process. Protection against risk, Rate of Return, Safety of money invested and

Liquidity are identified as major factors that influence the investment decisions. The study reveals that most of the respondents i.e. 33.10% are very much concerned with the safety of their money invested while making investment decisions. Second important factor that determine the decision making is Liquidity, which is recorded as 23.80% of total respondents. The third factor that influences the investment decision is protection against risk. The study found that 17.90% of respondents are influenced by the factor of protection against the risk on investment. Lastly but not least 17.10 % of total respondents are influenced by the return on investment factor while making investments.

ANOVA test has been applied to find out if there is any significant relationship between demographic factors of the respondents and their opinion with regard to the factors that influences their investment. The result of the ANOVA Test is given in the appended Table-1. It is clear, from the table, that all the demographic variables have no significant relationship with the respondents' opinion with regard to the factors that influences their choice of investments. Here the null hypothesis is accepted and alternative hypothesis is rejected.

**Hypothesis:** There is no significant relationship between demographic factors and the periods of investment made by the people.

The study attempts to find out any relationship exists between demographic factors of respondents and the period of investments made by them. It discloses that most of the respondents, when both male and female gender values put together, have invested in long term investments. Further, it also reveals that out of 475 respondents 168 prefer to invest in long term investments while 166 prefer to invest in short term investments and 141 respondents prefer both long term and short term investments.

The study brings out that graduate and post-graduate respondents are more likely to invest in

long-term investments. It also unveiled that people under the age group: i) *Less than 30* and ii) *Between 31 and 40* comprising most of the respondents have preferred long-term investments. Investors whose family comprising more than four members are prefer to invest in short-term investments whereas family comprising less than four members have opted for long-term investments. The study found that people working in private sectors have opted for making their investments in long-term; but those working in public sector have preferred to invest in short-term investments.

The respondents whose annual income is less than Rs.1.5 lakhs are marginally preferred long term investments than short term investments. Those respondents who are in the annual income bracket Rs.150,001 to Rs.2,50,000 and in the bracket of Rs.2,50,001 to Rs.3,50,000 are also ahead in preferring long term investments with the short term investments. But the respondents under the income category of Rs.3, 50,001 to 4, 50,000 and who are having income more than Rs.4, 50,001 are opted for short-term investments.

The study also reveals that in terms of annual savings, respondents under the categories: i) less than Rs.10,000 and

Rs.10,001 to Rs.20,000 are in favour of investing in long term investments. At the same time respondents under the categories: i) Rs.20,001 to Rs.30,000, ii) Rs.30,001 to Rs.40,000 and more than Rs.40,000 are inclined to short term investments.

Chi-Square Test, at 5% significance level, has been applied on the data collected to find whether these demographic variables have significant relation with the period of investments. The result of the test is given in the Table: 2, under appendix. The test has clearly reveals that most of the demographic variables such as Gender, Education, Age and Occupation have no significant relationship with the period of investment. Hence the null hypothesis in respect of these demographic variables could be

accepted and the alternative hypotheses can be rejected. In respect of other demographic variables such as Number of Family Members, Annual Income and Annual Savings, the test brings out a significant relationship with the Period of Investment. So the null hypothesis in respect of those variables is rejected and hence alternative hypotheses are accepted.

**Hypothesis:** There is no significant relationship between demographic factors and sources of awareness on investment.

Awareness on investment avenues forms a vital basis for investment decisions. The sources from where one can acquire awareness would also be a crucial element in the process of investment decision making. The degree of information may vary from source to source. Self awareness, Financial Advisors, Brokers, Friends & Relatives and Media are identified as difference sources of awareness. The study reveals that 28.8% of respondents depend on their self- awareness while 24.4% of them are following the advices of their friends and relatives. Further, the study also brings out that 19.6%, 15.6% and 11.6% of respondents are depended on Financial Advisors, Brokers and Media respectively for their information source.

It may be noted that among all the sources of information, Self-awareness and Advice from Friends & Relatives contributes as a source of information for more than fifty per cent of respondents. The study also discloses that in Gender wise male respondents, in Education wise professionals and graduates, in Age Group wise respondents having less than 30 years of age and in Family size wise respondents having more than 3 family members are mostly depended on their self-awareness and the advices from their friends & relatives. Further, in Occupation wise respondents working in public sectors, on the basis of income level respondents whose annual income is less than Rs.1,50,000 and in Annual Savings category the respondents whose annual savings is more Rs.10,000 are mostly getting information from

Friends & Relatives and also depend on their self awareness.

Chi-Square test at 5% significant has been conducted using the data collected during the survey in order to verify the hypotheses that there is no significant relationship between demographic factors and the sources of awareness on investments. The results of the test are given in the Table: 3 under appendix. The result shows that all the demographic variables except the variable, Family Size have significance over the sources of awareness on investments. Hence, the null hypothesis is rejected in terms of demographic factors such as Gender, Education, Age, Occupation, Annual Income and Annual Savings. But for the variable Family Income, the null hypothesis is accepted and the alternative hypothesis is rejected. Based on the chi-square test, it is clear that the demographic variables have significant relationship with the respondents of source of awareness of investment avenues at 5% significance. Here the null hypothesis is accepted in respect of the demographic factors such as age, gender, educational qualification, family members, annual income and annual savings; and alternative hypothesis is rejected Hence the demographic factors of occupation only no significance due to hull hypothesis rejected and alternative hypothesis accepted.

**Hypothesis:** There is no significant relationship between demographic factors and frequency of investment by the people.

Frequency of investment varies from individual to individual. The frequencies of investments may be weekly, monthly, quart-yearly, half-yearly and annually. The study reveals that most of the people are inclined to make their investments either monthly or quarterly. It discloses that 28.4% of respondents prefer to invest on monthly basis whereas 22.7% of respondents for quarterly. Further, 20% of respondents are in favour of investing half-yearly while only 15.8% of them preferred to invest annually. Only 13.1% of

respondents prefer to invest on weekly basis. Most of the Private sector employees prefer to invest on monthly basis whereas the Public Sector employees are mostly prefer annual pattern of investments. People whose income is less than Rs.1,50,000 and having annual savings more than Rs.10,000 are in favour of investing on weekly basis.

The results of Chi-Square test conducted, at 5% significance, on the data collected during the survey to find out any relationship between demographic factors and the frequency of investments by the people are appended in Table: 4. The results shows that there is significant relationship exists between all the demographic variables and the frequency of investments. Hence the null hypothesis that there is no significant relationship between demographic factors and frequency of investment by the people is rejected absolutely. Here the alternative hypothesis is accepted.

**Hypothesis:** There is no significant relationship between demographic factors and analysis on investment by the people.

Wise decision is possible only after thorough analysis of pros and cons of different forms of investments available in the investment avenues. Selection of appropriate form of investment, which suit precisely to a particular investor, is mainly based on proper analysis. The analysis on investment proposal may be technical analysis, company analysis, newspaper analysis and following brokers' analysis. The study attempts to find out which type of analysis is being performed by the investors before making actual investments. The study reveals that 36 per cent of respondents are relied on technical analysis while equal number of respondents is relied on newspaper analysis. Hence, it shows that 72 per cent of total respondents are relied upon technical and newspaper analysis. The remaining respondents are distributed to company analysis and brokers' analysis at the rate of 16.6 per cent and 11.40 per cent respectively.

In order to find out any relationship exist between demographic factors and analysis on investment by the people, Chi-Square test has been applied on the data collected, at 5% significant level. The results of the test are displayed in Table: 5 of the Appendix. It may be seen from the table that most of the demographic factors such as Gender, Education, Occupation, Annual Income and Annual Savings of individuals have significant relationship with the analysis on investment made by them. Hence, the null hypothesis that there is no significant relationship between demographic factors and analysis on investment by the people can be partially rejected on such variables. However, the results indicate that there has been no significant relationship between demographic variables, such as Age and Family Size; and analysis on investment by the people. Here the null hypothesis can be accepted for partially for such variables alone.

### 10. INVESTORS' PERCEPTION ON INVESTMENT AVENUE

The study seeks to provide a comprehensive view on how the sample respondents have perceived and graded the value of their perception over the Investment Avenue for the study. The Table: 6 summarize Most Favorite, Favorite and Not Favorite elements of Investment Avenue as perceived by the respondents residing at *Nagapattinam* district. From the table given it may be inferred that the top six 'most favorite' investments are: 1. Life Insurance (48%), 2. Real Estate (40.4%), 3. Provident Fund (37.7%), 4. Bank deposits (25.1%), 5. Post Office deposits (32%) and 6. Gold/Silver (20.8%).

And the top six 'not favorite' investments are: 1. FI Bonds (68.4%), 2. Corporate Debentures (63.2%), 3. Company Fixed Deposits (59.4%) 4. Equities (58.9%) 5. Gold/Silver (42.1%) and 6. Mutual Fund (41.9%). Further, the top six 'favorite' investment are: 1. Bank Fixed Deposits (53.1%), 2. Gold/Silver (37%), 3. Provident Fund (36%), 4.

Mutual Fund (35.2%), 5. Post Office deposits (32.4%) and 6. Life Insurance (31.8%).

Table-7 summarize the respondents most invested in various investment avenues. It may be inferred from the table that Life insurance constitute 43.8% of total investments of all respondents. Real Estate, Post office deposits, Mutual funds and Gold/Silver contribute 16.4%, 16%, 15.8% and 14.5% respectively of total investments made by the respondents. Company Fixed Deposits and Bank deposits comprise only 14.1% and 12% respectively. Financial investments like equities, bonds, debentures contribute a meager share of total investments made by the respondents. The poor performance of such financial investments in the area where the study is conducted may be due to underdeveloped securities market, highly speculative nature of investment and even due to low awareness level prevailed in the area under study. Overall people inclined much on investing on non-securities and small savings, considered as traditional investment avenues, may be because of the nature of these investments such as liquidity, capital appreciation, ease of investments etc. It is also seen that people are preferred to invest in physical investments like real estates, gold and silver. The may be due to the fact that recent boom in the real estate and gold/silver markets. We may infer from such type investments by the respondents that people are very sensitive to the market conditions and their attitude to reap the benefits of changing environment in the capital market. Of late, mutual funds are gaining confidence of small investors at large and the results of the study also reveals that among other financial investments, mutual funds is winning the confidence of the people and seems to be continued in the future too.

### 11. CONCLUSIONS

In an attempt to assess relevancy of demographic factors in investment decisions, the study finds mixed response from the sample survey conducted in the *Nagapattinam* district of Tamilnadu. The analysis made on the results of the survey found

that there has been no significant relationship between demographic factors and other factors that influence the investment decision making process. However in case of relationship between demographic factors and periods of investments, it was found that a few demographic variables such as family size, annual income and annual savings have significant relationship. But the rest of the variables such as gender, age, education and occupation have no significant relations with the period of investments made by the investors.

Furthermore, the study brings out that there is significant relationship between the demographic factors such as gender, age, education, occupation, annual income and annual savings with the sources of awareness obtained by the investors. In this case too, the study has told that family size has in no way connected with the sources of awareness. At the same time, the study establishes an absolute relationship between all the demographic variables and the frequency of investment by the people. Finally, the analysis of data collected discloses significant relationship of demographic factors such as gender, education, occupation, annual income and annual savings with the analysis of investment avenues by the investors. Here too the study indicates that the demographic variables such as age and family size have no significant relations.

The study also elucidates a general view of the investors' perception over various investment avenues. It reveals the very peculiar characteristic feature of Indian people on their choice of investment products. Normally, in any developing country, people invest more in financial assets rather than physical assets and in particular there will be more investment in shares and debentures. But in India, in the initial years after independence, people were mainly investing in physical assets than financial assets and now their choice is more or less equally distributed between physical and financial assets. The people may not be interested to take risk, if that is the reason for not preferring capital market then they could prefer only insurance, post office saving securities which is risk free

investment as well as gives more return than bank deposits.

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**APPENDICES**

**TABLE 1: Relationship between Demographic Factors and Respondents’ Opinion with Regard to the Factors that Influences their Investment Decisions**

Demographic Factors	F	Sig. Value	Sig or not sig
Gender	1.208	0.307	Not significant
Age	0.919	0.452	Not significant
Education	0.829	0.507	Not significant
Occupation	0.814	0.517	Not significant
Family Size	1.578	0.179	Not significant
Annual Income	0.661	0.619	Not significant
Annual Savings	1.374	0.242	Not significant

**TABLE 2: Relationships between the Demographic Factors and Period of Investment**

Factors	Value	Df	Sig. value	Sig or Not sig
Gender	1.355	2	0.508	Not significant
Education	9.069	8	0.336	Not significant
Age	5.722	8	0.678	Not significant
Family Size	19.05	8	0.015	significant
Occupation	5.24	8	0.732	Not significant
Annual Income	20.86	8	0.008	significant
Annual Savings	16.343	8	0.038	significant

**TABLE 3: Relationships between Demographic Factors and Sources of Awareness on Investment**

Demographic Factors	Value	Df	Sig. value	Sig or Not sig
Gender	14.417	4	0.006	Significant
Education	25.898	16	0.055	Significant
Age	37.126	16	0.002	Significant
Family Size	17.133	16	0.377	Not significant
Occupation	40.412	16	0.001	Significant
Annual Income	66.887	16	0	Significant
Annual Savings	59.353	16	0	Significant

**TABLE 4: Relationships between Demographic Factors and Frequency of Investment**

Demographic Factors	Value	Df	Sig. value	Sig or Not sig
Gender	21.744	4	0	Significant
Education	74.855	16	0	Significant
Age	45.228	16	0	Significant
Family Size	49.538	16	0	Significant
Occupation	51.98	16	0	Significant
Annual Income	43.377	16	0	Significant
Annual Savings	57.488	16	0	Significant

**TABLE 5: Relationships between Demographic Factors and Analysis on Investment**

Demographic Factors	Value	df	Sig. value	Sig or Not sig
Gender	6.541	3	0.088	significant
Education	52.057	12	0	significant
Age	15.83	12	0.199	Not significant
Family Size	16.737	12	0.16	Not significant
Occupation	30.973	12	0.002	significant
Annual Income	49.24	12	0	significant
Annual Savings	26.523	12	0.009	significant

**TABLE 6: Categorization on the basis of favorite**

Perception of Investments Avenues	Most Favorite	Favorite	Not Favorite
	No. [%]	No. [%]	No. [%]
Equity	75 [15.8]	120 [25.3]	280 [58.9]
FI Bonds	44 [9.3]	106 [22.3]	325 [68.4]
Corporate Debenture	88 [18.5]	87 [18.3]	300 [63.2]
Company Fixed Deposits	77 [16.2]	16 [24.4]	282 [59.4]
Bank Fixed Deposits	119 [25.1]	252 [53.1]	104 [21.9]
PPF provided funds	179 [37.7]	171 [36]	125 [26.3]
Life Insurance	228 [48]	151 [31.8]	93 [20.2]
Post Office-NSC	152 [32]	154 [32.4]	169 [35.6]
Gold/Sliver	99 [20.8]	176 [37.1]	200 [42.1]
Real Estate	192 [40.4]	125 [26.3]	158 [33.3]
Mutual Fund	109 [22.9]	167 [35.2]	199 [41.9]
Others	45 [9.5]	61 [12.8]	369 [77.7]

**TABLE 7: Most Invested in Investment Avenues**

Investment Avenues	Frequency	Percent
Equity	16	3.4
FI Bonds	17	3.6
Corporate Debenture	7	1.5
Company Fixed Deposits	67	14.1
Bank Deposits	57	12
PPF	38	8
Life Insurance	208	43.8
Post Office Savings	76	16
Gold and Sliver	69	14.5
Real Estate	78	16.4
Mutual Funds	75	15.8
Others	38	8



# ANTECEDENTS AND CONSEQUENCES OF EMPLOYEE ENGAGEMENT: A CRITICAL ANALYSIS OF LITERATURE REVIEW

N. Ramesh\*

## ABSTRACT

*Employees are the brand ambassadors and the key touch points for the customers of any organization. Hence it becomes very important for organizations to understand how the employees feel working for the organization. Employee engagement helps in understanding the expectation of employees and sketches the path for the employers to deliver the expectations of employees. The study has focused on the evolution of employee engagement, described the various constructs of employee engagement. Here in this literature review it has been identified how PR actioners and researchers have perceived employee engagement. This literature has also identified how the antecedents and consequences of employee engagement which kept on changing when it is viewed from various perspectives.*

**KEYWORDS:** *Employee Engagement, Job Satisfaction, Retention, Productivity, Organization Commitment*

## 1. INTRODUCTION

Employee Engagement has gained a lot of emphasis in the organizations of the recent times. The term Employee Engagement has gained the attention of both the researchers and the PR actioners. Despite the fact that it is a very important factor to determine the impact of success of various organizations a very little work has been undertaken related to this context. This paper explores the way through which employee engagement evolved through a historical lens. The study has been carried out to identify other factors which can be the antecedents of employee engagement by systematically reviewing and organizing the existing literature and then critically appraising the

literature to identify the more prominent factors which can lead to employee engagement.

## 2. OBJECTIVES OF THE LITERATURE REVIEW

- To sketch the evolution of Employee Engagement.
- Description of four major constructs of Employee Engagement.
- To differentiate between the perception of employee engagement as perceived by the practitioners and the academicians.
- Perception of employee engagement by the multi-generational cohort of work groups in the organization.
- To enumerate the various antecedents and consequences of employee engagement.

## 3. EVOLUTION OF EMPLOYEE ENGAGEMENT

**Kahn (1990)**, in his pioneering study on engagement states, “Engaged employees drive personal energies (physical, cognitive, and emotional) into their work roles”. The qualitative study undertaken by Kahn has gained the attention of various researchers who later on defined engagement in various ways. Conceptually, Kahn started with the work of (**Goffman 1961**), who proposed that people's attachment and detachment to their work roles varies. Another approach to the concept of engagement was led by researchers named **Maslach and Leiter (1997)** and **Maslach et al. (2001)**, who were of the view that engagement as the opposite to the three burnout dimensions: exhaustion, cynicism, and sense of inefficacy. Engagement can be measured using scores on the

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burnout measurement scale called the Maslach Burnout Index (MBI). Low scores on exhaustion and cynicism and high scores on efficacy on the MBI indicate each of the three characteristics of job engagement: energy, involvement, and efficacy (Maslach et al., 2001). Harter et al, (2002) defined engagement as “the individual’s involvement and satisfaction with as well as enthusiasm for work”. Kahn’s (1990) and Maslach et al’s (2001) work indicate the psychological conditions or antecedents that are necessary for engagement, but they do not fully explain why individuals will respond to these conditions with varying degrees of engagement. **Schaufeli et al, (2002)** defined engagement as “a positive fulfilling, work related state of mind characterized by vigor, dedication, and absorption”. **Robinson et al., (2004)** defined engagement as “a positive employee attitude towards the organization and its values, involving awareness of business context, and work to improve job and organizational effectiveness”. **Saks (2006)**, defined employee engagement as “a distinct and unique construct that consists of cognitive, emotional, and behavioral components that are associated with individual role performance”. Saks has conceptualized using Social Exchange Theory. The SET provides a theoretical foundation to explain why employees choose to become more or less engaged in their work and organization. Engagement has been mainly discussed in the context of four categories, namely personal engagement, burnout/engagement, work engagement and employee engagement (**Simpson, 2008**). **Shuck & Willard, (2010)** distinctly defined employee engagement as “an individual employee’s cognitive, emotional, and behavioral state directed toward desired organizational outcomes”. **Rurkkhum and Bartlett (2012)** elucidated the relationship between employee engagement and organizational citizenship behavior (OCB) in a study conducted in Thailand and found support for positive relationships between every component of OCB and engagement.

From the above definitions’ employee engagement can be conceptualized as the highest level of involvement of emotional, personal and cognitive

energy of an individual towards work related activities which helps the individual to attain the individual goals sketched by the organizations for the individuals and finally helping the organization to attain its outcomes.

In today’s work environment where we have a diversified pool of employees of different cohort groups employee engagement will be different from one employee to other. Emotional, personal and cognitive energy remaining the same the level of emotional, personal and cognitive perspective will be different. The tailor-made concept of employee engagement which implies engagement drivers will be different from one individual to other has not been crafted in the researches which has so far been conducted on employee engagement.

#### 4. MAJOR CONSTRUCTS OF EMPLOYEE ENGAGEMENT

This following section describes the various constructs which exists in employee engagement and which techniques were used to measure those constructs.

**Personal Engagement** is described as the employing or expressing of oneself physically, cognitively, and emotionally during work role performances. When engaged, an employee is understood to be physically involved, cognitively vigilant, and emotionally connected (**Kahn, 1990**). A 14-item scale developed and used by (**May et al, 2004**)

**Burnout Engagement** is defined as a psychological syndrome characterized by exhaustion, cynicism, and inefficacy, which is experienced in response to chronic job stressors. Engagement is understood to be the direct opposite of burnout and exist on a continuum;<sup>a</sup>with engagement on one end and burnout on the other. Exhaustion (low energy), cynicism (low involvement), and inefficacy (low efficacy) are characteristic of burnout; whereas, high energy, high involvement, and high efficacy are characteristic of engagement (**Maslach and Leiter, 1997; Leiter and Maslach, 2004**) The

inventory used to measure burnout engagement was Maslach burnout inventory.

Work engagement refers to a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption. Vigor is characterized by high levels of energy and mental resilience while working. Dedication refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. Absorption is characterized by being fully concentrated and happily engrossed in one's work, (Schaufeli et al., 2002) The measurement used for this was Utrecht work engagement scale. Employee Engagement refers to the "individual's involvement and satisfaction as well as enthusiasm for work" (Harter et al., 2002) The Gallup Work Audit is the instrument which is used by various corporations even today to measure the engagement level. The above constructs described above does not take into account the Mindful Engagement of employees as stated by Kruse 2013, bringing your emotional, cognitive and physical energies and approaching all circumstances "C especially difficult ones "C with a productive constructive mindset. Mindful engaged employees will be able to answer the following questions:

- What did I do today to improve communication with my manager and peers?
- What actions did I take today to learn and grow?
- Whom did I thank today, and who recognized me?
- Was I mindful today of our company's long-term goals?
- Today, how engaged was I at work?

## 5. PRACTITIONERS AND ACADEMIA VIEWS ON EMPLOYEE ENGAGEMENT

### *Academia Views on Employee Engagement*

**Academicians** are of the view which describe engaged employees as being fully involved in their activities, absorbed in the tasks given to them,

charged with energy, vigour and focused, so much so that they lose track of time at work. They point to the two] way beneficial relationship between employer and employee, but do not mention anything about what organisations do in practice to enable experience of the state of engagement and to experience the outcomes. (Ologbo C. Andrew and Saudah Sofian, 2011) were of the view that employee communication, employee development, peer relationship, image of the firm, reward and recognition and leadership are the determinants of employee engagement. They were of the view that employee engagement was addressed incorporating the two types of employee engagement, **Job Engagement**, which is the level of employee's committed and dedication to his job role and **Organization Engagement**, which is the level of employee commitment and loyalty to their organization.

**Company Based Models** view engagement as an outcome "C engaged employees show commitment, loyalty, exert discretionary effort, use their talents to the fullest and are enthusiastic advocates of their organization's values and goals.

**Johnson and Johnson** define employee engagement as 'the degree to which employees are satisfied with their jobs, feel valued, and experience collaboration and trust. Engaged employees will stay with the company longer and continually find smarter, more effective ways to add value to the organization. The end result is a high performing company where people are flourishing and productivity is increased and sustained'. (Catteeuw et al., 2007)

**Vodaphone** defines employee engagement as 'an outcome "measured or seen as a result of people being committed to something or someone in the business "C a very best effort that is willingly given" (Suff, 2008). These company definitions tend to view engagement as an outcome, something given by the employee. They often refer to the employee's attachment, commitment and loyalty to the organization. Johnson and Johnson, who

indicate that engaged employees experience collaboration and feel valued, there is little mention of a reciprocal relationship and what the employer offers to enable engagement.

**Consultancy Based Models** define engagement as a psychological state with numerous outcomes for the organisation, and consider the role of the organisation in enabling it.

**Hewitt Associates** defines engagement as ‘the energy, passion or “fire in the belly” employees have for their employer or more specifically what their employer is trying to achieve in the market’. Hewitt Associates also suggest that engaged employees stay, say and strive. In other words, engaged employees ‘have an intense desire to be members of the organisation ... are passionate advocates for their workplace ... they refer potential employees and customers ... they go beyond what is minimally required to produce extraordinary service and results for customers and colleagues’ (**Baumruk and Marusz, 2004**).

Mercer defines engagement as ‘a state of mind in which employees feel a vested interest in the company’s success and are both willing and motivated to perform to levels that exceed the stated job requirements. It is the result of how employees feel about the work experience “C the organisation, its leaders, the work and the work environment’ (**Mercer 2007**).

**Gallup** suggested that engaged employees are ‘psychologically committed to their work, go above and beyond their basic job expectations, and want to play a key role in fulfilling the mission of their organisations’, whilst disengaged employees were said to be ‘uninvolved and unenthusiastic about their jobs and love to tell others how bad things are’ (**Blizzard, 2004**).

Company definitions focus heavily on what the organisation obtains from the ‘engagement’, without acknowledging the role of the organisation or explaining the state of engagement. Academics

and consultants also provide some explanation of the psychological state of engagement, which is not observed in company definitions. Consultancy based models tend to focus heavily on employee productivity and identifying oneself with the organisation; they tend to see engagement at a [department, or company] wide level, rather than considering how individuals are investing themselves in their personal work. So far, the literature reviewed has not been able to give us a wholistic definition of engagement which would include the symbiotic association of the individuals and the organisation where a wholistic development of the organisation and the individual takes place.

## 6. GEN X AND GEN Y AND EMPLOYEE ENGAGEMENT

This section elaborates on the age of changing tectonics in the contemporary workplace which has a challenge to deal with the generational diversity. Each of the generations demand their own take always from the organisation.

Generation can be defined as a cohort which comprises of individuals of same age who share the social, economic and historical experience within the same time period (**Ryder, 1965**). Members of the same cohort share important life experiences such as completion of schooling, graduating and entering the workforce, and retiring at similar age (**Kowske et al 2010**).

Baby Boomers (born from 1946 to 1964) who comprise the largest generational cohort about 78 million workers belong to this cohort who have made great social and economic impacts and are now being replaced by younger generation, Millennials. Boomers are more driven by work goals, tasks and results in the workplace, showing a higher desire to enter into positions with greater responsibility and fame (**Families and Work Institute, 2006**). Boomers have the belief that hard work is always paid back and have expectations to be rewarded and are comparatively more loyal and committed to the organisations than the millennials

(Gursoy, Maier & Chi, 2008; Smola & Sutton, 2002). Baby boomers are currently the largest generation of active workers. Research has shown that boomers identify their strengths as optimism, and their willingness to work long hours. This generation grew up in organizations with large hierarchies, rather than flat management structures and teamwork-based job roles.

Millennials (Generation Y or GenMe) (born from 1981 to 1999) are the youngest generation cohort. Millennial generation has been characterized by economic prosperity, advancement of instant communication technologies through the Internet, social networking, and globalization, who need more balance between work and life, flexibility in job assignments and want to define the exact role in their job. Millennials value freedom and work-life balance more than Baby Boomers (Cennamo & Gardner, 2008; Smola & Sutton, 2002; Twenge, 2010). They value high leisure work values, preferring a job that provides more vacation time (Twenge et al., 2010). Millennials have higher expectations about promotions and pay hikes in the workplace. They do, however, realize that their need for social interaction, immediate results in their work, and desire for speedy advancement may be seen as weaknesses by older colleagues. or tolerant of less challenging work (Corporate Leadership Council, 2005; Lancaster & Stillman, 2002). Millennials are usually multi skilled and prefer to work in teams and a flat structure. Contemporary organisations in IT and ITES are facing the challenge to manage engagement and retain GenY and GenX. Organizations have engagement tools that typically address engagement for the organization under one basket without any differentiation for the generations of employees. As the millennial generation will start entering into the work force rapidly and baby boomers will retire new engagement models need to be developed to address the differences between baby boomers and millennials.

Various literature being reviewed has reflected the fact that meaning of engagement is different from

individual to individual taking into account difference in individuals demographics, personality. Blessing White's survey found that at least a quarter of Generation Y employees globally are disengaged with the exception of India, where all generations have higher engagement levels than other countries. They suggest that the older the employee, the more engaged they are, with employees born since 1980 being the least engaged members of the workplace (Blessing White, 2008). They also suggests that the lack of experience in the younger employees might be responsible in bringing a lack of clarity over what they want from their workplace. This suggestion is somewhat negated however by Talent smoothie's research which found that Generation Y seek jobs that they love and do not 'live to work' (Talents smoothie, 2008,) However, Robinson et al. (2004, 2007) found that the youngest employees had the highest engagement levels when compared to all other age groups.

Literature reviewed so far crafts the fact that engagement levels and drivers might differ from one generation to another. Despite the fact that engagement being an important factor a lot of study has not been done in this respect.

## 7. ANTECEDENTS AND CONSEQUENCES OF EMPLOYEE ENGAGEMENT

Various researchers have been working on to identify various antecedents and consequences of employee engagement. Saks (2006) used the theory of social exchange to explain how individuals would differ in their responses according to how they perceive various antecedents, and whether employees will reciprocate with performance. Saks stated job engagement, which is specific to the role task an employee is principally hired to perform; organizational engagement as referring to other roles that an employee plays being a part of the larger organization. He in fact stated employee will become loyal and trust worthy over time as long as the organization is fair in applying standard operating procedures and resource. Employees are

willing to give if the organization reciprocates the benefits and resources.

Perceived Organizational support, perceived supervisor support and organizational justice are various antecedents of employee engagement and organizational citizenship is the consequence of employee engagement (Saks, 2006). According to (Robinson, 2006) antecedents to employee engagement include, organizational environment where positive emotions such as involvement and pride are encouraged nurturing of feelings and views being valued, which in turn generates discretionary effort which lead to enhanced performance. Empowerment for employees which gives power to employees to make decisions that are important to their performance was stated by (Lawler and Worley, 2006; Purcell et al, 2003); employee-job fit (Lloyd 2004 and MacDonald 2002); highly engaged work environment with highly engaged supervisors (Soltis, 2004) are some of the antecedents as observed in the literature.

Koyunca, Burke and Fiksenbaum (2006) examined the different antecedents and consequences of work engagement for Turkish bankers. The results of the study reflected that the following antecedents such as: rewards and recognition, value fit and control were found to predict engagement measures. Vigor predicted psychological well-being outcomes.

Engaged employees are likely to have a greater attachment to their organization and they reduce organisations turnover cost and recruitment cost (Schaufeli and Bakker, 2004; Truss et al, 2006). In contrary to this it is observed in the study of (Ferguson 2007) that the longer employees stay with an organization, the less engaged they become.

Employee engagement has been defined by various researchers taking into account various factors which influences and also taking into consideration various protocols under which various organisations work.

Some researches like (Robbison et al 2004, Rurkkhum and Bartlett 2012), have linked Organisation Citizenship Behaviour to employee engagement but if one observes the definitions of OCB and Employee Engagement it can be ascertained that OCB refers to informal behaviours like helping the co workers while employee engagement refers to formal roles which helps individuals to fulfil the KRAs and at the same time will contribute to add to the bottom line.

Many studies have been looking at the antecedents and consequences of employee engagement. Saks (2006), found a distinction between two types of engagement, job engagement and organisation engagement, in which he has stated that the relationships between both job and organisation engagement, and their antecedents and consequences differed. According to Saks the psychological conditions that lead to job and organization engagement, as well as their consequences, are not the same. Saks had conducted the survey for employees in Canada and the results indicate that there is a meaningful difference between job and organization engagements and that perceived organizational support predicts both job and organization engagement; job characteristics predicts job engagement; and procedural justice predicts organization engagement. In addition, job and organization engagement mediated the relationships between the antecedents and job satisfaction, organizational commitment, intentions to quit, and organizational citizenship behavior. so we cannot generalise the result. However since the study was carried out for employees in Canada the result cannot be generalised for all the organisations across the world. (Herter et al 2004), conducted a meta analysis which inferred that employee satisfaction and engagement are related to meaningful business outcomes at a magnitude that is important to many organisations. Employee engagement has gained tremendous attention from practitioners in the industry because of its possible link to a wide range of individual and business outcomes (Stroud, 2009). Various consulting firms have reflected various business outcomes of

employee engagement, including individual productivity (**Corporate Executive Board [CEB], 2004; Kenexa, 2008**), sales and revenue growth (**DDI, n.d.; Gallup, 2007; Hewitt Associates, 2004; International Survey Research [ISR], 2007; Towers Perrin, 2003; Wellins, Bernthal & Phelps.**), cost of goods sold (**Hewitt Associates, 2004; Towers Perrin, 2003**), financial performance (**Gallup, 2003; Hewitt Research Associates [HRA], 2004; ISR, 2004; Towers Perrin, 2003**), reduced absenteeism (**DDI, Gallup, 2004**), reduced turnover (**CEB, 2004; DDI, n.d; Towers Perrin, 2003**). Employee engagement has also been tied to customer satisfaction, retention, and loyalty. (**Heintzman & Marson 2005, Ellis & Sorensen, 2007**). Engagement has been found to be closely linked to feelings and perceptions around being valued and involved, which in turn generates the kinds of discretionary effort that lead to enhanced performance (**Konrad 2006**). Such evidence implies that management needs to share control and allow employees to participate important decisions. If they do not, they risk having a workforce, which is not, and cannot be, engaged.

Towers Watson undertook a study of the relationship between employee engagement and organisation performance across a population of 16 insurance companies. They found a strong association between increased employee engagement and significant increases in financial gains.

This section describes the various consequences of employee engagement. Job satisfaction is more reactive concept when we look at it as an consequence in terms of feelings about what has already been attained and is likely to be attained. As defined by (**Locke 1969**), it is “the pleasurable emotional state resulting from the appraisal of one’s job as achieving or facilitating the achievement of one’s job values”. Job satisfaction is an old construct that has long been recognized as important to any consideration of turnover behaviour and more recently, to an understanding of turnover intentions as well. Employees who are

more satisfied experience lower rates of absenteeism, have reduced rates of intention to leave. Job attitudes combined with job alternatives predict whether employees intend to leave an organization, which is the direct antecedent to turnover. There’s a common misconception that job engagement; a high motivation to work; is a personality trait and that motivated people will work with a lot of enthusiasm. But research consistently shows that even the most committed employees will rapidly become de motivated if they cease to find their work meaningful or they can’t succeed at it. Thus, whether it’s a media frontier or a product launch, the people in charge need to be vigilant about removing obstacles impeding their most engaged employees; the very people whom they may think need the least help in staying motivated. For these high performers, factors they can’t control; role ambiguity, inadequate resources, and overwork itself; can hinder their best work and may ultimately drive them to seek jobs elsewhere. The ones who stay behind may well be the ones who just don’t care. (**HBR 2013, Thomas W. Biit**)

In addition to its conceptual domain (job satisfaction as an affective state or as an attitude), the concept of job satisfaction may vary by the target an individual evaluates (**Spector, 1997**). Job satisfaction is a mix of individual attitudes on various aspects of the job: relations with coworkers and supervisors, the work itself, and the organizational infrastructure and processes (Lee, 2000). Using all these conceptualizations, in this study, job satisfaction is the subjective, individual-level attitude representing an individuals general affective reaction to a job (**Cranny, Smith, & Stone, 1992**). Simply put, job satisfaction is the extent to which people like their jobs (**Odom, Boxx, & Dunn, 1990; Spector, 1996**).

The review of literature revealed that job satisfaction is distinct from two other attitudinal constructs: job involvement and organizational commitment (**Kanungo, 1982; Lawler & Hall, 1970; Locke, 1976; Mowday, Steers, & Porter, 1979; Steers, 1977**). Organizational commitment

can be defined as "the relative strength of an individual's identification with, and involvement in, a particular organization" (Mowday et al., 1979). Although both job satisfaction and organizational commitment are closely related in that both are affective responses, the two constructs are different because of their referent objects; job satisfaction focuses on the work environment where employees perform their duties while organizational commitment focuses on employees attachment and allegiance to the organization they work for (Lee, 2000). Job satisfaction traditionally has been distinct from job involvement. Job involvement is defined as psychological identification with a job (Kanungo, 1982) Although both constructs refer to a specific job, job satisfaction pertains to the emotional state of liking a job (Locke, 1976; Kanungo, 1982).

An engaged employee is satisfied with his job, who understands and is aligned with the organization's goals, is a productive, profitable employee, and one who creates customer loyalty, remains with the organization, practices safety and is strongly aligned with the organization's brand values. It is important to quantify the magnitude of employee engagement in order to enhance it (FORUM RESEARCH 2013).

An employee can be satisfied with a job without being engaged in the job. Employee engagement is much more than being content with pay and the ability to leave in time. That contentedness is merely job satisfaction, and though satisfaction is generally enough to retain employees, it's not enough to ensure productivity. On the other hand, employee engagement *does* promote increased productivity. An engaged employee is an employee who is deeply involved and invested in their work. The factors that drive employee engagement, however, are different than those that drive satisfaction. Engagement factors include Meaning, Autonomy, Growth, Impact, and Connection. **Employee satisfaction is the foundation upon which employee engagement can grow and thrive.**

Organizations with genuinely engaged employees have higher retention, productivity, customer satisfaction, innovation, and quality. They also require less training time, experience less illness, and have fewer accidents. Employee satisfaction is the minimum entry fee that needs to be met in order for an employee to be fully engaged by (Laura Sheffield, 2010)

### *Productivity and Employee Engagement*

Companies are expected to be efficient and show growth, while continuing to manage the bottom line and keep costs down. Technology and the rise of social media is a factor which could be used to drive efficiency, but it should be done without sacrificing the personal connection to customers, employees and other stakeholders. There is, however, one common element that enables organisations to move forward in this complex environment, and that is people. Employee engagement can be the master key that unlocks business performance. Successive research exercises over the past five or six years have shown that, without engagement, companies will fail to create a sustainable competitive advantage on a continuous basis (Pickard, 2009).

Employees want to invest their skills and knowledge in the organisation and assist it to grow. But few organisations are using employee engagement as a tool to drive business performance. When asked about changes in profit, organizations with higher levels of engagement were more likely to report increases. The average difference in favourability between organizations with increases in profit and those with decreases was 3.4 percent. Interestingly, organizations reporting stagnant profits experienced the same level of engagement as those that reported decreasing profits.

The same areas that suffered the most when retention was low also suffered the most when profits were stagnant or decreasing: alignment with goals, trust in senior leaders, and feeling valued. (Employee Engagement Survey 2013)

### ***Retention and Employee Engagement***

Engagement is to extent to which employees are willing to go beyond the minimum requirements of their role to provide additional energy or to advocate for their organization to others as a great place in which to work or invest. A worker's turnover indicates her/his separation from a given employment relationship. Conversely, retention means the existence of an ongoing employment relationship.

**Sigler (1999)** said retention is about willingness to stay at organization which is influenced by incentive pay or compensation and job satisfaction. Sigler, also, mention about the problem retention in the many companies is about so many companies have "dilemma" when they face on the retention problem. If the companies keep the talented people, the talent employee will gain the more value than the others but otherwise the company cannot avoid in order keeping them stayed because the company still need that employee in their office to keep the stabilization. Moreover, Sigler (1999) said the companies must aware about detail information before to retain the talented employee because the wrong information about employee can conduct big problem in the future. To help the companies decided which employee should be retains or not, Sigler categorized the employee into two kinds. First, the talented employee which should be retains must have big contribution and have positive risk adjusted profit to the firm. Second, the talented employee must be categorized as, the person who has influenced on the firm than any employee hired to replace him or her. More widely, Crispin R. Coombs (2009) mentioned that retention is about how to manage three their environment of the employee, there are altitude toward behaviour, subjective norm, perceived behavioural control into intention and intention will made behaviour surrounded the employee.

### **8. SCOPE OF THE STUDY**

Though many researchers argue that the construct named employee engagement is related to concepts in management such as employee commitment, organizational citizenship behaviour and job satisfaction in such a manner. On the other hand some researchers propagate that employee engagement clearly reflects the mutual and symbiotic association between employees and employers. Research on engagement is still at an infant stage attempting to come up with more clear-cut and acceptable definition. Various other variables like Human Resource Interventions, Human Resource process, diversity in workforce are yet not been explored in literature reviewed so far. Researches so far has reflected strongly on the impact of employee engagement on business performance and job satisfaction negating the fact that there might be changes in the consequences diverse work force enters into the work environment. The cost factor of taking the engagement decisions are not taken into account. The antecedents of employee engagement are not categorised. Further study can be carried out as how organisations should enhance communication both top down and bottom up, ensure that employees have all the resources they need to do their job, provide appropriate training to increase their knowledge and skill, establish reward mechanisms in which good job is rewarded through various incentives, build a distinctive corporate culture that encourages hard work and success, develop a strong performance management system which holds managers and employees accountable for the behaviour they bring to the workplace, place focus on top-performing employees to reduce their turnover and maintain or increase business performance.

### **9. CONCLUSIONS**

So, as organisations are in a state of flux looking at the current economy working in a positive environment and being self are very important factors to stimulate engagement and retention in the

organisations. Employers who are proactive, who sustain their investment in people and continue to develop the potential of their human capital are likely to maintain their competitiveness.

The engagement-performance potential is there – delivering the results is a shared effort. Leaders, managers, HR and employees themselves have key roles to play since employee engagement flows up, down and across the organisation. Ensuring mutual benefits (as well as risks) for both organisations and employees is potentially the most sustainable and honest basis for an employment relationship better suited to the demands of today's volatile global economy.

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## A STUDY ON RELATEDNESS AND DEPENDENCY OF PERSONALITY TRAITS WITH RESPECT TO BIG FIVE THEORY

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### ABSTRACT

*Personality is a type of characteristic which is defined as the sum total of ways in which an individual reacts with the surroundings and the environment. Many psychologists and anthropologists were fascinated to find different personalities possessed by a human. Some started to find out the various personalities adopted by humans through various kinds of tests and techniques. The determination of major personality traits was first initiated with the research of D.W. Fiske (1949) and later studied and analyzed by researchers including Norman and Smith (1967), Goldberg (1981), McCrae & Costa (1987). The most adopted of them all was that of McCrae and Costa's Big five personality test which primarily dealt with five traits which were openness, conscientiousness, extraversion, agreeableness and neuroticism.*

*These traits were a kind of primary indicators. With the development of computers and its software applications, large chunks of data can be analyzed and the traits of an individual can be determined with very high accuracy. The technology and the various analytical tools now easily help in visualization of the data and easy generation of the result with utmost accuracy.*

### 1. INTRODUCTION

Personality is a description of consistent thoughts and behavior patterns in a person. It is defined as the sum total of ways in which an individual interacts with people and reacts to situations.

We can say that it is a distinctive combination of inner characteristics. Personality of an individual is shaped through three factors heredity, environment, situation.

### *What are Personality Traits?*

An individual's behavior towards the society or environment determined by the person's attitude, characteristics, mindset make his personality. Personality traits can be defined as the habitual rhythmic patterns of the behavior, thoughts and emotions that a person describes in day today activities within a society or an environment.

### *Big Five dimensions of personality*

The determination of major personality traits was first initiated with the research of D.W. Fiske (1949) and later studied and analyzed by researchers including Norman and Smith (1967), Goldberg (1981), McCrae & Costa (1987).

The most popular version of the Big five personality was adopted from McCrae and Costa which were proposed in the year 1987. The Big five is best described from the acronym OCEAN.

O stands for Openness  
C stands for Conscientiousness  
E stands for Extraversion  
A stands for Agreeableness  
N stands for Neuroticism

The OCEAN personality traits are one of the personality traits indicators of an individual, the descriptions of each of the traits are as follows:

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- 1) **Openness:** The trait features primarily on imagination and insight. People who are high in this trait have a broad range of interests. They have a very curious nature and try to explore things. They are deemed to be creative.

People who are low in this trait are deemed to be conservative thinking, they dislike change, does not enjoy new things and are less creative.

- 2) **Conscientiousness:** This trait feature primarily on thoughtfulness, good control over one's mind, and goal directed behaviors. Person who are high on this trait is deemed to be organized and have mindful attention while doing a work.

People who are low in this trait dislike structure, schedules or sometimes fails to complete their tasks due to less focus.

- 3) **Extraversion:** This trait feature primarily on talkativeness, sociability and expressiveness of one's self. People who are high in extraversion are outgoing and energetic people.

People who are low in this trait are less energetic and mostly anti-social with respect to the environment.

- 4) **Agreeableness:** This personality feature primarily on attributes such as trust, kindness, affection and altruism.

People who are high in this trait show very much honesty in work and people with which they interact and try to avoid any sort of conflict. But people who are low in this trait are not honest and indulges themselves in conflicts.

- 5) **Neuroticism:** This trait feature primarily on moodiness, anxiety, worrisome attitude. People who are high in this trait are mostly anxious and stressed. People who are low in this trait are emotionally stable and calm with respect to their environment.

## 2. RESEARCH OBJECTIVE

The objective of this paper is to find and study whether the Big Five personality traits which is openness, conscientiousness, extraversion, agreeableness and neuroticism have any co relation between themselves or not and also to study if these personality traits are inter dependent on each other or not.

## 3. LITERATURE REVIEW

Big Five personality traits defined by McCrae & Costa (1987) is one of the most adopted traits taken into consideration while measuring the personality of an individual. The five traits which is openness, conscientiousness, extraversion, agreeableness and neuroticism are the personality indicators which is adopted for the personality determination. Openness is a trait which primarily focuses on imagination and insight, those who are possessing this trait tends to be curious in nature and they always try to explore new things and those who are low in this trait are considered to be more of less interactive towards the environment and considered as less learning ability with the environment as well.

Conscientiousness is the trait which defines more of one's control over his/her mind and taking and reacting things with the presence of mind and those who are low in this trait are considered to be lost in their world and mostly they have a day-dreaming nature.

Extraversion is a personality trait more inclined toward talkativeness and sociability and people who are low on this trait are mostly introvert people with less interest in sociability skills.

Agreeableness is primarily on attributes such as trust, kindness, affection and altruism. People who are high in this trait show very much honesty in work and people with which they interact and try to avoid any sort of conflict. But people who are low in this trait are not honest and indulges themselves in conflicts.

Neuroticism is primarily on moodiness, anxiety, worrisome attitude. People who are high in this trait are mostly anxious and stressed. People who are low in this trait are emotionally stable and calm with respect to their environment.

#### 4. RESEARCH METHODOLOGY

We have taken a sample size of 66 management students where we have made the questionnaire pertaining to the Big five personality traits in which we have asked the questions related to openness, conscientiousness, extraversion, agreeableness and neuroticism. The 66 management students pertaining to various specialization fields have opted the most suitable answer according to them. After that the data taken and is input to the SPSS software which had provided the data with respect to the traits pertaining to the individuals. The output data received after conducting the survey can be segregated with respect to the five traits which is openness, conscientiousness, extraversion, agreeableness and neuroticism.

Then a cumulative figure can be calculated with respect to the five personality traits. Then applying the Karl Pearson's coefficient of correlation formula as shown below:

$$r = \frac{\sum(x-\bar{x})(y-\bar{y})}{\sqrt{\sum(x-\bar{x})^2} \sqrt{\sum(y-\bar{y})^2}}$$

Where X is taken with respect to one personality trait and Y is taken with respect to other personality trait.

$r(X, Y)$  is the coefficient of correlation between X personality trait and Y personality trait.

$\bar{X}$  is the mean value of a personality trait point (cumulative value of the trait point)

$\bar{Y}$  is the mean value of the other personality trait point (cumulative value of the other trait point)

If the r value is +1, we can say that the personality trait is correlated but if the r value is between 0 and

0.3 then we can say that the personality traits indicate a weak positive relationship. If the r value is between 0.3 and 0.7 then we can say that the personality traits show moderate positive linear relationship. If the r value is between 0.7 and 0.1 then the traits show strong positive linear relationship. If the r value is 0 then there is no relationship between the traits and if the r value is less than 0 then the personality traits are negatively related.

To check the interdependency between the personality traits we can use the Chi square test formulated by Karl Pearson where the dependency of qualitative variable can be measured. At first, we have to come to a hypothesis accepting that there is no dependency between the traits which we call as the null hypothesis and also subsequently we define the alternate hypothesis which will be there is dependency between the traits, after that the chi value observed is compared with the chi value calculated. If the chi value calculated greater than chi value observed then the null hypothesis is rejected and the alternate hypothesis is accepted and vice versa. Below is the formula for the chi square analysis:

$$\chi^2 = \sum_i \frac{(O_i - E_i)^2}{E_i}$$

Where  $O(i)$  is the observed personality trait frequency and  $E(i)$  is the expected personality trait frequency which is calculated by:

$$E(i) = (\text{Row total} * \text{column total}) / \text{Grand total}$$

Wherein the value of chi is measured with respect to the significance level which is taken as 5% which is the significant value and degree of freedom which is  $(R-1) * (C-1)$ , where R is the number of rows and C is the number of columns.

#### 5. HYPOTHESIS TAKEN

Before conducting the study, we have to take the hypothesis, so to perform the chi square analysis we would require the following hypothesis testing –

Null Hypothesis(H0) – There is no significant interdependencies between the traits.

Alternate Hypothesis (H1) – There is significant interdependencies between the traits.

## 6. IMPLEMENTATION& FINDINGS

At first, we have taken a sample of 66 management students who have responded to the questionnaire pertaining to the Big Five personality. Then the data is input to the IBM's SPSS software which segregates the data on the basis of the student's response and points out the scale with respect to the five traits which are openness, conscientiousness, extraversion, agreeableness and neuroticism. Then after getting that data, we found out cumulative value of each of the traits and used the Karl Pearson coefficient of correlation to find whether each of the traits are having any correlation ship or not.

Also, the interdependency is found using the chi square analysis where we come to a hypothesis accepting that there is no dependency between the traits which we call as the null hypothesis and also subsequently we define the alternate hypothesis which is there is a dependency between the traits, after that the chi value observed is compared with the chi value calculated. If the chi value calculated greater than chi value observed then the null hypothesis is rejected and the alternate hypothesis is accepted and vice versa.

## 7. DATA ANALYSIS

After applying the Karl Pearson correlation coefficient between the traits, we have designated the data in terms of a 5x5 matrix where each trait is compared with respect to the other trait. Figure1 shows the r value of one trait with respect to the other trait.

TRAITS	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
Openness	NIL	0.49	0.43	0.22	-0.35
Conscientiousness	0.49	NIL	0.48	0.48	-0.73
Extraversion	0.43	0.47	NIL	0.31	-0.63
Agreeableness	0.22	0.48	0.31	NIL	-0.53
Neuroticism	-0.35	-0.73	-0.63	-0.53	NIL

Fig. 1

Now as per the standard values of coefficient of correlation, If the r value is +1, we can say that the personality traits are correlated but if the r value is between 0 and 0.3 then we can say that the personality traits indicate a weak positive relationship. If the r value is between 0.3 and 0.7 then we can say that the personality traits show moderate positive linear relationship. If the r value is between 0.7 and 0.1 then the traits show strong positive linear relationship. If the r value is 0 then there is no relationship between the traits and if the r value is less than 0 then the personality traits are negatively related.

The r value is then interpreted with respect to the correlation notations and then the final matrix is created which is shown in Figure 2 as below.

TRAITS	Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
Openness	NIL	Moderate positive relationship	Moderate positive relationship	Weak positive relationship	Negatively related
Conscientiousness	Moderate positive relationship	NIL	Moderate positive relationship	Moderate positive relationship	Negatively related
Extraversion	Moderate positive relationship	Moderate positive relationship	NIL	Moderate positive relationship	Negatively related
Agreeableness	Weak positive relationship	Moderate positive relationship	Moderate positive relationship	NIL	Negatively related
Neuroticism	Negatively related	Negatively related	Negatively related	Negatively related	NIL

Fig. 2

From figure 2 we can see that the trait corresponding to openness had a moderate relationship with extraversion and conscientiousness, weak relationship with agreeableness and a negative relationship with neuroticism. Similarly, the trait contentiousness had a moderate relationship with extraversion, openness and agreeableness but a negative relation with neuroticism. The trait extraversion showed

moderate relationship with openness, conscientiousness and agreeableness but a negative relation with neuroticism. Agreeableness showed a moderate relationship with conscientiousness and extraversion, weak relationship with openness and negative relationship with neuroticism. Neuroticism showed a negative relationship with all the traits.

The reason for this moderate relationship of openness, extraversion and conscientiousness is that openness which is trait that shows the curiosity, explore mind, creativity is having some similarity with extraversion as it is related to sociability and talkativeness and is also having some relatedness with conscientiousness as it is a trait that features about thoughtfulness and ideal behavior with people. Moreover, in this test the agreeableness and openness had shown a weak relationship as if the person is very curious and creative does not necessarily have a connection with kindness, trust and affection as are the traits depicting agreeableness.

And while finding the interdependency between the data we had performed the chi square analysis between the personality traits of sample size 66, at first, we have assumed that the null hypothesis to be that there is no dependency between the traits and also assumed that the alternate hypothesis be there is dependency between the traits. We found that the chi value calculated coming as 0.156 and the Tabulated observed value came as 307.183, henceforth we can conclude that there is no interdependency between the traits as the null hypothesis i.e., H<sub>0</sub> which is “there is no interdependencies between the traits” is accepted and the alternate hypothesis i.e., H<sub>1</sub> (There is significant interdependencies between the traits) is rejected as chi value tabulated/observed is much more than chi value calculated henceforth there is no dependency between the traits.

## 8. LIMITATIONS

The limitations and the drawback of the study is that the Big Five personality traits are measured

with respect to the students in this paper pertaining to a sample size of 66. This test and study can be done in a wide range of dimensions like in various work places, households and corporate offices with much more accuracy of the findings. The data could had been more mature with respect to the work experiences attained by the persons working in various work places.

## 9. RECOMMENDATIONS

The method to find the relatedness and interdependency of various personality traits can be found out using the techniques mentioned in this paper. From the findings of this paper, we can say how far the students are groomed, whether they are ready or not for the placements/corporate exposure, how much they are emotionally balanced and how affective they are with stress handling. One can also have a good sample size of various sectors of people for e.g., professionals&households etc. and can find out various relationships and dependencies of these personality traits to predict out the emotional balance, stress coping skills etc.

## 10. CONCLUSION

By conducting this study/research, we could see that the sample size of 66 management student exhibited a trend in their personality traits with respect to openness, conscientiousness, extraversion, agreeableness and neuroticism. The reason for this moderate relationship of openness, extraversion and conscientiousness is that openness which is trait that shows the curiosity, exploring mind, creativity is having some similarity with extraversion as it is related to sociability and talkativeness and is also having some relatedness with conscientiousness as it is a trait that features about thoughtfulness and ideal behavior with people. Moreover, in this test the agreeableness and openness had shown a weak relationship as if the person is very curious and creative does not necessarily have a connection with kindness, trust and affection as are the traits depicting agreeableness.

There is no interdependency between the traits as the null hypothesis which is “there is no dependency between the traits” is accepted and the alternate hypothesis is rejected as chi value tabulated/observed is much more than chi value calculated henceforth there is no dependency between the traits.

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## GREEN BANKING: PERCEPTION AND WILLINGNESS OF CUSTOMER TO ADAPT GREEN BANKING

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### ABSTRACT

*Green banking is a revolutionary concept in banking industry in 2002. This concept came into picture for sustainable environment which will not only impact the environment, but also, to the economy. This includes promoting environmental friendly banking services. The research work includes the cause and effect relationship between the perceptions of the customers towards the usage of Green banking. So, we are using the explanatory research. We have formed the questionnaire and were filled by 50 sample size. There are few hypotheses which we will presume in this research work like:*

*H0: More qualified people are more aware of internet banking practices*

*H1: Qualification has no impact on awareness of internet banking practices*

*H0: More qualified people are more aware of internet banking practices*

*H1: Qualification has no impact on awareness of internet banking practices*

*H0: People who earn more, are more prone to use internet banking*

*H1: Income has no impact on usage of internet banking*

**KEYWORDS:** *Green Banking, Perception, Customers, Internet Banking*

### 1. INTRODUCTION

Green banking is at transitional stage. Green banking is the necessity of today's competitive world globally. Banks operate in business

environment internationally with the help of information technology (IT). With the adoption of IT, Indian Banking Industry has developed tremendously with innovation. The concept of Green banking goes hand in hand with E-Banking.

As a customer, we can use E banking facilities (products and services) through our mobiles, laptop while sitting anywhere with the help of internet. With the evolution of E banking, the barrier of branch banking is broken down.

The credit of launching an internet banking in India goes to ICICI Bank. Citibank and HDFC Bank followed with internet banking services in 1999. Several initiatives were taken by the Reserve Bank with the support of the Government of India to facilitate the development of e-banking in India.

The Government of India enacted the IT Act, 2000 with effect from October 17, 2000 which provided legal recognition to electronic transactions and other means of electronic commerce. The Reserve Bank monitors and reviews the legal and other requirements of e-banking to ensure that e-banking would develop on sound lines. RBI also monitors the financial stability corresponding to the development of green banking. In the competitive world, the public sector banks are competitive with the private banks and foreign banks. The private banks are leading the public sector banks in the development and adoption of green banking facilities to have a clean and green environment.

Banking sector strongly influences the economic growth and development of our country, both as an effect on GDP and standard of living. These financial institutions adopt various strategies for

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economic growth, but when we talk about the green effects, the pressure is being created on all industries either the manufacturing sector or the service sector which includes banking sector also. Banks play a very vital role in promoting sustainable development. The green banking concept supports the banks to sustain in the economic and social environment.

The concept of green banking is used by banks to promote environment friendly practices which include the usage of all resources with care and responsibility, avoid wastage. It aims to use IT infrastructure so efficient and effective to make banking processes smoother with minimal impact on our surroundings and environment. Online transactions and mobile banking are the part of green banking. Banks are charging a very nominal amount as fees and even rate reduction on loans which are focused on energy efficient projects. Banks do not aim at earning profits through these transactions which comes under the concept of green banking.

There are many reasons why banks have followed the Green track. Out of many reasons, few are highlighted here:

- Increasing energy consumption
- Energy prices,
- Growing consumer interest in environmentally-friendly goods and services,
- Higher expectations by the public on Banks environmental responsibilities
- Emerging stricter regulatory and compliance requirements.

## **2. CHALLENGES IN ADOPTION OF E-BANKING**

- Loss of data due to technical defaults.
- Not safe and secure all the time.

- Large number of transactions should be routed over the Web the e-banks cannot think of profit.
- Banks and customers need to be ready to adopt new technological changes.
- Lack of proper infrastructure for the installation of e-delivery channels.

As per the latest projects of the Government, they aim at eradication of black money and move towards cashless economy.

The cashless economy gives a new shape of our Indian economy, especially focused on upgrading the poor population.

The new drive “Demonetization” by Mr. Narendra Modi, Prime Minister of India was a bold decision, which became a success with the support of Green banking. This drive with the help of Green banking not only helped in rooting out the corruption but promoted the government project of “a digital India” which brought the cultural change in our economy with the sharp growth in usage of plastic money (Debit cards and Credit cards). Plastic money promotes the citizens of India to go cashless. All these projects brought a revolutionary change in our economy with digital payments.

It is a blessing that our Economy, as well as the banking system has a huge potential to change. This potential can be utilized with the support of Reserve bank of India. India has relatively a low legacy issue with just 23 million credit cards and over 660 million debit cards (mostly used as ATM cards). The Government of India is planning a smooth, flexible and transparent system towards green banking. It brings a transformational change in the economy, which will form cashless, honest, corruption less economy. At present, our economy is less cash economy instead of a cashless economy to avoid the back money transactions. As per the sources, digital transactions in India are estimated to just 17% of total transactions. As per the findings of Internet and Mobile Association of India (IAMAI), about 23% of the online users prefer internet banking as

banking channel in India, second only to ATM which is preferred by 53%.

The banks provide different services while sitting at home through e banking. These services are transactional task as well as non transactional tasks.

Non-transactional tasks are Viewing account balances, Viewing recent transactions, Downloading bank statements, Viewing images of paid cheques, Ordering cheque books.

Transactional task is Funded transfers between the customer's linked accounts, Paying third parties, including utility bill payments and telegraphic/wire transfers, Investment purchase or sale, Loan applications and transactions, such as repayments of enrollments, Transaction Approval Process.

When we talk about the employees of the banks, no doubt, they also got benefitted by the welcome of green banking. They have control over the overhead and operational costs. They have come up with many new proposals for banking operations. It helped the employees to reduce paper work as many of the documents are available electronically.

### 3. LIMITATIONS TO THE USAGE OF INTERNET BANKING

The large portion of the Indian population resides in rural areas of the country where there is no access to internet and not even aware of technology for online banking. Though, the central bank of our economy, Reserve Bank of India who forms all the banking regulations is focusing on financial inclusion, but infrastructure plays a very vital role in promotion and accessibility of financial inclusion. This process needs to be promoted from grass root level in rural areas of India.

Security is the other major issue to look into it. Customers feel insecure while using internet banking facilities. Banks have tried their best to safeguard the data and securities of their customers by generating one time password for their each non

transactional tasks and transaction tasks, Banks have come up with virtual keyboards for security purposes.

### 4. LITERATURE REVIEW & GAP

Internet revolution is a worldwide process and going by the online growth statistics. It is a self-evident notion that internet banking and payments are probably to progress with the e-commerce. Existing researches denote that the commercial enterprise frameworks of banks, brokerage houses, securities trading firms, insurance companies etc. are importantly impacted by internet banking. It has also fascinated the missionary work of lawmakers and regulators in the developing countries since the late 1990's.

Commercial banks have knowledge about that internet starts up the new cambium for them and eternalize them to extend from local to worldwide outline within a short period of time.

Gupta P. K (2008). States that Internet banking eternalize bank clients to get operate to their accounts and through the medium of bank's website, they also get acknowledge about general information on bank products and services without the intervention of sending letters, telephonic confirmation, faxes and original signatures.

Thulani D, Tofara C, Langton R (2009). According to this study Internet banking gives global connection from any area worldwide and is globally accessible from any internet enabled computer system. Internet approves the low-priced delivery channel for Internet banking products as it permits the entity to minimize their branch networking system and decrease the requirements of service staff. Basically, banks also consider the 'minimization of transaction cost', 'reduces inconvenience', and 'time saving' to be greater benefits of online banking. On the other hand, 'chances of fraud', 'probability of government of accesses, and 'deficit in information security' to be important risks attached with online banking.

(Kaleem & Ahmad, 2008). According to this study Modern banking institutions offering banking and financial services over the internet and Internet banking is a major reason of concern to maximum number of the offline banks who should be ready for an unexplained competition. So that most of the traditional banks have started providing their services online.

(Hasan Iftexhar, Schmiedel Heiko, Song Liang (2011). This study states that the internet banking service has affected the banking customers to put their funds with the online banks, a substantial impact on the deposit base of the traditional offline banks has become a major trend.

It is an empirically recognized fact that the foundation of technology in banking has a direct relationship with profitability and investment in online banking maximize the profit margin of banks by minimizing costs and maximize in non-interest income, which in turn will lead to increase in ROA and ROE.

(Sinkney J. F, 1998). According to this study, the involvement of the banking services with emergence of e-cash and e-commerce would extremely affect the proportionality scores of the banks.

Furst K, Lang W, Nolle D (1998) This study states that the electronic banking has facilitated interest from policy makers, researchers and bankers. Efforts are being made to make retail payments reasonable and integrated. Retail payments efforts in improving the relationship between retail customers and bank and remains advisory for banking services, like loans, credit, savings and other services.

## 5. NEED OF THE STUDY

Due to busy schedule, branch banking is not possible for every customer. And Environment is also getting affected by paper work and carbon effects. So, there felt a need to start a e-banking

facility, which will take care of customers as well as the environment. Government of India is also coming up with such schemes which promotes Green banking.

## 6. OBJECTIVE

- To analyze the perception of customers towards the adoption of Green banking
- To study the customer satisfaction level towards the adoption of Green banking

## 7. RESEARCH METHODOLOGY

The research work includes the cause and effect relationship between the perceptions of the customers towards the usage of Green banking. We are using the explanatory research. We have formed the questionnaire to get filled by customers of different bank and were filled by 50 sample size.

There are few hypotheses which we will presume in this research work like:

### *First Test*

H0: More qualified people are more aware of internet banking practices H1: Qualification has no impact on awareness of internet banking practices

### *Second Test*

H0: More qualified people are more aware of internet banking practices H1: Qualification has no impact on awareness of internet banking practices

### *Third Test*

H0: People who earn more, are more prone to use internet banking H1: Income has no impact on usage of internet banking

## 8. ANALYSIS

In order to test the first hypothesis, we applied ANOVA to the questions related to internet banking facility awareness across the three groups of respondents based on their qualifications. We

discovered the significance value to be less than .05 (as shown in the table below), and F-value came out to be greater than the F-critical. This signifies that

the more qualified people are more aware of internet banking and are more likely to use it.

**TABLE 1: Result of ANOVA Test for Hypothesis-1**

		Sum of Squares	df	Mean Square	F	Sig.
IB1	Between Groups	5.111	2	2.556	14.337	.000
	Within Groups	20.855	117	.178		
	Total	25.967	119			
IB2	Between Groups	12.149	2	6.075	4.141	.018
	Within Groups	171.642	117	1.467		
	Total	183.792	119			

In order to test the second hypothesis, we again applied ANOVA on the responses to the questions related to safe internet banking awareness across the three groups of respondents based on their qualification. However, we discovered the significance value to be greater than .05 (as shown

in the table below), and F-value came out to be lower than the F-critical. This shows that the qualification of the respondents does not have much influence on their awareness towards safe internet banking practices.

**TABLE 2: Result of ANOVA Test for Hypothesis-2**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
SIB	Between Groups	.956	2	.478	.290	.749
	Within Groups	192.636	117	1.646		
	Total	193.592	119			

In order to test the third hypothesis, we again applied ANOVA on the responses to the questions related to internet banking awareness across the four groups of respondents based on their income. We discovered the significance value to be lesser

than .05 (as shown in the table below), and F-value came out to be more than the F-critical. This shows that the income of the respondents has an influence on their awareness towards internet banking practices.

**TABLE 3: Result of ANOVA Test for Hypothesis-3**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
	Between Groups	3.303	4	.826	4.189	.003

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
VAR00001	Within Groups	22.664	115	.197		
	Total	25.967	119			
VAR00002	Between Groups	23.684	4	5.921	4.008	.004
	Within Groups	169.907	115	1.477		
	Total	193.592	119			
VAR00003	Between Groups	28.899	4	7.225	5.364	.001
	Within Groups	154.893	115	1.347		
	Total	183.792	119			

The major reasons behind non usage of internet banking are security concerns (40%), preference for face-to-face transactions (31%), lack of knowledge about transferring online (19%), lack of user friendliness (10%).

### 9. SUGGESTIONS AND RECOMMENDATION

- E-banking services need to be tailor made according to age, gender, occupation etc
- Customers are concerned with security of funds via e banking so specials facilities should be provided to customers in this regards.
- E banking training and seminars need to be conducted by banks for better usage
- Training to the employees is equally important to guide their customers
- Need to build better infrastructure by better investment plans from Government for latest technology

### 10. CONCLUSIONS

Our Country, India has benefitted the customers, banking industry, our economy by Green banking with the support of latest technology. Banking industry with the support of central bank working

efficiently and effectively for making Green Banking a great success for their customers. As per the analysis done by the researcher in this research paper, Young generation feels convenient to use e-banking facilities. In the coming future, not only youngsters, but every individual will prefer e banking as a mode of banking. The second interpretation says that there is no correlation between the increased income with the usage of e-banking.

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# A STUDY ON BETA VALUE OF BANKING SECTOR STOCKS IN NSE NIFTY

Jacob Senthil\*

## ABSTRACT

*Role of banking industry is most significant in the present scenario of demonetization. In the light of demonetization, banking transactions have increased and need for best investment avenues are rising. In this occasion Indian stock market is the best place for investing or trading. Here the author tries to analyze the risk in banking shares. Beta expresses the fundamental trade-off between minimizing risk and maximizing return. If the investor is ready to take risk, he should select the beta with higher value. If the investor is risk averse, he should select beta of less than 1. Risk in banking shares are comparatively above average risk. But less riskier shares are also available from banking shares. Long term investment is preferable in the case of shares from banking sector. Short term investors should be careful to select shares of banks with beta value less than 1.*

**KEYWORDS:** Banking Stock, Beta, Risk

## 1. INTRODUCTION

Banking industry is the pillar of Indian economy. RBI is the controller of this industry and role of banking industry is most significant in the present scenario of demonetization. A strong banking system in a country always protect from economic adversity. In the light of demonetization, banking transactions have increased and need for best investment avenues are rising. In this occasion, Indian stock market is the best place for investing or. But the volatility of market is high. There is a chance for huge loss rather than profit. The proportion of investors to population in Indian stock market is very low as compared to international market. Beta value is the good indicator to

understand risk in the stocks. Beta talks about risk in terms of volatility. RBI has taken various measures to control and smoothen the economy. Both corporate announcement and RBI's announcement related to banks give high in stability in the share prices of banks as compared to other sectors in the stock market. Speculators are more attracted high fluctuating stocks for speculation. So here, we analyzed the risk of stocks of banks through beta value.

### **Risk Concept**

Risk is the possibility of loss or probability of loss. In finance, risk is chance of decreasing actual return as compared to expected return. Risk is defined as the variability or fluctuations in return. Two types of risk are systematic risk and unsystematic risk.

### **Systematic Risk**

Systematic risk is risk affected entire system. In this context, the entire system means stock market. Some external factors like changes in economic condition, political situation, sociological changes etc are affecting the stock market. These factors are uncontrollable. Systematic risk again divided into three categories as follows

- Market risk
- Interest rate risk
- Purchasing power risk

**Market Risk:** - It is the risk due to variations in return from market caused by bullish and bearish trend.

With the fluctuations of market, 80 % of the securities price increase or decrease along with stock market indices.

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**Interest rate risk:** - It is occurring due to the fluctuations in the interest rate. It most commonly affected to bond return and cost of borrowing.

**Purchasing power risk:** - Risk arises from loss of purchasing power of currency. Inflation is the reason for purchasing power risk.

### *Unsystematic Risk*

Unsystematic risk is the risk which is affected only to an industry or firm. This risk rises from financial leverage, managerial inefficiency, technological change in the production process, availability of raw material, changes in consumer preference and labour problem. In simple words, risk due to the influence of internal factors within organisations. Unsystematic risk can be divided as;

- **Business Risk:** Variations in business operating income leads to business risk
- **Financial Risk:** It refers to the difference between Earnings Before Interest and Tax (EBIT) and Earnings Before Tax (EBT).

### *What is Beta?*

Beta is a measure of risk in terms of volatility. It compares the market risk with broader market. It is the slope of the characteristic regression line. It describes the relationship between stocks return and index returns. In other words, beta is a measure of systematic risk of a security or portfolio in comparison to market as whole. It is also known as beta coefficient. Beta gives us the tendency of a security returns to respond to swings in the market.

### *Interpretation of Beta Value*

Beta value 1 indicate that the security's price will move with the market. It means, when the market goes forward, security price also goes forward, and security price goes backwards with decrease in the market index.

Beta value lies between 0 and 1 indicate that the security is less volatile and comparatively less risk.

Swings in the market less affected to security price and return is also less than market return.

A beta greater than 1 indicates that security price fluctuations are more than the market fluctuations. This security's return and risk is very high. Return from this security's is higher than during up trending and greater chance to huge loss during down warding market.

Bata value less than 0 means that the prices of securities go down even if the market is up trending.

It is also known as decaying security. If beta value is 0, it will not be related to stock market.

### *Need of the Study*

The study was conducted to evaluate the Beta value of the banking stocks. It also evaluates the performance of banking share stock mainly the identification of risk of banking stock based upon beta value. This study is structured to analyse the performance of the selected shares in the banking industry to reveal the risk in a period.

### *Objectives of the Study*

- To analyse the risk of the selected banking shares listed in NSE Nifty.
- To compare short term and long-term beta of selected shares
- To study volatility of banks in comparison with the market.

## **2. LITERATURE REVIEW**

Dr. S. Poornima and Swathiga studied the relationship between risk and return of selected stocks. The author used CAPM model in this study. Two sectors were analysed and they are automobile sector and IT sector. Their beta values are positive. So, stocks in automobile and IT sectors' risk and return are high.

Mahendar Pavirala studied risk return relationship of IT stocks listed in NSE CNX 100. This study

reported that the performances of stock are not consistent and did not offer more than 10% as return. So stocks in IT sector are subjected to high risk.

Shaini Naveen and T. Mallikarjunappa compared risk and return of stocks of CNX Bank Nifty. Beta is the measure of systematic risk and helpful to understand the relationship between stock returns and index returns. This study considered 12 banks included in Bank Nifty. It was found that betavalue of all banks is positive. It was found that, at a particular point of return, different stocks have different degree of risks. So, it is suggested that investors should understand and analyse the market continuously to select the stocks for investing their funds.

Dr.S. Krishnaprabha and Mr. M.Vijayakumar conducted a study on risk and return analysis of selected stocks in India. Five sectors in BSE have been selected for this study. Selected sectors are banking sector, automobile sector, information technology sector, pharmaceutical sector and fast moving consumer goods sector. Investors are interested in reducing risk and maximising return. But, analysis in this study showed that risk and return moved in the same direction. It means when risk increases, return also increases.

Narayan Gaonkar and Dr.Kushalappa analysed risk and return of stocks listed in NSE. Risk and return of stocks are high influential factor in investment decision.

A stock which has more systematic risk is not suitable for investment because that it has highest market risk, which cannot be diversified like unsystematic risk.

Bedanta Bora and Anindita Adhikary studied risk and return relationship. It was found that there is a positive relationship between return from securities and market return. Investor should consider risk and return of securities, while making investment

decisions. It is better to consider stocks which are stable in nature to avoid fluctuations in return.

Uday Kumar Jagannathan and N. Suresh analysed major stock indices in India in terms of risk and return. They found that BSE Sensex preferable than BSE small cap in terms of return and co efficient of variations. Diversification across indices would help to get maximum benefit for the investor.

### 3. DATA AND METHODOLOGY

The present study is analytical in nature. It is based on secondary data collected from NSE. Among various sectors in NSE, banking sector is selected for the study. 12 shares (which also included in bank Nifty) are selected for analysis. For calculating short term beta, consider 3 months share price of selected stocks for the period.. For calculating long term beta, consider 4 years share price of selected stocks for the period of 2017 to 2020.Following formula used for calculating beta.

$$\beta_s = \frac{E(r_s) - r_f}{E(r_m) - r_f}$$

$\beta_s$  = Beta for your investment  
 $E(r_s)$  = Expected Return from your investment  
 $E(r_m)$  = Expected Return from the Market  
 $r_f$  = Risk-Free Return

### 4. RESULT AND DISCUSSIONS

In this session, the author made attempts to analyze the risk and return in terms of beta value. Here, both short term and long-term beta were analyzed. Beta value of selected shares are described in the table:1 as follows.

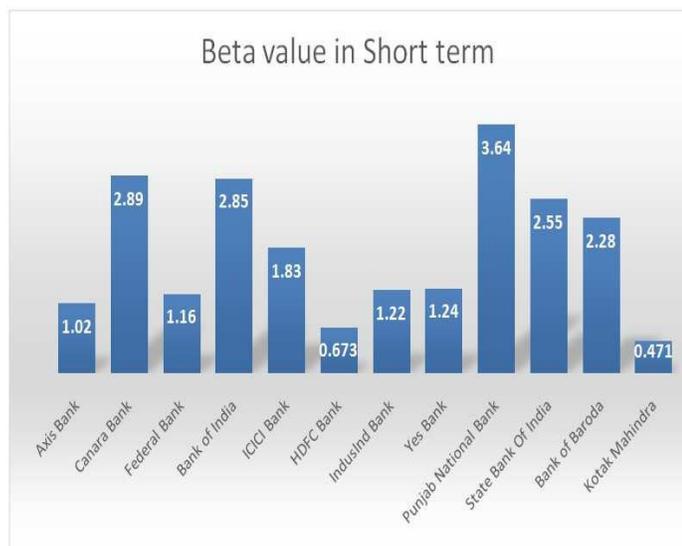
**TABLE 1: Beta Value of Selected Banking Sector Stocks**

Bank Name	Beta Value In Short Term	Beta Value in Long Term
Axis Bank	1.02	1.48
Canara Bank	2.89	1.94

Bank Name	Beta Value In Short Term	Beta Value in Long Term
Federal Bank	1.16	1.22
Bank of India	2.85	1.97
ICICI Bank	1.83	1.34
HDFC Bank	0.673	0.868
IndusInd Bank	1.22	0.522
Yes Bank	1.24	1.31
Punjab National Bank	3.64	1.81
State Bank of India	2.55	1.84
Bank of Baroda	2.28	1.43
Kotak Mahindra	0.471	0.961

Source: [www.nse.com](http://www.nse.com)

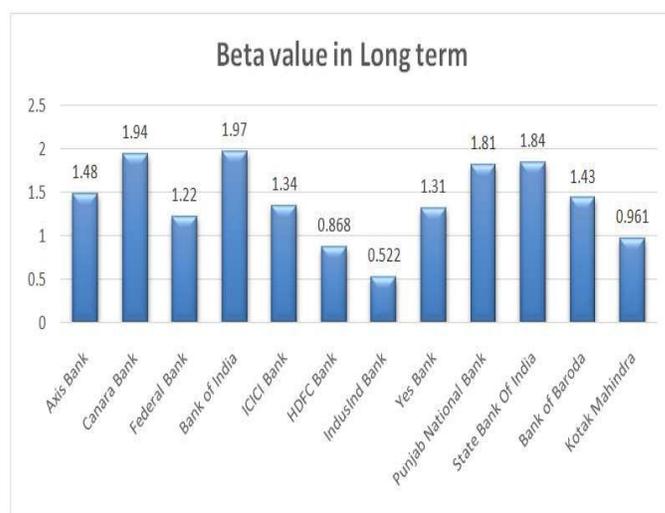
This table shows short term beta value and long-term beta value of selected shares from banking sector. Its graphical representation showed in Figure 1 and 2 as follows.



Source: Secondary Data

**Fig. 1. Short Term Beta of Selected Banking Sector Shares**

While considering short term beta value, HDFC bank and Kotak Mahindra has less beta value. Its beta value is less than 1. In short term, Fluctuations of prices of HDFC and Kotak Mahindra banks are less than market fluctuations and return is also less than market return Punjab National Bank shows high beta value and its risk and return is high. Beta value of Canara Bank, Bank of India, SBI and Bank of Baroda are above 2 and they are riskier shares. Axis bank, Federal Bank, ICICI Bank, IndusInd Bank and Yes Bank have short beta between 1 and 2. Its actual returns are more than market return and the loss may be greater than market loss.



Source: secondary data

**Fig. 2. Long Term Beta of Selected Banking Sector Shares**

While considering long term beta value, HDFC bank, IndusInd Bank and Kotak Mahindra have beta value between 0 and 1. In long term, Fluctuations of prices of HDFC, IndusInd Bank and Kotak Mahindra banks are less than market fluctuations and returns are also less than market return. Beta value of Axis bank, Canara Bank, Federal bank, Bank of India, ICICI Bank, Yes Bank, Punjab National Bank, SBI and Bank of Baroda lie between 1 and 2 and they are also riskier shares. It is more volatile than market.

## 5. CONCLUSIONS

This study focuses on beta value of selected shares from banking shares listed in NSE. Analysis shows that beta value of banking sector is high. Short term beta is higher than long term beta in most of the cases. In the case of 5 banks (Axis bank, Federal bank, HDFC, Yes Bank and Kotak Mahindra bank), long term beta is higher than short term beta. Beta is a usable measure of risk; it helps the investors to take investment decisions. Firstly, investor should identify the level of risk one can bear. If the investor is ready to take risk, he should select the beta with higher value. If the investor is risk averse, he should select beta of less than 1. From this, we can understand that risk in banking shares are comparatively above average risk. But less riskier shares are also available from banking shares. Long term investment is preferable in the case of shares from banking sector. Short term investors should be careful to select shares of banks with beta value less than 1.

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# IMPACT OF COVID 19 PANDEMIC ON GLOBAL STOCK MARKETS

Prof. Semanti Debroy Sen\*

## ABSTRACT

*The year 2020 has been quite extraordinary for the world economy in general and the financial markets in particular. With the slowing down of economic activities and usual economic activities coming to a halt, all the sectors of every country took a hit and its impact could also be felt in the stock markets across the world. This paper analyses the impact felt in different stock markets throughout the year 2020 and attempts a comparative study between Asian markets and those of the rest of the world. Some relevant statistical methods have been used for the purpose of analysis.*

*Keywords: stock markets, stock market index, variations, volatility*

## 1. INTRODUCTION

The year 2020 was an unusual one for the entire world. Since the beginning, starting from China, almost all the countries in the world was affected by a new strain coronavirus, designated as COVID -19, which was a most contagious and life threatening one. It claimed numerous lives across the globe and brought a halt to all activities and livelihood. As countries went into total lockdown, the result was to retard and almost bring to a standstill economic activities across all major economies. All the countries suffered from lack of production, loss of employment and reduction in the GDP growth rate.

This also had some impact on the global stock markets. A comparative study can be carried out between the stock markets of Asian countries with those of other major economies to find out how the pandemic impacted the stock markets of the different economic regions of the world.

## 2. REVIEW OF LITERATURE

As the issue is very contemporary, so much elaborate literature is still not available on the issue. But some recent studies and reporting on the issue has been consulted for generating the paper.

Lora Jones, Daniele Palumbo & David Brown (2021) in an article in BBC news pointed out that the spread of the virus has affected all national economies and business world is counting their losses. The govt of several countries are trying to impose new lockdown measures to control the virus. Though some countries have already commissioned some vaccines, yet it will take some time for full recovery of the economies

Another article in Economic Times (2021) pointed out that the spread of the virus and resultant lockdown has affected stock markets around the world and this will affect the personal portfolio of investors and can also affect value of pensions and individual savings accounts. The global indices like FTSE, Dow Jones and NIKKEI saw huge falls during the first few months of the coronavirus crisis. However the major Asian indices and US index has seen some recovery after the announcement of the vaccine, though the index for London Stock Exchange was still negative.

Jagran (2020) pointed out that the impact of the virus was creating great hardship for humanity. The Indian stock markets experienced huge falls and yearly low at the beginning of the lockdown, but then recovered to achieve record heights during this exceptional year..

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Viratyosin in a publication (2020) that no other outbreak of disease have affected stock markets such hugely as the coronavirus outbreak of 2020. The article tries to highlight the causes of the strong impact of the disease on the stock markets and identifies that Govt imposed restrictions and adoption of social distancing by public was the main causes for the series impact of the pandemic on the indices.

### 3. OBJECTIVES OF THE STUDY

The objective of this paper is to conduct a study on stock markets across the world and

- To study the nature of fluctuation of the indices of various stock exchanges
- To carry out a descriptive analysis of the variations
- To carry out a comparative study of the Asian indices with the indices of the rest of the world.

### 4. BASIS OF THE STUDY

In order to carry out the study, several stock exchanges across the world were selected. The basis of the selection was the value of GDP of the country.

From the World Bank data of 2020, the top 12 countries in terms of GDP were

1. USA
2. China
3. Japan
4. Germany
5. India
6. UK
7. France
8. Brazil
9. Italy

10. Canada
11. Russia
12. South Korea

From these, the top 4 Asian economies were chosen China, Japan, India and South Korea and one major stock market from each of these countries were taken.

- The Shanghai Stock Exchange from China and its index SSE COMPOSITE INDEX
- The Tokyo stock Exchange from Japan and its index NIKKEI
- The Bombay stock exchange and its index SENSEX
- The Seoul stock exchange from South Korea and its index KOSPI

And from the rest, the top 5 countries were taken, and a major stock exchange from them

- The NEW YORK stock exchange and its index given by DOW JONES INDUSTRIAL AVERAGE
- The London stock exchange and its index FTSE 100
- THE FRANKFURT Stock exchange and its index DAX
- The Euronext Paris stock exchange ( formerly Paris Bourse ) and its index CAC 40
- The Sao Paulo stock exchange and its index BOVESPA

The change in the value of these indices is the basis of the study.

Here, a brief summary is provided about the different stock exchanges chosen and the benchmark index of those exchanges.

**Bombay Stock Exchange** is an Indian stock exchange located in Mumbai. Established in 1875 it is Asia's oldest stock exchange. The BSE is the

world's 7th largest stock exchange with an overall market capitalization of more than US\$2.8 trillion on as of February 2021 with 5439 listed securities.

The **SENSEX (sensitive index)** refers to India's benchmark stock index, which was created in 1986 and represents 30 of the largest and most well-capitalized stocks on the **BSE**. The **Sensex** has been on a growth curve since India opened up its economy in 1991.

The **Tokyo Stock Exchange** abbreviated as **Tosho** is a stock exchange located in Tokyo, It is the third largest stock exchange in the world by aggregate market capitalization of its listed companies, and the largest in Asia. It had 2,292 listed companies with a combined market capitalization of US\$5.67 trillion as of February 2019.

**NIKKEI 225** IS THE INDEX OF Tokyo stock Exchange, The index is being calculated since 1950.

The **Shanghai Stock Exchange (SSE)** is a stock exchange based in the city of Shanghai, China.. The Shanghai Stock Exchange is the world's 4th largest stock market by market capitalization at US\$6,98trillion as of January 2021 with 1860 listed companies..The current exchange was re-established on November 26, 1990.

The **SSE Composite Index** also known as **SSE Index** is a stock market index of all stocks that are traded at the Shanghai Stock Exchange. Its base value is taken from December 1990.

**Korea Exchange (KRX)** is the sole securities exchange operator in South Korea. It is headquartered in Busan, and has an office for cash markets and market oversight in Seoul

As of Dec 2020, Korea Exchange had 2,409 listed companies with a combined market capitalization USD \$2.1 trillion

The Korea composite Stock Price Index **KOSPI** was launched in 1983 and it represents all common stocks traded in the Korea Exchange.

The **New York Stock Exchange (NYSE, nicknamed "The Big Board")** is an American stock exchange located in New York City. It is by far the world's largest stock exchange by market capitalization which stands at US\$26.23 trillion as of February 2021 with 2800 Listed companies.

The **Dow Jones Industrial Average (DJIA)**, is a stock market index that measures the stock performance of 30 large companies listed on stock exchanges in the United States.

**London Stock Exchange** is a stock exchange in the City of London. As of April 2018, London Stock Exchange had a market capitalisation of GBP £39 billion (USD \$26 billion). It was founded in 1801, making it one of the oldest exchanges in the world. It has 2463 listed securities.

The **Financial Times Stock Exchange 100 Index**, also called the **FTSE 100 Index**, is a share index of the 100 companies listed on the London Stock Exchange with the highest market capitalisation.

**Euronext Paris** is France's securities market, formerly known as the **Paris Bourse**, which merged with the Amsterdam, Lisbon, and Brussels exchanges in September 2000 to form Euronext NV, which is the second largest exchange in Europe As of June 2020, it had nearly 1,500 listed issuers worth €3.8 trillion in market capitalisation.

The **CAC 40 (Cotation Assistée en Continu)** is a benchmark French stock market index. The index represents a capitalization-weighted measure of the 40 most significant stocks among the 100 largest market caps on the Euronext Paris

The **Frankfurt Stock Exchange** is the world's 12th largest stock exchange by market capitalization.

The **DAX** (*DeutscherAktienindex*) is a blue chip stock market index consisting of the 30 major German companies trading on the Frankfurt Stock Exchange.

The **IBOVESPA** is a major stock market index which tracks the performance of around 50 most liquid stocks traded on the **Sao Paulo Stock Exchange** in Brazil. It is a gross total return weighted index. The index has a base value of BRL 100 as of January 2, 1968.

## 5. METHODOLOGY

The study is entirely based on secondary data. The data comprise of the record of the stock market index at the beginning and end of a trading session. The period of data collection was from January to December 2020. For every index, three values were recorded per month. The value on the first working day, the middle day and the last working day of the month were recorded. The opening value, closing value and the change per day was noted and change percentage determined.

Then statistical analysis were carried out for these change value. A trend line shows the ups & down in the values. The Standard deviation and coefficient of variation was estimated for each index to determine the extent of stability and consistency of the index. This can also be used to understand which markets showed greater volatility during the pandemic year.

Then ANOVA (Analysis of variance) was carried out intra region and inter region to ascertain whether the variation pattern was similar or not.

## 6. DATA ANALYSIS

### *Monthwise Data of Selected International Stock Indices*

#### **FTSE 100** **(London UK)**

2/14/2020	7,433.30	7,382.00	-51.30
2/28/2020	6,796.40	6,580.60	-215.80
3/2/2020	6,580.60	6,654.90	74.30
3/16/2020	5,366.10	5,151.10	-215.00
3/31/2020	5,563.70	5,672.00	108.30
4/1/2020	5,672.00	5,454.60	-217.40
4/15/2020	5,791.30	5,597.70	-193.60
4/30/2020	6,115.30	5,901.20	-214.10
5/4/2020	5,901.20	5,763.10	-138.10
5/15/2020	5,741.50	5,799.80	58.30
5/29/2020	6,218.80	6,076.60	-142.20
6/1/2020	6,076.60	6,166.40	89.80
6/15/2020	6,105.20	6,064.70	-40.50
6/30/2020	6,225.80	6,169.70	-56.10
7/1/2020	6,169.70	6,158.00	-11.70
7/15/2020	6,179.80	6,292.70	112.90
7/30/2020	5,990.00	5,897.80	-92.20
8/3/2020	5,897.80	6,032.90	135.10
8/17/2020	6,090.00	6,127.40	37.40
8/31/2020	6,000.00	5,963.60	-36.40
9/1/2020	5,963.60	5,862.10	-101.50
9/15/2020	6,026.30	6,105.50	79.20
9/30/2020	5,897.50	5,866.10	-31.40
10/1/2020	5,866.10	5,879.50	13.40
10/15/2020	5,935.10	5,832.50	-102.60
10/30/2020	5,581.80	5,577.30	-4.50
11/2/2020	5,577.30	5,655.00	77.70
11/16/2020	6,316.40	6,421.30	104.90
11/30/2020	6,367.60	6,266.20	-101.40
12/1/2020	6,266.20	6,384.70	118.50
12/15/2020	6,531.80	6,513.30	-18.50
12/30/2020	6,555.80	6,460.50	-95.30

#### **DAX (FRANKFURT, GERMANY)**

	OV	CV	Change			
				6042.38	6056.82	14.44
2/14/2020	13,668.94	13,681.19	12.25	5310.82	5309.9	-0.92
2/28/2020	11,891.87	11,890.35	-1.52	5416.02	5333.52	-82.5
3/2/2020	12,030.27	11,857.87	-172.40	3886.82	3881.46	-5.36
3/16/2020	8,728.48	8,742.25	13.77	0		0
3/31/2020	9,970.79	9,935.84	-34.95	4259.94	4207.24	-52.7
4/1/2020	9,610.67	9,544.75	-65.92	4511.87	4353.72	-158.15
4/15/2020	10,678.19	10,279.76	-398.43	0		0
4/30/2020	11,195.21	10,861.64	-333.57	0		0
5/4/2020	10,543.36	10,466.80	-76.56	4314.97	4277.63	-37.34
5/15/2020	10,470.85	10,465.17	-5.68	4733.98	4695.44	-38.54
5/29/2020	11,649.37	11,586.85	-62.52	4776.72	4762.78	-13.94
6/1/2020	11,896.70	12,021.28	124.58	4716.98	4815.72	98.74
6/15/2020	11,661.36	11,911.35	249.99	0		0
6/30/2020	12,287.94	12,310.93	22.99	4939.8	4926.94	-12.86
7/1/2020	12,391.72	12,260.57	-131.15	5045.92	5108.98	63.06
7/15/2020	12,812.11	12,930.98	118.87	0		0
7/30/2020	12,403.10	12,313.36	-89.74	4797.06	4875.93	78.87
8/3/2020	12,374.46	12,646.98	272.52	4972.59	4971.94	-0.65
8/17/2020	12,924.88	12,920.66	-4.22	5031.31	5002.94	-28.37
8/31/2020	13,140.60	13,033.20	-107.40	4974.42	4938.1	-36.32
9/1/2020	13,037.20	12,974.25	-62.95	5056.9	5067.93	11.03
9/15/2020	13,220.81	13,217.67	-3.14	0		0
9/30/2020	12,754.77	12,760.73	5.96	4850.2	4824.04	-26.16
10/1/2020	12,812.08	12,730.77	-81.31	4873.03	4837.42	-35.61
10/15/2020	12,826.13	12,703.75	-122.38	4519.37	4594.24	74.87
10/30/2020	11,472.61	11,556.48	83.87	4614.95	4691.14	76.19
11/2/2020	11,602.91	11,788.28	185.37	5430.57	5471.48	40.91
11/16/2020	13,170.52	13,138.61	-31.91	0		0
11/30/2020	13,270.51	13,291.16	20.65	5542.46	5581.64	39.18
12/1/2020	13,371.66	13,382.30	10.64	5521.79	5530.31	8.52
12/15/2020	13,216.49	13,362.87	146.38	0		0
12/30/2020	13,750.99	13,718.78	-32.21			

**CAS 40 (Euronext, France)**

**DOW JONES INDUSTRIAL AVERAGE (NEW YORK, USA)**

29,282.78	29,232.19	-50.59
25,270.83	25,409.36	138.53
25,590.51	26,703.32	1,112.81
20,917.53	20,188.52	-729.01
22,208.42	21,917.16	-291.26
21,227.38	20,943.51	-283.87
23,600.72	23,504.35	-96.37
24,585.57	24,345.72	-239.85
24,120.78	23,723.69	-397.09
23,454.83	23,685.42	230.59
25,324.15	25,383.11	58.96
25,342.99	25,475.02	132.03
25,270.39	25,763.16	492.77
25,512.43	25,812.88	300.45
25,879.38	25,734.97	-144.41
27,009.81	26,870.10	-139.71
26,409.33	26,428.32	18.99
26,542.32	26,664.40	122.08
27,970.05	27,844.91	-125.14
28,601.29	28,653.87	52.58
28,439.61	28,645.66	206.05
28,139.76	27,995.60	-144.16
27,514.64	27,781.70	267.06
27,940.63	27,816.90	-123.73
28,323.40	28,494.20	170.80
26,572.27	26,501.60	-70.67
29,524.35	29,397.63	-126.72
29,672.36	29,950.44	278.08
29,854.51	29,638.64	-215.87
29,797.50	29,823.92	26.42
29,919.09	30,199.31	280.22
0	0	0.00

**BOVESPA (SAUPAULO, BRAZIL)**

120,360.70	120,845.47	484.77
102,984.00	102,984.00	0.00
104,260.00	107,220.00	2,960.00
82,565.00	82,565.00	0.00
74,629.00	75,511.00	882.00
73,011.00	73,011.00	0.00
79,911.00	80,035.00	124.00
83,169.00	83,169.00	0.00
78,887.00	81,066.00	2,179.00
79,011.00	79,538.00	527.00
86,951.00	87,410.00	459.00
87,395.00	89,019.00	1,624.00
92,780.00	93,112.00	332.00
95,728.00	96,257.00	529.00
95,062.00	96,852.00	1,790.00
100,444.00	102,114.00	1,670.00
105,010.00	105,462.00	452.00
102,913.00	103,863.00	950.00
103,863.00	101,689.00	-2,174.00
100,631.00	102,347.00	1,716.00
99,382.00	102,238.00	2,856.00
100,277.00	100,949.00	672.00
93,586.00	95,340.00	1,754.00
94,604.00	95,486.00	882.00
99,328.00	99,486.00	158.00
96,579.00	96,579.00	0.00
0	0	0.00
96,579.00	106,518.00	9,939.00
110,598.00	110,934.00	336.00
108,897.00	111,840.00	2,943.00
114,613.00	116,390.00	1,777.00
0	0	0.00

The above data records the opening and closing value of the market index of 3 specific dates every

month from February to December 2020. Then the daily change is calculated.

	<b>FTSE 100</b>	<b>DAX</b>	<b>CAC 40</b>	<b>DOW JONES</b>	<b>BOVESPA</b>
AM	-33.43	-17.19	-0.7378125	-17.19	1,119.43
SD	109.612	137.0165763	49.01906362	308.7367266	1903.351
COV	-3.27873	-7.97013459	-66.43837509	-17.9589458	1.700286

The Arithmetic mean, Standard deviation and coefficient of variation of the change in the index values is computed. By analyzing and comparing the descriptive statistics value of the international indices, it can be said, that the highest mean is in the Brazilian stock index, Bovespa indicating that this exchange have registered the maximum volume of change. However the mean change is positive indicating that despite Brazil being a country which was majorly affected by COVID, the stock prices remained positive. However, for the other four international indices, the average change was negative, indicating that stock markets have taken a toll due to the effect of the pandemic.

that Bovespa has the highest SD, indicating that there has been maximum deviations from the mean changes. This indicates that this market has been most volatile. SD of CAC 40 is the least which indicates that the French markets has been most stable with minimum deviations. CAC 40 also has the highest COV which implies highest consistency.

An analysis of variance for the changes in index values for international markets is carried out with the null hypothesis ( $H_0$ ) that change is index value is similar across all exchanges against the alternate hypothesis ( $H_1$ ) that the change pattern is not similar.

By comparing the standard deviation, it is found

The following outcome is obtained:

#### **Anova: Single Factor**

SUMMARY				
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	32	-1069.8	-33.4313	12402.36996
Column 2	32	-550.12	-17.1913	19379.14031
Column 3	32	-23.61	-0.73781	2480.380489
Column 4	32	709.97	22.18656	98393.15239
Column 5	32	35821.77	1119.43	3739608.831

#### **ANOVA**

<b>Source of Variation</b>	<b>SS</b>	<b>df</b>	<b>MS</b>	<b>F</b>	<b>P-value</b>	<b>F crit</b>
Between Groups	32553546.42	4	8138387	10.50856407	0.00134	2.430002294
Within Groups	120040180.1	155	774452.8			
Total	152593726.5	159				

The calculated F value is much greater than the critical F value for 5% level of significance and (4, 155) degrees of freedom. The p value is also  $< 0.05$ . So, the null hypothesis cannot be accepted and we may conclude that there is a significant difference between the variations in the stock prices across the different countries during the period of the pandemic.

#### **DATA ON ASIAN STOCK MAARKETS**

##### **SSE COMPOSITE INDEX (SHANGHAI, CHINA)**

DATE	OV	CV	Change
18.02.2020	2981.41	2984.97	3.56
28.02.2020	2924.64	2880.3	-44.34
02.03.2020	2899.31	2970.93	71.62
16.03.2020	2897.3	2789.25	-108.05
31.03.2020	2767.31	2750.3	-17.01
01.04.2020	2743.54	2734.52	-9.02
15.04.2020	2826.66	2811.17	-15.49
30.04.2020	2832.38	2860.08	27.7
06.05.2020	2831.63	2878.14	46.51
15.05.2020	2880.71	2868.46	-12.25
29.05.2020	2835.58	2852.35	16.77
01.06.2020	2871.96	2915.43	43.47
15.06.2020	2908.28	2890.03	-18.25
30.06.2020	2965.1	2984.67	19.57
01.07.2020	2991.18	3025.98	34.8
15.07.2020	3422.08	3361.3	-60.78
31.07.2020	3280.8	3310.01	29.21
03.08.2020	3332.18	3367.97	35.79
17.08.2020	3373.9	3438.8	64.9
31.08.2020	3416.55	3395.68	-20.87
01.09.2020	3389.74	3410.61	20.87

DATE	OV	CV	Change
15.09.2020	3277.13	3295.68	18.55
30.09.2020	3232.71	3218.05	-14.66
09.10.2020	3262.61	3272.08	9.47
15.10.2020	3342.92	3332.18	-10.74
30.10.2020	3278.63	3224.53	-54.1
02.11.2020	3228.72	3225.12	-3.6
16.11.2020	3325.62	3346.97	21.35
30.11.2020	3418.16	3391.76	-26.4
01.12.2020	3388.99	3451.94	62.95
15.12.2020	3366.58	3367.23	0.65
31.12.2020	3419.73	3473.07	53.34

##### **NIKKEI (TOKYO, JAPAN)**

2/28/2020	21518.01	21142.96	-375.049
3/2/2020	20849.79	21344.08	494.291
3/16/2020	17586.08	17002.04	-584.041
3/31/2020	19181.9	18917.01	-264.891
4/1/2020	18686.12	18065.41	-620.709
4/15/2020	19589.25	19550.09	-39.1602
4/30/2020	20105.68	20193.69	88.00976
5/1/2020	19991.97	19619.35	-372.621
5/15/2020	20149.79	20037.47	-112.318
5/29/2020	21807.63	21877.89	70.25977
6/1/2020	21910.89	22062.39	151.5
6/15/2020	22135.27	21530.95	-604.32
6/30/2020	22335.1	22288.14	-46.959
7/1/2020	22338.3	22121.73	-216.57
7/15/2020	22817.91	22945.5	127.5898
7/31/2020	22267.59	21710	-557.59
8/3/2020	21947.58	22195.38	247.8008

8/17/2020	23189.48	23096.75	-92.7305
8/31/2020	23147.14	23139.76	-7.38086
9/1/2020	23089.63	23138.07	48.43945
9/15/2020	23438.83	23454.89	16.06055
9/30/2020	23478.85	23185.12	-293.73
10/2/2020	23294.8	23029.9	-264.9
10/15/2020	23548.45	23507.23	-41.2188
10/30/2020	23320.71	22977.13	-343.58
11/2/2020	23110.74	23295.48	184.7402
11/16/2020	25652.69	25906.93	254.2402
11/30/2020	26830.1	26433.62	-396.48
12/1/2020	26624.2	26787.54	163.3398
12/15/2020	26683.11	26687.84	4.730469
12/30/2020	27559.1	27444.17	-114.93

**BSE SENSEX (MUMBAI, INDIA)**

2/3/2020	39701.0195	39872.30859	171.29
02/14/20	41510.1914	41257.73828	-252.45
02/28/20	39,087.47	38,297.29	-790.18
03/02/20	38,910.95	38,144.02	-766.93
03/16/20	33,103.24	31,390.07	-1713.17
03/31/20	29,294.94	29,468.49	173.55
04/01/20	29,505.33	28,265.31	-1240.02
04/15/20	31,277.11	30,379.81	-897.30
04/30/20	33,381.19	33,717.62	336.43
05/04/20	32,748.14	31,715.35	-1032.79
05/15/20	31,296.28	31,097.73	-198.55
05/29/20	32,041.29	32,424.10	382.81
06/01/20	32,906.05	33,303.52	397.47
06/15/20	33,670.55	33,228.80	-441.75
06/30/20	35,168.30	34,915.80	-252.50

07/01/20	35,009.59	35,414.45	404.86
07/15/20	36,314.76	36,051.81	-262.95
07/31/20	37,847.88	37,606.89	-240.99
08/03/20	37,595.73	36,939.60	-656.13
08/14/20	38,432.94	37,877.34	-555.60
08/31/20	39,888.15	38,628.29	-1259.86
09/01/20	38,754.00	38,900.80	146.80
09/15/20	38,904.67	39,044.35	139.68
09/30/20	38,068.89	38,067.93	-0.96
10/01/20	38,410.20	38,697.05	-790.18
10/15/20	41,048.05	39,728.41	1319.64
10/30/20	39,779.82	39,614.07	-165.75
11/02/20	39,880.38	39,757.58	-122.80
11/17/20	44,095.85	43,952.71	-143.14
11/27/20	44,325.03	44,149.72	-175.31
12/01/20	44,435.83	44,655.44	219.61
12/15/20	46,287.39	46,263.17	-24.22
12/31/20	47,753.11	47,751.33	-1.78

**KOSPI (SOUTH KOREA)**

2/14/2020	2232.71	2243.59	10.88
2/28/2020	2020.17	1987.01	-33.16
3/2/2020	1997.03	2002.51	5.48
3/16/2020	1805.43	1714.86	-90.57
3/31/2020	1739.29	1754.64	15.35
4/1/2020	1737.28	1685.46	-51.82
4/15/2020	1846.41	1857.08	10.67
4/30/2020	1936.89	1947.56	10.67
5/4/2020	1906.42	1895.37	-11.05
5/15/2020	1937.63	1927.28	-10.35
5/29/2020	2018.37	2029.6	11.23

6/1/2020	2037.04	2065.08	28.04
6/15/2020	2114.41	2030.82	-83.59
6/30/2020	2124.38	2108.33	-16.05
7/1/2020	2128.81	2106.7	-22.11
7/15/2020	2208.73	2201.88	-6.85
7/30/2020	2278.53	2249.37	-29.16
8/3/2020	2251.65	2251.04	-0.61
8/17/2020	2427.85	2407.49	-20.36
8/31/2020	2377.1	2326.17	-50.93
9/1/2020	2340.19	2349.55	9.36
9/15/2020	2434.59	2443.58	8.99
9/30/2020	2331.51	2327.89	-3.62
10/1/2020	2330.55	2358	27.45
10/15/2020	2375.91	2361.21	-14.7
10/30/2020	2319.56	2267.15	-52.41
11/2/2020	2276.61	2300.16	23.55
11/16/2020	2507.46	2543	35.54
11/30/2020	2648.05	2591.34	-56.71
12/1/2020	2613.42	2634.25	20.83
12/15/2020	2763.65	2756.82	-6.83
12/30/2020	2820.36	2873.47	53.11

### DESCRIPTIVE STATISTICAL ANALYSIS OF ASIAN INDICES

	SSE	NIKKEI	SENSEX	KOSPI
AM	5.1725	-112.844	-313.33	-9.054
SD	38.847	276.011	539.135	33.067
COV	7.51	-2.446	-1.72	-3.652

The analysis of the Asian stock markets show that that the average change figures are not very high indicating that there had been both positive and negative changes in almost equal proportions. Thus, the behavior has been quite erratic. The highest average change is for SENSEX indicating that there has been much more swings in this index compared to the other indices. Also, Sensex has the highest variability indicating the this index has been most volatile. In this context it may be noted that the COVID spread had been more in India compared to the other 3 Asian countries and had to go through a prolonged phase of lockdown. This could have impacted the performance of the Indian stock market. Even the COV for SENSEX is quite low which implies that the market have been an inconsistent performer. The Chinese and the Korean markets show least deviations and also higher consistency, indicating that these two countries where effect of COVID was much subdued has registered relatively less volatility of their stock market indices.

### 7. ANALYSIS OF VARIANCE OF CHANGES IN INDEX OF ASIAN STOCK MARKETS

*The Null hypothesis ( $H_0$ ) stated is that the changes in all the index follows a similar pattern against the alternate ( $H_1$ ) that the change pattern is not similar.*

Anova: Single Factor					
SUMMARY					
Groups	Count	Sum	Average	Variance	
Column 1	32	165.52	5.1725	1557.815	
Column 2	32	-10026.7	-313.335	317745.2	
Column 3	31	-3498.02	-112.839	78725.44	

Column 4	32	-289.73	-9.05406	1128.726		
ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	2073031	3	691010.4	6.912832	0.000244	2.678301
Within Groups	12295147	123	99960.54			
Total	14368178	126				

The critical value of F statistic at 5% level of significance and (3,123) degrees of freedom is 2.678, while the calculated F value for our data is 6.913. The p value is also  $< 0.05$ . Thus, we have to reject the Null hypothesis and accept the alternate hypothesis and conclude that the variations across the different index do not follow similar pattern.

However, if we compare the mean sum of squares between groups for the international indices and that of the Asian indices, we see that it is higher for the international indices indicating that the variability of the index values were more for the international markets compared to the Asian markets. The Asian markets were relatively more stable compared to the other international indices of the top economies across the world.

## 8. CONCLUSION

After conducting an analysis over data collected for 1 year time from February to December 2020 for stock markets of the topmost economies of the world in terms in GDP, it can be concluded that the COVID impact brought about a volatility in the markets across the world and changes were more deeply felt in the European countries compared to Brazil or the Asian countries. So, the pandemic did

have some repercussions on the behavior of stock markets across the world.

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## ENTREPRENEURIAL MINDSET AMONG MBA STUDENTS: A FACTOR ANALYSIS STUDY

**Harvinder Kaur\***

**ABSTRACT**

*There is a growing body of literature arguing that entrepreneurial intentions play a very relevant role in the decision to start a new firm. This paper endeavors to explore the perceptions of MBA Students towards entrepreneurial activity so that their efforts can be guided further. This study particularly measures the perceptions of MBA students towards entrepreneurship through self-reported questionnaire on various significant items. The questionnaire items have been categorized in three groups i.e. 1) Entrepreneurial Acceptability, 2) Entrepreneurial Intentions, and 3) Personal Attributes. The findings of the study essentially aim at exploring whether or not the majority of respondents possess a positive attitude towards doing business after passing out from the college on competition of their course. The technique of factor analysis will be applied to collected data for statistical analysis.*

**KEYWORDS:** *Entrepreneurship, Entrepreneurial attitudes, Students, MBA*

### 1. INTRODUCTION

Entrepreneurship is about activity that includes utilization of opportunity to create a business enterprise. The idea of entrepreneurship is getting to be progressively famous in developing nations as it has a tendency to advance economic development

of a country. "No entrepreneur, no growth," is the sort of connotation attached with entrepreneurialism.

An entrepreneur is an ambitious person with long term vision, imagination, uniqueness of ideas. His/her risk-taking ability is the most prominent attribute. He/she goes ahead with uncertain investments having an expected risk. He/she generally exhibits self-directed and independent decision-making style.

There is a growing body of literature arguing that entrepreneurial intentions play a very relevant role in the decision to start a new firm (Mohammed & Aparna, 2011). Apart from the entrepreneurial intentions, there are several other factors that can affect the students' attitudes towards entrepreneurship.

Existing literature shows a number of attributes considered to be essential for entrepreneurship. The table 1 shows a set of qualities which must be there in a potential entrepreneur. Various research has been conducted in the past considering the above set of variables to measure persons' attitude towards entrepreneurial activity. The fourteen (14) entrepreneurial attributes indicated in table 1 have been taken from the research study titled "Entrepreneurial Attitudes among Potential Entrepreneurs" conducted by Ali *et al.* (2011).

**TABLE 1: Variables and Groups for Entrepreneurial Attitude Measurement**

<b><i>I. Entrepreneurial acceptability</i></b>	
1	It is important to teach students about entrepreneurship and starting a business
2	I am likely to make more money running my own business than working for others

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3	I am generally happy with the status quo
4	I would prefer to have my own successful business than to be in a secure and well paid job
5	I feel that the risks and insecurities associated with being in business are acceptable
6	I closely monitor areas where I know I need more practice
<b>II. Entrepreneurial intentions</b>	
7	I believe that people who are important to me think that I should pursue a career as an entrepreneur.
8	I would seriously consider starting my own business if I can't find a job
9	I have seriously considered starting my own business sometimes after graduate
10	I would seriously consider starting my own business if I could be taught how to do it
<b>III. Personal Attributes</b>	
11	When working in group I prefer being a leader rather than a follower
12	Running my own business would be more prestigious than working for others
13	I have good social networks that can be utilized when I decide to be an entrepreneur
14	I look forward to return to work when I am away from my work

## 2. RESEARCH OBJECTIVE AND HYPOTHESIS FORMULATION

The current study aims at measuring the perceptions of MBA Students towards entrepreneurship. To realize this research objective, two hypotheses have been formulated:

**H<sub>1</sub>:** There is positive association among the fourteen variables identified for the study

**H<sub>2</sub>:** Entrepreneurial acceptability, intent and personal attributes influence students' attitude towards entrepreneurship

The Population for the survey comprised of MBA students of Punjab. The students were briefed about the objectives of the study before conducting survey. It was decided to conduct the survey of 250 students so as to get responses around 17-18 times of the survey items (14). In statistics it is highly recommended to get responses above 10 times of survey items. This ensures adequacy of sample size for conducting rigorous statistical analysis. Gorsuch (1983) has also proposed guidelines for minimum ratios of participants to items (5:1 or 10:1). Thus, 250 students were surveyed who were selected on the basis of homogeneous sample. The homogeneous sample is a type of purposive sample. In this sampling technique sample is selected on the

basis of some common characteristics of the survey participants i.e. course of study, age, educational qualification etc. In the current study participants are pursuing post graduate course which is professional one i.e. MBA degree.

## 3. DESCRIPTIVE STATISTICS

In order to carry out statistical analysis, SPSS version 18 was used. Table 2 represents the mean scores of fourteen variables listed in table 1. The table shows that item no.1 Teach (teaching of entrepreneurship) gets the minimum average score of 5.32 whereas item no. 13 Network (need of social network or relationships for business) gets the maximum mean score of 5.88. Thus, students have given minimum score to the statement number 1 i.e. it is important to teach students about entrepreneurship and starting a business. On the contrary, students have given maximum score to item number 13 i.e. I have good social networks that can be utilized when I decide to be an entrepreneur.

In the current study, MBA students have only been included in survey presuming similar course type (professional) and level of academic degree (post-graduation). Meanwhile, the variables listed in table 2 are in consonance with the study conducted by Ali et al.

**TABLE 2: Mean Scores**

Item No.	Variables	Mean
1	Teach	5.32
2	Money	5.39
3	Happy	5.42
4	Business	5.63
5	Risk	5.59
6	Monitor	5.54
7	Career	5.42
8	OwnB	5.42
9	StartB	5.56
10	Learn	5.58
11	Leader	5.71
12	Prestige	5.65
13	SNetwrk	5.88
14	LvWork	5.74

**4. RELIABILITY ANALYSIS**

Further, the reliability analysis was conducted to determine the internal consistency of items. The value of Cronbach's Alpha is 0.901 which is more than the 0.70 of the threshold limits considered adequate for the reliability of the instrument. Equality of variances across samples or homoscedasticity has been tested by calculating Kaiser-Meyer-Olkin Measure of Sampling Adequacy. High value (close to 1.0) is generally recommended. For current analysis, the KMO value comes out to be 0.784. It confirms that the data are fit for carrying further statistical analysis. Before conducting the analysis, it was ensured that the variables are free from the problem of multicollinearity and homoscedasticity. The first aim of the study is achieved through analyzing the association between variables exhibited in table 1.

**TABLE 3: Correlation Matrix**

Variables	Teach	MMoney	Happy	Business	Risk	Monitor	Career	OwnB	StartB	Learn	Leader	Prestige	SNetwrk	LvWork
Teach	1													
MMoney	.780**	1												
Happy	.805**	.656**	1											
Business	.625**	.552**	.660**	1										
Risk	.596**	.549**	.567**	.686**	1									
Monitor	.512**	.516**	.484**	.638**	.794**	1								
Career	.258**	.148*	.390**	.465**	.365**	.334**	1							
OwnB	.297**	.169**	.452**	.470**	.457**	.394**	.881**	1						
StartB	.235**	.091	.334**	.349**	.301**	.233**	.712**	.739**	1					
Learn	.390**	.262**	.611**	.583**	.516**	.428**	.708**	.745**	.544**	1				
Leader	.287**	.192**	.285**	.323**	.337**	.280**	.275**	.237**	.369**	.238**	1			
Prestige	.257**	.192**	.252**	.242**	.360**	.314**	.291**	.402**	.326**	.280**	.752**	1		
SNetwrk	.294**	.272**	.283**	.174**	.330**	.274**	.058**	.111	.196**	.182**	.693**	.667**	1	
LvWork	.279**	.177**	.278**	.249**	.457**	.272**	.264**	.234**	.333**	.251**	.677**	.483**	.403**	1

\*\*significant at the  $p \leq 0.01$  level (2-tailed)

## 5. CORRELATION ANALYSIS

Table 3 shows the correlation coefficients of the same fourteen variables. This table 3 indicates that there is no problem of extreme multicollinearity among data as none of the variables exceeded the value of 0.90 for the correlation coefficients except one. Thus, table 3 lays down a preliminary foundation for the significant relationships between various selected factors for this study. The correlation matrix is positive definite, indicating a positive relationship among variables. Hence, hypothesis H<sub>1</sub> is validated. This table validates the hypothesis H<sub>1</sub> indicating existence of a positive and significant relationship among variables.

Reliability represents the precision of a construct or measurement instrument. For this precision, the value of Cronbach's alpha should be greater than 0.7 and corrected item-to-total correlations should be close to or above 0.5. In this study, these two reliability criteria have been met successfully as depicted by table 4. It conveys that the item should load on one factor only and not on any other factor.

Again, table 4 exhibits that all the fourteen items load on single specific factor only. These items do not become the part of any other factor. Hence, construct validity has been achieved through the establishment of convergent and discriminant validity. The content validity was also ensured while conducting this analysis. Content validity is established when the scale or measurement instrument presents adequate coverage of the subject under studied. To achieve content validity the research topic was discussed with academicians, and businessmen. The factor analysis resulted in classification of variables among three main factors or components which are explained below:

## 6. FACTOR ANALYSIS AND EXPLANATION OF RESULTS

The 14 items or variables were rated on seven-point Likert scale ranging from point 1 for very strongly

disagree and point 7 for very strongly agree. Two hundred and fifty (250) MBA students of two academic institutes were surveyed for their responses. The collected data was tabulated in SPSS datasheet for further analysis. SPSS version 18.0 has been used to conduct complex statistical analysis.

**Entrepreneurial Acceptability:** It is related to social and personal acceptance of the concept of entrepreneurship. This attribute can be further enhanced by adequate mentoring, guidance and counseling of students. This is the first important category of factors influencing the entrepreneurial attitude of MBA students and is named as the entrepreneurial acceptability. It explains 45.13% of variance with an Eigen value of 6.319 and Cronbach's Alpha of 0.907. It consisted of six variables listed in table 1. The factor loadings range from 0.876 to 0.713. Among Entrepreneurial acceptability Factors, need for teaching entrepreneurship (Tecah) gets the highest loading (0.867) and monitoring of areas for more practice (Monitor) gets the minimum loading (0.713). Essentially, Entrepreneurial acceptability factors play a greater role in entrepreneurial attitude formation with maximum Eigen value of 6.319.

**Entrepreneurial Intentions:** The second category of factors is named as 'entrepreneurial intentions. This is the second strongest decisive parameter for students to form entrepreneurial attitude. It covers four items as exhibited in table 1. This category explains the 15.09% of variance with an Eigen value of 2.113. The factor loadings range from 0.925 to 0.747 with Cronbach's Alpha of 0.910. Results indicate that students give fair weightage to entrepreneurial intentions while forming attitude about entrepreneurship. Highest loading emerged for perceiving entrepreneurship as career (factor loading: 0.925) and lowest loading appeared for student's seriousness regarding entrepreneurship if he/she is told to do it (factor loading: 0.710).

TABLE 4: Factor Analysis Results

Variables	Corrected Item- Total Correlation	FACTORS		
		Entrepreneurial Acceptability	Entrepreneurial Intentions	Personal Attributes
Teach	.660	.867		
MMoney	.526	.864		
Happy	.716	.795		
Business	.709	.752		
Risk	.735	.743		
Monitor	.632	.713		
Career	.579		.925	
OwnB	.646		.911	
StartB	.548		.805	
Learn	.678		.747	
Leader	.549			.903
Prestige	.535			.832
SNetwrk	.412			.828
LvWork	.481			.702
Scale	.784	.907	.910	.861
% Variance	74.69%	45.13%	15.09%	14.47%
Cumulative % Variance		45.13%	60.22%	74.69%
Eigen Value		6.319	2.113	2.025

Chi-Square=2982.358, Sig.=0.000, df=91, Mean=77.86, Std. Deviation=9.331, Variance=87.074, N=14. Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 5 iterations.

**Personal Attributes:** The third factor which emerged from factor analysis is named as personal attributes. This is primarily concerned with student's personal interest and motivation to become an entrepreneur. This category explains 14.47% of variance, with Eigen value 2.025 and Cronbach's Alpha of 0.861. The factor loadings range from 0.903 to 0.702. It covers four items as has been shown in the table 1. The factor analysis results show that preference to become a leader in a situation gets highest loading of 0.903. The wish to

quickly returning to work (if away) appeared with lowest loading of 0.861.

The above results validate the hypothesis H<sub>2</sub> and study advances that entrepreneurial acceptability, intentions and personal attributes together influence students' attitude towards entrepreneurship. All the three factors are statistically significant and immensely contribute to students' attitudes to business activity.

## 7. FINDINGS AND SUGGESTIONS

The factor analysis results show that entrepreneurial acceptability exerts maximum influence on students' attitude formation towards entrepreneurial activity. Of the total variance (74.69%), entrepreneurial acceptability alone contributes around 45.13%. Hence, it is of utmost importance for the academic institutes to inculcate entrepreneurial values among the learners/students. Though many of the universities and colleges have introduced entrepreneurship as a subject in their core curriculum, but it should necessarily be taught as a subject. Teachers can also do a lot to increase entrepreneurial acceptability among students by frequently motivating them.

Entrepreneurial intentions emerged as the second most significant factor which influences students' attitudes for entrepreneurship activity. Of the total variance (74.69%), entrepreneurial intentions alone contribute around 15.09%. This category reflects the students' readiness to learn and apply entrepreneurial knowledge and skills. The students who possess better intent for having their own business must be especially trained and counseled by the local, state, and national government bodies. Academic institutes can help in recognizing this attribute among students.

Personal attributes elucidate about the students' perception of liking for entrepreneurial endeavors. It shows their personal choice to enter into business due to: connecting prestige with own business,

making own money, progressing in life by attaining leadership, setting example for others etc. In the current study of the total variance (74.69%), personal factors alone contribute around 14.47%. Personal interest and enthusiasm in entrepreneurship can be enhanced by the students with much of their own efforts. They actually need to introspect themselves in order to know if they the suitable head-and-hands for an entrepreneurial endeavor. Many types of test and online questionnaires are available to conduct personality analysis for entrepreneurial enterprise. Moreover, existing literature can also give valuable insights to the readers for more clear and focused entrepreneurial efforts.

Further research in future can be carried out by comparing factor analysis gender-wise and course-wise. The same results of factor analysis can be used to formulate an entrepreneurial attitude model of MBA students by conducting confirmatory factor analysis.

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