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MESSAGE FROM THE PRESIDENT

Research promotes professional excellence in faculty which is important for delivering outstanding student education and training. Without research, a relevant and modern curriculum cannot exist. Our belief in this ideology has resulted in the birth of International Journal of Research which is one of our many milestones towards excellence. The Journal gives a platform for quality Research and to share and broaden the horizon of Knowledge. The consistent effort to maintain quality and standard has brought us a UGC listing and an Impact factor of 7.006 (SJIF) 2019 in the multi-disciplinary section.

I wish for continual success for the Journal and the researchers.

Dr. A. H. Rizvi
President
Rizvi Education Society
MESSAGE FROM THE DIRECTOR

“What is important is the translation of research outcomes into products, services, policies—things that actually change the way that we live, hopefully for the better.”

— Professor Ned Pankhurst

In our endeavour to make this possible we at Rizvi Education Society have started with the International Journal of Research in 2011. Since then there has no looking back. Our partners in this have been all the contributing researchers who have provided the foundation in maintaining the quality that we owe to society. We can proudly say that this focus on quality has earned us a UGC listing and an Impact factor of 7.006 (SJIF) 2019.

We promise to continue to provide a platform for new directions and thoughts in Research so as to make a change for the better.

Adv. Rubina A. H. Rizvi
Director
Rizvi Education Society
FROM EDITOR’S DESK

I take it as a matter of privilege as the Editor-in-Chief, to welcome our patrons to this issue of International Journal of Research. Over the years the journal has received tremendous appreciation and response from the readers. The journal has provided a platform to the researchers for showcasing their achievements and transferring their knowledge to the society and practical field of application. I express my sincere gratitude to all our contributors for choosing our journal to publish it and congratulate for their excellent work. We practice the policy of double-blind peer review for all the papers.

Keeping with the tradition, the present volume of IJR includes research papers coming from different places in India and abroad and covers a wide variety of subjects. I thank all the contributors for their tremendous efforts for maintaining the quality of research papers that helped us to maintain the SJIF of 7.006 in 2019 too.

I thank Rizvi Education Society for its support and guidance. I am sure that all papers will help the subscribers for their purpose of application in research activities in their related fields. I thank all the reviewers of the journal for reviewing the papers and helping us in publishing the journal. The editorial board members deserve remarkable appreciation for their untiring effort in bringing out the journal.

We anticipate the same enthusiasm from our patrons for this issue as we have received earlier and look forward for the comments and suggestions from the readers to help us in improving the quality and standard of the journal.

Dr. (Mrs.) Anjum Ara M. K. Ahmad
Chief Editor
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Acceptability of Deduction of Tax from Bank Account of a Salaried Employee

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Abstract
“I like to pay taxes. With them, I buy civilization.” Are the golden words of Oliver Wendell Holmes Jr. Revenue is a factor that plays a major role in the economy; whether it’s a company or government. And when it comes to government, tax is something that can be counted as a revenue driver. The residents of nation pay taxes to the government for various services and it is the at most duty of citizen of India. It is very important that everyone should pay taxes as per their mandates. Most of the people hire Chartered Accountants to manage their tax books or some people pay their own tax. But it has been seen that not every salaried person pays taxes as per regulations. However, if the bank starts to pay our taxes directly from the account it will increase the individuals who pay taxes and also there will be an effective tax management system. Also taxes on expenses such as GST can be deducted from bank itself. This is something that will purely encourage the nation towards cashless economy and will provide effective contribution for managing income and expenses. With India adopting the methodology of digitalizing transactions (New India Movement, 2022), this would definitely add to it. In this research paper we are estimating whether salaried employees are comfortable if the tax deduction process will be done by the banks itself and what is their perspective towards such change in tax payment.

Keywords: Bank Deductions, Cashless Economy, GST, Tax.

1. INTRODUCTION

Taxation is one of the most essential pillar of any country’s economy. A strong structure of this pillar lays the foundation of a progressive economy. Especially, for a developing country like India which has a population of over 1.37 billion, a systematic approach towards taxation will carve a bright future for the upcoming generations. Talking about India’s net population, it has been surveyed that less than 1.8% people actively pay tax. This brings to notice several conclusions, the very first being the tedious procedure and various conditions established for eligible tax payers.
It has always been a traditional approach to approach a financial adviser or seek professional help from a chartered accountant for calculation of tax. Still people find out ways of not paying tax due to loopholes in the system. So instead of these traditional approach we can adapt new methods like tax bank deductions. The tax bank deduction method will help banks and income tax department to keep record and track individuals who pay their tax regularly and those who hide their revenues to save tax.

GST has also played a major role for the growth in the economy. Government receives approximately Rs.1 Lakh Crore of GST every year. The Government has received Rs.95,380 Crores of GST in the month of October. New methods can be followed to maintain transparency in the system like paying tax directly from your bank account on your income and expenses (GST). The tax payers are increasing as awareness and transparency is increasing in the system. This will lead to digitalization and cashless economy in India. Cashless economy is a dream which India is trying to adapt and this method of tax paying of income and expenses (GST) will fulfil this dream in an effective way.

Therefore, the government should come up with some methods so that tax is paid by every employed person in this country. Therefore in this research we have tried to find out if the working class are buckled up to accept tax deductions via banks.

2. REVIEW OF LITERATURE

Dr. P. R. Kousalya and R. Guru Shankar\(^1\) (2018)

In this research it is concluded that even if the benefits of this move have now started trickling in with more and more people switching to digital modes of receiving and making payment. India is gradually transitioning from a cash-centric to cashless economy. Digital transactions are traceable, therefore easily taxable, leaving no room for the circulation of black money. The whole country is undergoing the process of modernization in money transactions, with e-payment services gaining unprecedented momentum. A large number of businesses, even street vendors, are now accepting electronic payments, prompting the people to learn to transact the cashless way at a faster pace than ever before. VOLUME-8 ISSUE-2 FEBRUARY-2018 PRINT ISSN NO 2249-555X.

K. Saravanan\(^2\) (2017) In this research it is concluded that the present world new technologies are introduced in all fields. New technology is been gifted to tax payers for filing their income tax returns through online is e-filing. The income tax e-filing is the highest level of website security. The e-filing is the new effective method of filing income tax return through online and make e-payment tax. It saves time, energy and cost and also reduces our tension. So the tax-payers are requested to use e-filing and e-payment facilities. The study shows that the existing users are satisfied with the e-filing facilities so most of the individual tax payers are aware of the e-filing. INTERNATIONAL JOURNAL FOR SCIENTIFIC RESEARCH & DEVELOPMENT VOL. 5, ISSUE 09, 2017 ISSN (ONLINE): 2321-0613

Uma Karthikeyan\(^3\) (2012) In this research it is concluded that the Investment pattern and Tax planning vary from person to person and will depend upon the age of the Individual his nature of employment, sources of Income, family background, and quantum of income. Each of individual will have to decide his own pattern of Investment. What is suitable for one person may not be suitable for another for various reasons. Tax planning with regard to Investments requires intelligent analysis,
ACCEPTABILITY OF DEDUCTION OF TAX FROM BANK ACCOUNT OF A SALARIED EMPLOYEE

judicious decision making and the sixth sense of visualization. VOLUME NO.2 (2012), ISSUE NO.10 (OCTOBER), ISSN 2231-1009.

3. OBJECTIVES OF THE RESEARCH

1. To understand the point of view of individuals towards tax deductions from banks.
2. To get a better idea if people are comfortable of such methods like tax deductions from banks.
3. To create an awareness about deductions of tax from bank accounts.
4. To motivate people to adapt new methods for payment of tax.
5. To encourage New India movement 2022

4. HYPOTHESIS

\[ H_0 \text{ Tax deductions from banks does not have significant acceptability amongst salaried employees.} \]

\[ H_1 \text{ Tax deductions from banks has significant acceptability amongst salaried employees.} \]

5. RESEARCH METHODOLOGY

1. The research is to gain a perspective of people towards new methods of tax deductions like deductions of tax from banks.
2. Primary data has been collected in the form of questionnaire which was filled by 32 respondents (who are currently or were salaried employees of various income tax slabs) Questionnaire consists of Yes or No questions
3. The sample of 32 respondents is analysed by percentage method and hypothesis was tested.
4. Secondary data is also collected through various e-journals, articles, newspapers etc. and due credits have been given by means of references and bibliography.

5. LIMITATIONS OF THE STUDY

1. The present study is limited to only 32 respondents who are/were employed of different age groups, different qualification and different income gainers.
2. The research is bound to Mumbai region only.
3. The research was conducted only for people of different age groups who are employed and not below 24 years of age.
4. Time constraint to complete the research might have led to incomplete or inaccurate research findings. Further research is recommended.

6. OBSERVATION

The respondents are salaried employees above the age of 24.

The questionnaire is filled by salaried employees who are above the age of 24. 50% is filled by the young generation between the age of 24 – 30. 21.9% is filled by the employees who are in the age group 30 – 40. 12.5% is filled by the employees between the age of 40 – 50. 9.4% is filled by the employees between the age of 50 – 60. The remaining 6.2% is filled by the salaried employees who are now retired.

Figure 6.1
6.2. Qualification:

Questionnaire is filled by people with different qualification. 43.8% of the employees are post graduates. 40.6% are graduates and remaining 15.6% are under graduates.

6.3. Employment status:

Employment status is also considered during this research. 87.5% individuals are employed and 12.5% are unemployed.

6.4. Do you earn? If yes then in which income slab?

Employees who fall into different Income slabs have filled this form. 31.3% of employees fall under Rs.2,50,001/- to Rs.5,00,000/- income slab. Equal number of employees fall under the same category (28.1%) who fall under Rs.5,00,001/- to Rs.10,00,000/- and Rs.10,00,001/- to Rs.100,00,000/- income slabs. And a very small number of employees (i.e. 12.5%) come under the income slab of below Rs. 2,50,000/-

6.5. Do you pay tax?

A very high number of employees pay tax, while only 9.4% people do not pay tax.

6.6. Would you want your bank to calculate tax on your behalf?

It was observed, even though minority of people, would not mind if their taxes are cut off through the bank. While 62.5% of employees would still like to stick to the traditional approach.
6.7. How much do you pay your financial advisor to pay taxes?

Figure 6.7

Around 40% pay less than Rs. 2000/- and a very few pay above Rs. 5000/- while the rest pay between Rs. 2000/- to Rs. 5000/-. 

6.8. According to you is the current taxation process user friendly?

Figure 6.8

Equal number of people believe that the current taxation process is user friendly and also that it is not.

6.9. Do you think current taxation process is transparent?

Figure 6.9

59.4% people think that current taxation process is transparent while 40.6% think that it is not.

6.10. Would you like to get notified about various tax benefits and policies through your bank?

Figure 6.10

A good number of people (i.e. 78.1%) are inclined towards receiving offers through their respective banks and a very small number of people are unsure about it. However, 12.5% of people believe it is not a good idea.

6.11. How would you pay taxes if given an option?

Figure 6.11

This draws a very important conclusion stating that around 46.9% of employees would consider seeking financial advisory. While 28.1% of people would learn to calculate and pay taxes by their own. Only 25% of people would want their bank to calculate the same.
6.12. Are you comfortable if bank deducts tax on family transactions?

![Figure 6.12]

Around 78.1% of people would mind if bank deducts tax on family transactions, while a very less number of people are unsure about it.

6.13. Do you think paying tax directly via tax will be beneficial?

![Figure 6.13]

It has been observed that people (40.6%) are inclined towards the ideology that paying tax directly would be beneficial. While the remaining 59.4% think it would not be beneficial.

7. FINDINGS AND CONCLUSION

After a thorough analysis, it was proved $H_1$ was rejected. The respondents are mainly between ages from 24 to 60 & above. Thus, proving that there exist decent awareness about taxation. Statistically, the employment rate is as expected as it should be in an urban area. Only a 12.5% of unemployment has been observed amongst the responses. Discussing about income slabs, it was further recorded that majority of employees fall under category where they have to pay tax. Majority of employees pay tax which is about 90.6%. A glaring analysis proves that employees do not want bank to deduct taxes. One half of the people think that is user friendly while the other half have the opposite mind set. About 59.4% people think that the current taxation process is transparent and the remaining think it is not. Talking about receiving notification there has been observed a varied response. A majority of the individuals would opt for this service. However a very small number are uncertain about this. While the remaining are against it. If given an option majority of people would choose to go for financial advisory/CA. The remaining group is almost equally divided for selecting Self approach and Bank tax deduction. Concluding about deduction of tax on family bank transactions, maximum number of people are against it. It has also been concluded that majority of people are of the view that tax deductions from bank will be beneficial. However, considering the New India Movement, more and more people should opt for digitalizing various processes which add to the growth in the economy of the country.

8. REFERENCES

1. Dr. P. R. Kousalya and R. Guru Shankar (2018), Cashless economy/transaction. VOLUME-8 ISSUE-2 FEBRUARY-2018 PRINT ISSN NO 2249-555X.

ACCEPTABILITY OF DEDUCTION OF TAX FROM BANK ACCOUNT OF A SALARIED EMPLOYEE

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4. GST collection remains below Rs 1 lakh crore mark at Rs 95,380 crore in October, Economic Times, November 2019
Millennials Changing Attitude Towards Financial Wealth

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Abstract
The present research study aims to examine the relative attitude about financial wealth of Millennial generation as compared to Generation X in India. The Millennial Generation (those born between 1982 – 2004) and Generation X (those born between 1961 and 1981) are compared to assess their attitudes toward financial wealth across five dimensions: financial independence, risk-taking, trust of outsiders for financial planning, homeownership and value for experiences v/s things. The study methodology and results are presented. The data collected from 160 respondents, comprising of 80 respondents from each generation with equal number of male and female respondents, were analysed and interpreted to determine if there are changes in attitudes towards financial wealth between the two generations.

Keywords: Financial wealth, Generation X, Investing, Millennials, Savings

INTRODUCTION
The life expectancy in India continues to increase from 49.7 years in 1970-75 to 68.7 years in 2012-16 (as per the National Health Profile, 2019), therefore the success of financial management decisions has become increasingly important. This coupled with the trend towards individual responsibility for retirement planning, makes it all the more relevant, that each generation should be more knowledgeable and more concerned regarding management of their financial resources.


The exploratory research study examines the changes in attitude about financial wealth of
Millennial generation as compared to Generation X (Gen-X) in India. The survey instrument was designed to capture the respondents’ attitude across five dimensions of the study: financial independence, risk-taking, trust of outsiders for financial planning, homeownership and value for experiences v/s things.

**OBJECTIVES**

The objectives of the study are:
1. To identify the various characteristics of Millennial generation.
2. To assess the relative attitudes towards financial wealth between Millennials and Generation X.

**Hypotheses:**
The following hypotheses have been formulated and aligned with the objectives:

H₁ - There is significant difference between the generations on their views that financial independence is important.

H₂ - There is significant difference between the generations on their views about risk taking.

H₃ - There is significant difference between the generations on their views about trusting outsiders to assist with their personal financial planning.

H₄ - There is significant difference between the generations on their views about homeownership.

H₅ - There is significant difference between the generations on their views about value for things v/s experiences.

**CHARACTERISTICS OF MILLENNIAL GENERATION**

The characteristics as given by Howe and Strauss (2003) are:

- This generation of children has been treated as **special** and the most wanted by their parents.
- **Celebrations and praise** have marked every milestone
- Have grown in a time of **increasing safety measures** (baby on board signs, car seats, school lockdowns)
- Always supervised and **highly protected** as children
- Are **group oriented** and may sacrifice their own identity to be part of the team
- Believe in egalitarian leadership, are oriented toward **service learning, volunteerism** and dislike selfishness
- Focus on getting **good grades**, hard work, and extracurricular activities
- Are **achievers**, see college as the key to high paying job and success
- Their full day is filled with **structured activity**. Because of tightly scheduled day, the Millennials may have lost a sense of spontaneous play and struggle with time management in general.
- They are respectful to the point of **not questioning the authority** and they fear being considered non-conformist and believe the government knows what is best and will take care of them.

Douwes and McIntosh (2018) list the uniqueness of Millennials as compared to older cohorts as:

- The Millennials start **saving for retirement** at age 23 compared to Gen-X who start saving at the age of 30.
- 63 percent of Millennial **women are employed** and the likelihood of them staying in the workplace is double that of their grandmothers. As more women are now contributing to dual income households, a foundation in personal finance is essential to ensure financial stability at home.
For the Millennials the major life milestones are approaching, having a child comes with physical, emotional and financial responsibilities. They have also entered their peak home buying years and by 2025, 20 million more Millennials are estimated to be looking for homes.

According to the Atlantic, the average amount of debt held by student borrowers has grown by 77 percent between 2004 and 2014, and currently more than one third of employed Millennials carry student debt. Of those who carry student loans, three quarters say their debt is unmanageable.

The Millennials are coming to terms with the fact that their future is no longer than the past generations’ futures. According to Wells Fargo study, 74 percent of them, do not believe Social Security will be available to them when they retire.

Technology has enabled a do-it-yourself mentality for learning of Millennials, who are empowered to seek out their own solutions through googling, consulting, online expert communities, YouTube or educational platforms.

To reach Millennials it’s important to meet them where they are in life. One needs to understand the challenges that are facing. One needs to be present, to show, where they already are operating and collaborate with voices and brands they trust. You also need to make it personal. In the midst of a financial decision, Millennials are looking for trusted partners who can help them get beyond the general information they can find by themselves online. They are looking for personalised advice about how to navigate a decision.

Content is one of the best ways to catch Millennials attention. Millennials consume an enormous amount of content on a day-to-day basis, so helping to reduce this oversupply to bite-size, straightforward basics, advisors are needed more than ever to help translate principles into practice. The advisors, have to act as a partner rather than a provider to empower Millennials with knowledge they need to make their own decisions.

Different cultural trends and themes about Millennials listed by Greenfield (2018) are:

- A well-known cultural trend in the millennium is they getting married and having kids late in life than previous generations. The period after school and before marriage is extended for many Millennials. Different reasons listed for delaying marriage were, to focus on personal development, marriage and kids were too much responsibility, took longer to establish financial stability and career and settling down is simply not a priority.

- The Millennials have no interest in homeownership and think that the stock market as opposed to real estate is a much easier and lucrative wealth building tool. The Millennials are struggling with student loans, expensive housing and difficult labour market.

- The Millennials didn’t see homeownership as the only path to retirement. They agree that today there is dearth of pensions and social security, and saw retirement as a problem for their future selves and making rent payments in the present.

- The Millennials today have too many options. They have all the information that exists at their fingertips, so when making decisions they can research all the options. This makes it harder to decide where to live, what to do, whom to marry etc. As they have so many options, they are very slow to make commitments and focus more on short-term goals.

- A lot of Millennials have anxiety over the
future, because a lot of things are changing so drastically back and forth in our political sphere like the tax code, banking regulations, etc.

- The Millennials today are making financial decisions based on their changing values. They have value for experiences over other things. The respondents interviewed said that, they would rather spend 300 thousand dollars on travelling, rather than a house. As according to them, they value experiences over physical assets.

- Millennials believe in achieving status, through visibility on social media, which often involves sharing experiences and trips. Status is important to every generation, however as values and preferences shift status symbols also shift. The home does not hold much status symbol for Millennials as it held of earlier generation.

- Many Millennials had expressed that the current economic system is unjust and it perpetuates inequality. Their personal values focus more on freedom from oppression, social justice, community and quality of life.

LITERATURE REVIEW

The literature review walks the reader through the key topics outlined in the introduction and provides a summary of the relevant research done on these topics to date. The topics included in the literature review are; attitude towards financial wealth, financial advisors, homeownership and financial planning.

Bauer, Collins and Richardson (2017) in their study compared the attitude towards financial wealth by members of Generation X with ones held by members of the Millenial generation. Analysis of variance was used to determine the differences in attitudes on the importance of financial independence, risk-taking and trust of outsiders to assist with personal financial planning needs. The results established that on the issue of financial independence neither generation feels that they will be wealthier than their parents. Unlike Millenial, Gen-Xers believe that financial security is a more important goal and that they will reach financial independence before age 65 years. On the issue of risk-taking, Gen-Xers are more willing to make risky investments than Millennials. Gen-Xers are less willing to trust others than are Millennials. Neither generation expects social security or company retirement plans to meet their retirement needs. The study concludes that there has been a shift in attitudes between the two generations.

Robillard (2018) focus in their study the Millenial cohort regarding their behaviours and preferences when considering investing their wealth. The study conducted at Appalachian State University, with the help of K-means cluster segmentation, divide respondents into five distinct clusters of potential investors. The study concludes that these clusters differed in their desire for a traditional financial advisor as opposed to emerging investment algorithms.

Das (2016) in his study measured the level of financial literacy among Indian Millennials and also examined the dependency of standardised financial knowledge construct on twelve control variables. The study concluded that maximum select indicators of financial literacy are dependent on control variables except source of income. Reflections of financial literacy on financial behaviour and attitude were found substantial.

Furman (2014) studies the impact of Great Recession on the American Millennials and attempts to understand the trends in Millenial’s behaviour, with particular attention to its implications for the
housing sector. The study shows that 40 percent of the drop in the first-time home buying in recent years relative to the early 2000s. The burden of student loan debt is the ultimate cause of today’s low home buying activity among youth adults. The higher level of debt lead borrowers to trigger underwriting, that makes mortgages more expensive, it also delinquencies lower credit scores, which raises the cost of credit. The researcher points out, a lot of the most serious challenges with student loan debt are for those who end up in a low quality program that does not prepare them for a good job.

The author concludes the study by saying that a vibrant housing sector is a key driver for economic growth and the Millennials in particular are critical to making up for the unprecedented declines in construction activity following the Great Recession. A range of housing policies can be helpful for first time home buyers, including many Millennials.

Douwes and McIntosh (2018) have highlighted, that Millennials entered the workforce in the midst of the most pronounced economic downturns since the Great Recession. They saw their parents and grandparents’ retirement savings disappear as a result of the 2008 market crash, leading to an understandable dose of scepticism for this generation of investors. The study explores the Millennial need for financial education and the Millennial generation’s learning preferences to provide valuable insight into how financial literacy is crucial to building relationships with the next generation of investors.

Greenfield (2018) explores in her study questions like, ‘Will Millennials in Los Angeles be able to afford homes and how the cultural narrative of the American Dream affects their preferences. The researcher found that the participants interviewed were struggling to navigate through economic factors like student loans, changing labour market, urbanization, high cost of living, stagnation, wages and high housing prices. The participants were experiencing low self-efficiency. The study finds that most participants, want to own houses, however, very few are able to afford to buy houses in Los Angeles, and have to rent indefinitely. Their preferences are different from baby boomers. The purpose of the study was to understand how homeowners ideology is evolving for young generations.

Grazia (2015) conducted a case study of San Francisco’s rental housing market, with the help of spatial analysis of demographic changes that have occurred, as well as the severity of rental unaffordability. The study found that even though the overall population decreased, the Millennials are more concentrated in or near urban cores. The proximity to city’s cultural hubs make the sacrifice of space worthwhile. The Millennials cohort is placing additional pressure on rental housing market and will dominate national household choice in the years to come.

Goerke (2018) provides insights regarding the municipal views towards rental residential neighbourhoods’ developments. There is increasing trend to build entire neighbourhoods of homes for rental purposes. The demand comes from younger Millennials who want the space and luxuries of a single family home. The researcher lists the benefits of living in a single family subdivision for rent than owning a conventional home. The young Millennials are forced to pick between paying off their loans, saving for retirement, saving for a house etc. some choices are pushed back.

Carter (2017) lists in his research findings that the younger professionals are now working more hours for less pay than the generation of their parents and some individuals looking to buy a home, have to
wait until later in life to do so.

**RESEARCH METHODOLOGY**

The study adopts primary and secondary sources of data. The study was conducted in Mumbai Metropolitan City with a sample size of 160 respondents. The primary data was collected from 80 respondents from Generation X and 80 respondents from Millennial generation, with equal number of male and female respondents from each generation. The data was analysed using statistical tools, mean, standard deviation and hypotheses were tested. A profile of the sample respondents is given in Table 1.

<table>
<thead>
<tr>
<th>Table 1 : Profile of Sample Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total responses (n)</strong></td>
</tr>
<tr>
<td>----------------------------</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td><strong>Educational qualification</strong></td>
</tr>
<tr>
<td>Not a graduate</td>
</tr>
<tr>
<td>Graduate</td>
</tr>
<tr>
<td>Post graduate</td>
</tr>
<tr>
<td>Professional degree</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
</tr>
<tr>
<td>Student</td>
</tr>
<tr>
<td>Service</td>
</tr>
<tr>
<td>Business</td>
</tr>
<tr>
<td>Professional</td>
</tr>
<tr>
<td>Self-employed</td>
</tr>
<tr>
<td>Retired</td>
</tr>
<tr>
<td>Housewife</td>
</tr>
<tr>
<td>CHB teaching</td>
</tr>
<tr>
<td><strong>Monthly income</strong></td>
</tr>
<tr>
<td>Below Rs. 50000</td>
</tr>
<tr>
<td>Rs. 50001-100000</td>
</tr>
<tr>
<td>Rs. 100001-150000</td>
</tr>
<tr>
<td>Rs. 150001-200000</td>
</tr>
<tr>
<td>Above Rs. 2 lakh</td>
</tr>
<tr>
<td><strong>Age group</strong></td>
</tr>
<tr>
<td>Below 26 years</td>
</tr>
<tr>
<td>27-37 years</td>
</tr>
<tr>
<td>38-48 years</td>
</tr>
<tr>
<td>Above 48 years</td>
</tr>
</tbody>
</table>

The original study conducted by Bauer et al (2000) investigated the attitudes towards investing and savings of 731 Generation X respondents and Bauer et al (2017) conducted a follow up study, with 258 Millennial respondents, by comparing their views on three dimensions i.e. financial independence, risk taking and trust on others for financial planning. The present study covers five dimensions, which includes two more dimensions to the original study. The survey instrument contained fourteen questions to study the attitude of respondents, based on five
dimensions i.e.: Financial Independence, Risk Taking, Trust of Outsiders for Financial Planning, Homeownership and Value for experiences v/s. things. It consisted attitudinal statements, where the respondent provided a relative level of agreement or disagreement using the following scale:

- Strongly Disagree 1
- Disagree 2
- Neutral or Indifferent 3
- Agree 4
- Strongly Agree 5
- Not Applicable

The Mean and Standard deviation result for each question covering all five dimensions for Generation X and Millennials is given in Table 2.

Table 2: Aggregated Research Results

<table>
<thead>
<tr>
<th>S N</th>
<th>Financial Independence</th>
<th>Gen X</th>
<th>Millennials</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Personal financial security should be an important goal for everyone</td>
<td>4.65 1.033</td>
<td>4.91 0.296</td>
</tr>
<tr>
<td>a</td>
<td>I will reach financial independence before I reach age 65</td>
<td>4.23 1.074</td>
<td>4.3 1.224</td>
</tr>
<tr>
<td>b</td>
<td>I am taking steps now to plan for my future well-being</td>
<td>4.45 0.846</td>
<td>4.28 1.062</td>
</tr>
<tr>
<td>c</td>
<td>I will be wealthier than my parents</td>
<td>4.33 0.917</td>
<td>4.18 1.238</td>
</tr>
<tr>
<td>d</td>
<td>My generation is less fearful of debt than our parents and grandparents.</td>
<td>3.73 1.301</td>
<td>3.58 1.152</td>
</tr>
<tr>
<td>a</td>
<td>My generation is more willing to make risky investments than is/was or parents or grandparents.</td>
<td>3.78 1.271</td>
<td>3.98 1.050</td>
</tr>
<tr>
<td>b</td>
<td>I trust others to make financial decisions that affect my future well-being.</td>
<td>2.83 1.217</td>
<td>2.40 1.194</td>
</tr>
<tr>
<td>a</td>
<td>I expect social security and company retirement plans to adequately meet my retirement needs.</td>
<td>3.85 1.252</td>
<td>3.78 1.349</td>
</tr>
<tr>
<td>b</td>
<td>I can manage my own financial affairs (e.g., taxes, investments, savings).</td>
<td>3.95 0.986</td>
<td>3.65 1.35</td>
</tr>
<tr>
<td>c</td>
<td>I would rather rent an apartment for convenience of mobility</td>
<td>2.75 1.532</td>
<td>2.85 1.210</td>
</tr>
<tr>
<td>a</td>
<td>I want to buy an apartment for financial security</td>
<td>3.68 1.366</td>
<td>4.23 0.862</td>
</tr>
<tr>
<td>b</td>
<td>I value experiences over physical assets (land, property, gold, etc)</td>
<td>3.35 1.388</td>
<td>3.48 1.109</td>
</tr>
<tr>
<td>a</td>
<td>I would prefer spending on travelling rather than saving</td>
<td>2.4 1.081</td>
<td>2.58 1.035</td>
</tr>
<tr>
<td>b</td>
<td>I like to share my experiences and trips on social media.</td>
<td>2.45 1.239</td>
<td>3.10 1.297</td>
</tr>
</tbody>
</table>
MILLENNIALS CHANGING ATTITUDE TOWARDS FINANCIAL WEALTH

RESEARCH RESULTS

The data is analysed to determine if there were attitudinal differences towards financial wealth between Millennials and Generation X. The results are given in Table 3.

Hypothesis 1 says that there is significant difference between the generations on their views that financial independence is important. Since the sig. value for all statements under financial independence are greater than 0.05, we accept the null hypothesis and conclude that there is no significant difference between the generations on their views that financial independence is important.

Table 3: Data Analysis

<table>
<thead>
<tr>
<th>SN</th>
<th>Financial Independence</th>
<th>Gen X vs Millennials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Sig. value</td>
</tr>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Personal financial security should be an important goal for everyone</td>
<td>0.178</td>
</tr>
<tr>
<td>b</td>
<td>I will reach financial independence before I reach age 65</td>
<td>0.772</td>
</tr>
<tr>
<td>c</td>
<td>I am taking steps now to plan for my future well-being</td>
<td>0.417</td>
</tr>
<tr>
<td>d</td>
<td>I will be wealthier than my parents</td>
<td>0.54</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>My generation is less fearful of debt than our parents and grandparents.</td>
<td>0.587</td>
</tr>
<tr>
<td>b</td>
<td>My generation is more willing to make risky investments than is/was or parents or grandparents.</td>
<td>0.445</td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>I trust others to make financial decisions that affect my future well-being.</td>
<td>0.119</td>
</tr>
<tr>
<td>b</td>
<td>I expect social security and company retirement plans to adequately meet my retirement needs.</td>
<td>0.797</td>
</tr>
<tr>
<td>c</td>
<td>I can manage my own financial affairs (e.g., taxes, investments, savings).</td>
<td>0.266</td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>I would rather rent an apartment for convenience of mobility</td>
<td>0.747</td>
</tr>
<tr>
<td>b</td>
<td>I want to buy an apartment for financial security</td>
<td>0.034</td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>I value experiences over physical assets (land, property, gold, etc)</td>
<td>0.658</td>
</tr>
<tr>
<td>b</td>
<td>I would prefer spending on travelling rather than saving</td>
<td>0.462</td>
</tr>
<tr>
<td>c</td>
<td>I like to share my experiences and trips on social media.</td>
<td>0.025</td>
</tr>
</tbody>
</table>

Hypothesis 2 says that there is significant difference between the generations on their views about risk taking. Since the sig. value for all statements under risk taking are greater than 0.05, we accept the null hypothesis and conclude that there is no significant difference between the generations on their views about risk taking.
Hypothesis 3 says that there is significant difference between the generations on their views about trusting outsiders to assist with their personal financial planning. Since the sig. value for all statements under ‘Trusting outsiders for financial planning’ are greater than 0.05, we accept the null hypothesis and conclude that there is no significant difference between the generations on their views about trusting outsiders to assist with their personal financial planning.

Hypothesis 4 says that there is significant difference between the generations on their views about homeownership. Since the sig. value for the statement ‘I want to buy an apartment for financial security’ is less than 0.05, we reject the null hypothesis and conclude that there is significant difference between the generations on their views about homeownership. Millennials show a higher want to buy an apartment for financial security as compared to Gen X.

Hypothesis 5 says that there is significant difference between the generations on their views about value for things v/s experiences. Since the sig. value for the statement ‘I like to share my experiences and trips on social media’ is less than 0.05, we reject the null hypothesis and conclude that there is significant difference between the generations on their views about value for things v/s experiences. Millennials show a higher tendency to share their experiences and trips on social media as compared to Gen X.

CONCLUSIONS AND SUGGESTIONS

The results show that there is no significant difference between Gen X and Millennials on their views about financial independence, risk taking and trusting outsiders to assist with their personal financial planning. But there is a significant difference between the two generations on their views about homeownership. Millennials show a higher want to buy an apartment for financial security as compared to Gen X. Similarly, there is significant difference between the generations on their views about for things v/s experiences. Millennials show a higher tendency to share their experiences and trips on social media as compared to Gen X.

The present generation is witnessing incredible growth in the digital era with Artificial Intelligence (AI), Data Analytics and Virtual Reality (VR) reshaping and transforming the financial sector. Millennials rely heavily on mobile devices and computers. With technology at their advantage, they can enhance their financial knowledge by using digital apps, financial decision programs, online financial games and training courses on financial literacy. The importance of acquiring financial knowledge and inculcating the habit of saving and investing at a young age should be emphasised. Schools and colleges should include well-designed financial awareness and education programs in the curriculum. Proper financial planning, using AI powered tools can provide personalized budget recommendations, reminders to make small savings, guidance on investing and managing portfolios which can help in achieving financial independence.

Study shows that some barriers that have impeded millennials from owning a home are, huge education debt, burden of rent, credit liability, limited affordable housing, dearth of funds for down payment and lack of awareness on availability of housing loans. To attract Millennials in real estate investment, Banks can offer housing loans on easy terms and conditions by ensuring financial stability and security. Financial marketers, advisors, consultants can reach out to Millennials by providing financial awareness through Instagram photos, stories, short videos, text, contests, financial games,
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online investment advice, etc. which can clear doubts and achieve financial stability.

As observed in the study Millennials prefer to share their experiences on social media, therefore sharing small financial achievements through ‘hashtags’, like “#profits earned on investment”, “#co-owner of a company” for shares purchased, “# invested in” Mutual Funds, derivatives, real estate and other investment avenues can influence millennial generation to participate in financial sector and accomplish financial empowerment.

REFERENCES


A Study on Role of Exhibition in Promoting the Products of Women Entrepreneurs

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Abstract
Women entrepreneurs play an important role in sustained economic development and social progress of the country. SHG and microfinance has played an important role in development of women and women entrepreneurship. In the FY 2010-11 the SGSY (Swarnjayanti Gram Swarozgar Yojana) was restructured for its implementation as the National Rural Livelihoods Mission. The Government of Maharashtra in association with World Bank, NABARD, Umed and Aajeekva organises one of the biggest rural exhibitions in India as Malalaxshmi Saras in Mumbai, an annual exhibition-cum-sale. The present study based on primary and secondary data highlights the social profile, sales and profit performance of the women entrepreneurs participating in the exhibition. The study concludes that exhibition plays an important role in promoting the products of women entrepreneurs.

Keywords: Exhibition, Microfinance, SHG, Women Entrepreneurs

INTRODUCTION
Women entrepreneurs play an important role in sustained economic development and social progress of the country. Women entrepreneurship has gained momentum in our country due to the constant growing support of government, non-government organisations and increase in the number of women enterprises. SHG and microfinance has played an important role in development of women and women entrepreneurship. Self Help Group is a homogenous group of individuals who come together voluntarily for the promotion of economic and social objectives. NABARD (1995) defines SHG as a homogenous group of rural poor voluntarily formed to save whatever amount they can conveniently save out of their earnings and mutually agree to contribute to a common fund from which to lent to members for productive and emergent credit needs. The Task Force on Supportive Policy and Regulatory Framework for Micro-Finance, constituted by NABARD defines, microfinance as the provision of thrift, saving, credit and financial services and products of very small amounts to the poor in rural, semi-rural and urban area for enabling them to raise their income levels and improve their standard of living. Government of India has taken several initiatives over the year for the grass root
development of women in rural as well as urban area, under the Ministry of Rural Development, the flagship programme of the Swarnjayanti Gram Swarozgar Yojana (SGSY) was started in the year 1999. The SGSY aimed at providing sustainable income to rural BPL households through income generating assets/economic activities in order to bring them out of poverty. In the FY 2010-11 the SGSY was restructured for its implementation as the National Rural Livelihoods Mission. The Maharashtra State Rural Livelihoods Mission (MSRLM) has been launched in Maharashtra in July 2011 as a registered organization under the aegis of the National Rural Livelihoods Mission (NRLM) – Aajeevika. The Mission aims at eradication of rural poverty by building sustainable institutions of poor and ultimately leading them to sustainable livelihoods. The Government of Maharashtra in association with World Bank, NABARD, Umed and Aajeevika organises one of the biggest rural exhibitions in India as Mahalaxshmi Saras in Mumbai, an annual exhibition-cum-sale of handicrafts, handlooms and food products from rural, semi- rural and urban areas of Maharashtra apart from Maharashtra other states do participate in this annual exhibition. Exhibition is a mass marketing strategy which provide an opportunity to the rural producers to sell their products in urban markets, to interact amongst themselves, to learn from each other and to sensitise urban buyers about rural products.

LITERATURE REVIEW

According to Vasanthagopal, R. and Santha S. (2008), women entrepreneurs are an important part of the global quest for sustained economic development and social progress. The development of women entrepreneurship has become an important aspect of our plan priorities. Several policies and programmes are being implemented for the development of women entrepreneurship in India. Paramasivan, C. and Azhagu, R. (2016) states that, Micro enterprises contribute towards eradication of poverty and development of economy of an area. Mohanty, J. and Sahu, S. (2016), in their study on role of ORMAS in marketing and promotion of rural products through exhibition in Odisha, highlights the importance of exhibition as it creates awareness of about the products among the various consumers but it also helps the rural entrepreneurs to identify livelihood opportunities and establish links with the markets in urban and semi urban areas.

OBJECTIVES OF THE STUDY

Following are the objectives of the study:
1. To study the social profile of the women entrepreneur participating in the exhibition.
2. To study the performance of women entrepreneurs in exhibition in terms of sales and profit.

RESEARCH METHODOLOGY

The study is descriptive in nature where both secondary and primary method of data collection is used for the said study. The secondary data is collected from various book, research journals, newspaper and official websites. The primary data is collected from the women entrepreneurs who participated in Mahalaxmi Saras exhibition, 2019 held in Mumbai. A structured questionnaire with interview method was used for data collection. A total 43 women entrepreneurs were interviewed for the said research purpose. Simple random method is used for selection of the sample respondent. Data analysis and interpretation were done using MS-Excel application, percentage and pie-charts.
LIMITATIONS OF THE STUDY

Only 43 stalls participated in the said exhibition were selected for the study and only one member of SHG operating the stall was interviewed for the study purpose.

DATA ANALYSIS AND INTERPRETATION

We interviewed 43 women entrepreneurs participating in the exhibition out of which 55.8% were from outside Maharashtra while, 44.2% were from the State of Maharashtra.

Social profile

The figure 1 indicates that out of the total 43 women entrepreneurs under study 83.7% belonged to Hindu religion followed by 14% Muslim religion, and 3% belonged to Christian religion respectively.

The figure 2 indicates that largely that is 44.2% of the women belonged to OBC category followed by, 39.5% belonged to Open category and 7% to SC and ST category respectively.

Marital Status

Level of Education

The figure 3 indicates that maximum respondents belongs to the age group of 26 – 35 years with 34.9%, followed by 26.9% from age group of 36 – 45 years, 20.9% from the age group of 46 -55 years, 9.3 % belonged to age group above 55 years and 7% of the respondents belonged to the age group of 18 – 25 years.

Source: Primary data
The figure 5 indicates the education level of the respondents, it shows that maximum number of respondents belongs to the educational level of SSC or less than SSC level with 44.2%, whereas 20.9% of the respondents belong to the educational level as graduation, followed by 18.6% respondents belong to the educational level of HSC or below HSC level, while 11.6% of the respondents do not even had formal education.

**Figure: 6**

Source: Primary data

Figure 6 indicates the nature of business activities undertaken by the women entrepreneurs, according to the figure maximum number of women entrepreneurs are engaged in Handicraft product with 44.2%, while 39.5% of the women are engaged in food product, followed by 9.3% engaged in textile products and rest are engaged in jewellery and other types of products.

**Operations of the business activity**

Figure 7 indicates the nature of operations of the business activity undertaken by the women entrepreneurs, according the figure maximum number of the women entrepreneurs operated their business on regular basis with 88.4%, while only 11.6% of the women entrepreneurs operated their business activity on seasonal basis.

**Sales and profit performance**

Figure 8

Source: Primary data

**Figure: 7**

Source: Primary data

**Figure: 8**

Source: Primary data

**Figure: 9**

Source: Primary data
Figure 8 indicates that maximum number of the women entrepreneurs are satisfied with sales performance in the said exhibition with 97.7% of the entrepreneurs are satisfied with the sales performance. Whereas 100% of women entrepreneurs under study states they have earned profit by participation in the said exhibition, figure 9 indicates the same.

CONCLUSION

The data analysis and interpretation indicate that maximum number of women entrepreneur participants in the said exhibition, belonged to Hindu religion and belonging to the social category of (Other Backward Class) OBC. The women entrepreneurs under study belong mainly to age group of 26 – 35 years and maximum respondents belong to the education level of SSC or less than SSC. Large number of women entrepreneurs are operating their business activity on regular basis. The data analysis and interpretation clearly indicate that exhibition held in metro city like Mumbai has helped in achieving satisfactory sales and profit for the women entrepreneurs participated in the said exhibition. Thus, exhibition play an important role in promoting the product of women entrepreneurs and achieving the objective of satisfactory sales and profit. The organisers of this exhibition should widely promote the exhibition by advertising, hiring a celebrity brand ambassador and by organising various cultural events.

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Study of Demographic Variables on Financial Goal of Urban Individuals

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Abstract  
The objective is to study the relationship among various demographic variables on personal financial goal of urban individuals. The data was collected through structured questionnaire distributed to 405 samples from urban areas of Mumbai, Navi Mumbai, Thane and adjoining suburban. Factor analysis is done using Principal Component and Varimax Rotation. It was found from the analysis that Long Term Financial Goal (LTFG) have statistical significant relationship with age, gender, work experience, marital status whereas Short Term Financial Goal (STFG) have statistical significant relationship with age, work experience, marital status and nature of employment.

Keywords: Demographic, Long Term Financial Goal, Short Term Financial Goal.

1. INTRODUCTION

Today we are living in a global economy, which is becoming increasingly dynamic everyday with rapidly changing social, economic, political and technological environments. In such a complex and changing world we are confronted with multiple investment decisions. The present financial markets have become very complex, flooded with many new and innovative financial products every day.

The decisions which an individual makes have a significant impact on the actual outcome and the effects of making incorrect decisions are potentially financially devastating especially when it comes to retirement planning and buying insurance products. Individuals have personal financial goals and their goals are influenced by a variety of factors such as earnings, expenditure and savings. A well defined financial goal provides the road map or direction that leads to the destination where an individual wants to reach financially. Action plans and prudent financial strategies help an individual in reaching financial goals.

Individuals invest keeping the personal financial goals in focus. The common life goals of individuals are education and marriage of children, buying a
house and a comfortable retirement. Other short term goals may include funding vacations, purchasing a car and fulfill debt obligation (personal loan, car loan), etc. For achieving short term or long term goals, proper management of personal finance is essential.

Financial planning is all about managing finances of an individual or a family. It means proper management of income, expenses, assets, liabilities, insurance, taxation and estate, so that one can successfully achieve all their desired goals. Urban individuals thrive to achieve both short term and long term personal financial goals at various stages in life. Therefore, it is imperative to understand the role of various demographic variables on personal financial goal.

2. OBJECTIVES OF THE STUDY

1. To evaluate long term and short term personal financial goals of urban individuals.
2. To study the relationship among various demographic variables on personal financial goal of urban individuals.

3. REVIEW OF LITERATURE

3.1. Mittal, M., & Vyas, R. K. (2007) this paper investigates how investment choice gets affected by the demographics of the investor. The study provides evidence that the investment choice depends on and is affected by the demographic variables. Males and females do vary significantly regarding equities and post office deposits. Investors with less education prefer high risk investments, such as, equity and derivatives. The propensity to take risk decreases with increase in education level.

3.2. Stawski (2007) the study suggests goals are an important precursor to behavior. Savings contributions are well predicted by planning activities and income, planning is adequately predicted on the basis of goal clarity, and goal clarity is reasonably accounted for by age. Findings from the present study suggest that goal clarity mediates the age savings relationship. The study shows that although a fair number of working individuals are saving for retirement, relatively few engage in basic financial planning activities.

3.3. Petkoska J & Earl J.(2009) had tried to understand demographic and psychological variables influencing retirement planning. Study revealed that out of all demographic factors like age, gender, education level, only age is the predictor of the financial planning. Goals, positive attitude towards retirement are major predictor for the financial planning.

3.4. Dash, M. K. (2010) This study find out factors which affects individual investment decision and differences in the perception of investors in the decision of investing on basis of age and on the basis of gender. The study states that investor’s age and gender predominantly decides the risk taking capacity of investors. The study concluded that the modern investor is a mature and adequately groomed person.

3.5. Soman & Zhao, M. (2011) this paper examines the effect of the number of goals on consumer’s savings behavior. Study demonstrates the effect of providing a single goal over multiple goals in improving people’s actual savings rate over six months in a rural area in India. Study also showed that a single goal indeed led to higher implementation intentions, which in turn resulted in stronger intentions to save.

3.6. Pant G. (2013) study was undertaken to assess the level of awareness and attitude of female
faculties towards retirement planning. Study revealed that marital status of the samples was major determinant towards awareness and preparedness of retirement. Married females were more aware and prepared for retirement than unmarried females.

3.7. Sunita, P. & Tanvi, P. (2014) The test results reveal that the males and females do vary significantly in their motives regarding return protection, liquidity and other factors and were not significant for safety, meet contingencies, tax benefit, capital gain and income generation. Investors from lower age group had capital gain and return protection as their primary motive. Middle group investors have responsibility of child’s education, marriage etc. Higher age group likes to have income from their investments and maintain liquidity because they are at very uncertain age of their life.

3.8. Pratibha Chaurasia (2017) this study demonstrates the relationship of demographic factors of age and gender on the investment objectives of the investors. It is deduced that preference to investment objective of safety of principal, capital growth and regular income has significant relationship with gender but has no significant relationship with age. However, investment objective of quick returns and liquidity has significant relationship with both age and gender. Investment objective of tax benefit has found to have significant relationship with age but not gender.

4. RESEARCH METHODOLOGY

4.1. SAMPLE SIZE: The sample size for this study is 405. For the purpose of study, samples were selected from urban areas of Mumbai, Navi Mumbai, Thane and adjoining suburban. Criterion of urban areas is as per census of India 2011 definition.

4.2. SAMPLING METHOD: Stratified Random Sampling method was used where sampling frame consists of population from various Business School, Hospitals, Medical Colleges, Corporate, Individuals engaged in Financial Planning, Residential Societies, Practicing Lawyers, Practicing Doctors, PhD Faculties, Practicing Chartered Accountant, Chartered Financial Analyst, Certified Financial Planner etc

4.3. PRIMARY DATA: For this study, primary data has been collected through questionnaire. The questionnaires were filled by respondents through face to face approach. For the purpose of primary data collection, survey technique has been adopted; in which close ended questions are asked with the help of structured questionnaire.

5. DEMOGRAPHIC PROFILE OF THE RESPONDENTS (DESCRIPTIVE STATISTICS)

5.1. Age: The respondents are broadly categorized into three groups based on their earning life cycle. First group is between the range of 21-30 years (N=164), second group is between the range of 31-60 (N=235) and the third group above 60 years of age (N=6). Table 1 reveals that 58% of respondents belong to age group of 31-60 years followed by 40.5% of respondents in the age group of 21-30 years

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid 21-30</td>
<td>164</td>
<td>40.5</td>
</tr>
<tr>
<td>31-60</td>
<td>235</td>
<td>58.0</td>
</tr>
<tr>
<td>Above 60</td>
<td>6</td>
<td>1.5</td>
</tr>
<tr>
<td>Total</td>
<td>405</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Primary Data
5.2. Nature of Employment: The respondents were divided into four groups based on their nature of employment viz. full time, part-time, contractual and others. Others category typically include hourly basis, self-employed and employer. Below table 2 shows that 87.7% of the respondents are engage in full time employment followed by 5.7% of respondents engage in others category (hourly basis, self-employed and employer).

Table 2: Nature of Employment

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full Time</td>
<td>355</td>
<td>87.7</td>
</tr>
<tr>
<td>Part Time</td>
<td>17</td>
<td>4.2</td>
</tr>
<tr>
<td>Contractual</td>
<td>10</td>
<td>2.5</td>
</tr>
<tr>
<td>Others</td>
<td>23</td>
<td>5.7</td>
</tr>
<tr>
<td>Total</td>
<td>405</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Primary Data

5.3. Gender: Male is coded as 1 where as Female is coded as 2, the group statistics shows that there are 229 Males (Mean =3.32) in data and 176 are Females (Mean = 3.12). It is evident from table 3 that 56.5% respondents are male respondents and 43.5% are female respondents.

Table 3: Gender

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>229</td>
<td>56.5</td>
</tr>
<tr>
<td>Female</td>
<td>176</td>
<td>43.5</td>
</tr>
<tr>
<td>Total</td>
<td>405</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Primary Data

5.4. Household Income: The household income of respondents is considered as the total income earned by all the members of the family from all sources in a year. For the analysis purpose, the household income has been categorized as Low, Average, and High. Low Income is considered as below 10 lakhs per annum, Average Income is between 10 lakhs to 20 lakhs per annum and High Income is above 20 lakhs per annum. From the table 4 one can observe that 47.9% of the respondents have household income below 10 lakhs per annum, 36.5% of the respondents have household income between 10 lakhs to 20 lakhs per annum and 15.6% of the respondents have household income above 20 lakhs per annum.

Table 4: Household Income

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>194</td>
<td>47.9</td>
</tr>
<tr>
<td>Average</td>
<td>148</td>
<td>36.5</td>
</tr>
<tr>
<td>High</td>
<td>63</td>
<td>15.6</td>
</tr>
<tr>
<td>Total</td>
<td>405</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Primary Data

5.5. Work Experience: In the present data, respondents work experience ranges from minimum 1 year to maximum 45 years with mean value of 10.2 years of work experience.

Table 5: Work Experience

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Experience</td>
<td>405</td>
<td>1</td>
<td>45</td>
<td>10.27</td>
<td>7.940</td>
</tr>
</tbody>
</table>

Source: Primary Data

5.6. Marital Status: Among respondents, those who were Married are coded as 1 (Yes) and those who were Unmarried, Divorced, Single parent are coded as 2 (No). The data contains 236 respondents Married and 169 other than Married; their group statistics shows mean value of 3.32 and 3.11 respectively. Table 5 reveals that 58.3% of the
respondents are Married while 41.7% are Other than married (Unmarried, Divorced, Single parent).

Table 6: Marital Status

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Yes</td>
<td>236</td>
<td>58.3</td>
</tr>
<tr>
<td>No</td>
<td>169</td>
<td>41.7</td>
</tr>
<tr>
<td>Total</td>
<td>405</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Primary Data

5.7. Personal Financial Goals The various personal financial goals for this study is child education, retirement planning, marriage funding of children, to purchase house / down payment for house, tax planning, international vacation, to purchase car, corpus for charity or philanthropy, and contingency/medical emergency.

From the table 6 it is been observed that financial goals is measured through nine items. Among all the items retirement planning has got highest mean score of 3.77 by the respondents. Contingency planning and tax planning got the next best mean score of 3.52 and 3.49 respectively. Corpus for charity got the least mean score of 2.12 by respondents.

Table 7: Personal Financial Goals

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Education</td>
<td>405</td>
<td>3.16</td>
<td>1.566</td>
</tr>
<tr>
<td>Retirement Planning</td>
<td>405</td>
<td>3.77</td>
<td>1.340</td>
</tr>
<tr>
<td>Marriage Funding of Children</td>
<td>405</td>
<td>2.61</td>
<td>1.425</td>
</tr>
<tr>
<td>Purchase House / Down payment for House</td>
<td>405</td>
<td>3.20</td>
<td>1.486</td>
</tr>
<tr>
<td>Tax Planning</td>
<td>405</td>
<td>3.49</td>
<td>1.287</td>
</tr>
<tr>
<td>International Vacation</td>
<td>405</td>
<td>2.66</td>
<td>1.450</td>
</tr>
<tr>
<td>To Purchase Car</td>
<td>405</td>
<td>2.38</td>
<td>1.387</td>
</tr>
<tr>
<td>Corpus for Charity / Philanthropy</td>
<td>405</td>
<td>2.12</td>
<td>1.203</td>
</tr>
<tr>
<td>Contingency / Medical Emergency / Planned Surgeries</td>
<td>405</td>
<td>3.52</td>
<td>1.314</td>
</tr>
<tr>
<td>Valid N</td>
<td>405</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary Data

6. ANALYSIS AND DISCUSSION

Based on the factor analysis and the reliability analysis, the construct ‘Financial Goals’ measured through two variables namely ‘Long term goals’ and ‘Short term goals’.

6.1. Factor Analysis of Financial Goals (FG): The scale shown in Table 7 has total six items, all items measures two different variables and a single construct. The initial factor analysis is done using Principal Component and Varimax Rotation. The total variance explained by the construct is more than 60 percent in both the cases.

Three items tax planning, corpus for charity or philanthropy, contingency or medical emergency are dropped after factor analysis due to their very low loadings.
STUDY OF DEMOGRAPHIC VARIABLES ON FINANCIAL GOAL OF URBAN INDIVIDUALS

Table 8: Factor Analysis and Reliability Analysis of Financial Goals (FG)

<table>
<thead>
<tr>
<th>Sr.No/Items</th>
<th>Long Term Financial Goal (LTFG)</th>
<th>Loadings</th>
<th>Mean</th>
<th>KMO / Sig.</th>
<th>Cronbach's Alpha</th>
<th>% of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Child education</td>
<td>0.867</td>
<td>3.16</td>
<td>0.670</td>
<td>0.759</td>
<td>67.593</td>
</tr>
<tr>
<td>2</td>
<td>Retirement planning</td>
<td>0.722</td>
<td>3.77</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Marriage funding of children</td>
<td>0.844</td>
<td>2.61</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S.No/Items</th>
<th>Short Term Financial Goal (STFG)</th>
<th>Loadings</th>
<th>Mean</th>
<th>KMO / Sig.</th>
<th>Cronbach's Alpha</th>
<th>% of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Down payment for house</td>
<td>0.605</td>
<td>2.05</td>
<td>0.576</td>
<td>0.667</td>
<td>60.805</td>
</tr>
<tr>
<td>5</td>
<td>International vacation</td>
<td>0.814</td>
<td>2.66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>To purchase car</td>
<td>0.874</td>
<td>2.38</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary Data

Interpretation: The data adequacy is tested with KMO test. The value of KMO is greater than 0.05, it implies that the data are adequate to undertake analysis and interpretation. The reliability of the data is measured with Croanbach’s alpha, which comes out to be more than 0.6 in each case, demonstrating the good internal consistency. The loading of financial goal (FG) are also adequate for analysis. Hence, the given scale has adequate validity and reliability to proceed for further analysis.

Relationship between Financial Goals (FG) and Demographic variables

6.2. Relationship between Financial Goals (FG) and Age

Table 9: Relationship between Financial Goals (FG) and Age

ANOVA

<table>
<thead>
<tr>
<th>Relationship between Long term Financial Goal (LTFG) and Age</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>37.787</td>
<td>2</td>
<td>18.893</td>
<td>14.245</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>533.183</td>
<td>402</td>
<td>1.326</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>570.970</td>
<td>404</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Post Hoc Tests: Multiple Comparisons

Dependent Variable: Long term Financial Goal (LTFG)

LSD

<table>
<thead>
<tr>
<th>Age</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>(I) 21-30</td>
<td>(J) 31-60</td>
<td>-0.6058</td>
<td>.11718</td>
<td>0.000</td>
</tr>
<tr>
<td>Above 60</td>
<td></td>
<td>.27575</td>
<td>.47869</td>
<td>0.565</td>
</tr>
</tbody>
</table>

ANOVA

<table>
<thead>
<tr>
<th>Relationship between Short term Financial Goal (STFG) and Age</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>20.215</td>
<td>2</td>
<td>10.108</td>
<td>8.397</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>483.874</td>
<td>402</td>
<td>1.204</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>504.089</td>
<td>404</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Post Hoc Tests: Multiple Comparisons

Dependent Variable: Short term Financial Goal (STFG) and Age

LSD

<table>
<thead>
<tr>
<th>Age</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>(I) 21-30</td>
<td>(J) 31-60</td>
<td>.42860</td>
<td>.11163</td>
<td>0.000</td>
</tr>
<tr>
<td>Above 60</td>
<td></td>
<td>.89905</td>
<td>.45602</td>
<td>.049</td>
</tr>
</tbody>
</table>

Source: Primary Data
**Interpretation:** From the ANOVA Table 8, a significant difference (p < 0.05) has been found between financial goals and age groups; therefore, Post-Hoc analysis has been done for this variable and a significance difference has been found with the age group of 21- 30 and 30 - 60 years for long term goal, but no significance for age above 60 years. For short term goal, significance has been found across all age categories. It implies that urban individuals who are not senior citizen are concerned about both their short term and long term goal.

6.3. Relationship between Financial Goals (FG) and Gender

**Table 10: Relationship between Financial Goals (FG) and Gender**

<table>
<thead>
<tr>
<th>Group Statistics</th>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long term Financial Goal (LTFG)</td>
<td>Male</td>
<td>229</td>
<td>3.2955</td>
<td>1.17459</td>
<td>.07762</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>176</td>
<td>3.0265</td>
<td>1.19334</td>
<td>.08995</td>
</tr>
<tr>
<td>Short term Financial Goal (STFG)</td>
<td>Male</td>
<td>229</td>
<td>2.8079</td>
<td>1.12215</td>
<td>.07415</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>176</td>
<td>2.6705</td>
<td>1.10869</td>
<td>.08357</td>
</tr>
</tbody>
</table>

**Independent Samples Test**

<table>
<thead>
<tr>
<th></th>
<th>Long term Financial Goal (LTFG)</th>
<th>Short term Financial Goal (STFG)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Equal variances assumed</td>
<td>Equal variances not assumed</td>
</tr>
<tr>
<td>Levene's Test for Equality of Variances</td>
<td>F</td>
<td>.472</td>
</tr>
<tr>
<td></td>
<td>Sig.</td>
<td>.492</td>
</tr>
<tr>
<td>t-test for Equality of Means</td>
<td>t</td>
<td>2.269</td>
</tr>
<tr>
<td></td>
<td>df</td>
<td>403</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.024</td>
</tr>
<tr>
<td></td>
<td>Mean Difference</td>
<td>.26897</td>
</tr>
<tr>
<td></td>
<td>Std. Error Difference</td>
<td>.11856</td>
</tr>
<tr>
<td></td>
<td>95% Confidence Interval of the Difference</td>
<td>Lower</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Upper</td>
</tr>
</tbody>
</table>

Source: Primary Data

**Interpretation:** Table 9 shows that there is a significant difference between the Long term Financial Goal (LTFG) for male and female (t=2.269, p=0.24). From the statistical analysis, it is found that there is a gender bias with respect to long term financial goal. There are variations in financial priorities from long term perspective with respect to males and female.
From the analysis, there is no statistical significance difference between the Short term Financial Goal (STFG) of male and female. It seems there are no gender differences with respect to investment objective from short term perspective (3 to 5 years). The urban male and female plan their short term financial goal in a similar way.

6.4. Relationship between Financial Goals (FG) and Household Income

Table 11: Relationship between Financial Goals (FG) and Household Income

<table>
<thead>
<tr>
<th>ANOVA</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short term Financial Goal (STFG)</td>
<td>.722</td>
<td>.487</td>
</tr>
<tr>
<td>Long term Financial Goal (LTFG)</td>
<td>2.170</td>
<td>.116</td>
</tr>
</tbody>
</table>

Source: Primary Data

**Interpretation:** Above table 10 of ANOVA shows that there is no significant difference between Financial Goals (FG) both long term and short term and household income. Though the urban individuals, across different income levels do consider short term and long term goal there is no variation with respect to household income.

6.5. Relationship between Financial Goals (FG) and Work Experience

Table 12: Relationship between Financial Goals (FG) and Work Experience

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Long term Financial Goal (LTFG)</th>
<th>Short term Financial Goal (STFG)</th>
<th>Work experience</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Long term Financial Goal (LTFG)</strong></td>
<td>Pearson Correlation</td>
<td>.222**</td>
<td>.166**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>405</td>
<td>405</td>
</tr>
<tr>
<td><strong>Short term Financial Goal (STFG)</strong></td>
<td>Pearson Correlation</td>
<td>.222**</td>
<td>-.230**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>405</td>
<td>405</td>
</tr>
<tr>
<td><strong>Work experience</strong></td>
<td>Pearson Correlation</td>
<td>.166**</td>
<td>-.230**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.001</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>405</td>
<td>405</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).**

Source: Primary Data

**Interpretation:** Table 11 correlation statistics shows that there is a statistical difference between Financial Goals (FG) and work experience of respondents. It has been found that Long term Financial Goal (LTFG) is positively related to work experience whereas short term Financial Goal (STFG) is negatively related.
6.6. Relationship between Financial Goals (FG) and Marital Status

Table 13: Relationship between Financial Goals (FG) and Marital Status

<table>
<thead>
<tr>
<th></th>
<th>Married</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Long term Financial Goal (LTFG)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YES</td>
<td>236</td>
<td></td>
<td>3.5042</td>
<td>1.02797</td>
<td>.06692</td>
</tr>
<tr>
<td>NO</td>
<td>169</td>
<td></td>
<td>2.7239</td>
<td>1.25040</td>
<td>.09618</td>
</tr>
<tr>
<td><strong>Short term Financial Goal (STFG)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YES</td>
<td>236</td>
<td></td>
<td>2.5240</td>
<td>1.02953</td>
<td>.06702</td>
</tr>
<tr>
<td>NO</td>
<td>169</td>
<td></td>
<td>3.0611</td>
<td>1.16136</td>
<td>.08934</td>
</tr>
</tbody>
</table>

**Independent Samples Test**

<table>
<thead>
<tr>
<th></th>
<th>Equal variances assumed</th>
<th>Equal variances not assumed</th>
<th>Equal variances assumed</th>
<th>Equal variances not assumed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Levene's Test for Equality of Variances</strong></td>
<td>F: 10.140</td>
<td>Sig.: .002</td>
<td>F: 4.683</td>
<td>Sig.: .031</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed): .000</td>
<td>Mean Difference: .78037</td>
<td>Mean Difference: -.53713</td>
<td>Std. Error Difference: .11347</td>
</tr>
<tr>
<td></td>
<td>95% Confidence Interval of the Difference: -.55730</td>
<td>95% Confidence Interval of the Difference: -.75235</td>
<td>95% Confidence Interval of the Difference: -.75681</td>
<td>95% Confidence Interval of the Difference: -.32191</td>
</tr>
</tbody>
</table>

Source: Primary Data

**Interpretation:** From Table 12 significant difference has been found between Long term Financial Goal (LTFG) of married and other than married (p=0.000). Also there is a significant difference between Short term Financial Goal (STFG) of married and other than married (p=0.000).

6.7. Relationship between Financial Goals (FG) and Nature of Employment

Table 14: Relationship between Financial Goals (FG) and Nature of Employment

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Long term Financial Goal (LTFG)</strong></td>
<td>Between Groups: 1.568</td>
<td>3</td>
<td>.523</td>
<td>.368</td>
<td>.776</td>
</tr>
<tr>
<td></td>
<td>Within Groups: 569.402</td>
<td>401</td>
<td>1.420</td>
<td>.489</td>
<td>.813</td>
</tr>
<tr>
<td></td>
<td>Total: 570.970</td>
<td>404</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Short term Financial Goal (STFG)</strong></td>
<td>Between Groups: 17.451</td>
<td>3</td>
<td>5.817</td>
<td>4.793</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td>Within Groups: 486.638</td>
<td>401</td>
<td>1.214</td>
<td>.536</td>
<td>.564</td>
</tr>
<tr>
<td></td>
<td>Total: 504.089</td>
<td>404</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
STUDY OF DEMOGRAPHIC VARIABLES ON FINANCIAL GOAL OF URBAN INDIVIDUALS

Post-Hoc Multiple Comparisons

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>(I) Nature of Employment</th>
<th>(J) Nature of Employment</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short term Financial Goal (STFG)</td>
<td>Full Time</td>
<td>Part Time</td>
<td>.39293</td>
<td>.27350</td>
<td>.152</td>
<td>-.1448 - .9306</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contractual</td>
<td>-.26197</td>
<td>.35323</td>
<td>.459</td>
<td>-.9564 - .4325</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
<td>.81919*</td>
<td>.23703</td>
<td>.001</td>
<td>.3532 - 1.2852</td>
</tr>
<tr>
<td></td>
<td>Part Time</td>
<td>Full Time</td>
<td>-.39293</td>
<td>.27350</td>
<td>.152</td>
<td>-.9306 - .1448</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contractual</td>
<td>-.65490</td>
<td>.43902</td>
<td>.137</td>
<td>-1.5180 - .2082</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
<td>.42626</td>
<td>.35235</td>
<td>.227</td>
<td>-.2664 - 1.1189</td>
</tr>
<tr>
<td></td>
<td>Contractual</td>
<td>Full Time</td>
<td>.26197</td>
<td>.35323</td>
<td>.459</td>
<td>-.4325 - .9564</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Part Time</td>
<td>.65490</td>
<td>.43902</td>
<td>.137</td>
<td>-2.082 - 1.5180</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
<td>1.08116*</td>
<td>.41728</td>
<td>.010</td>
<td>.2608 - 1.9015</td>
</tr>
<tr>
<td>Other</td>
<td>Full Time</td>
<td>Part Time</td>
<td>-.81919*</td>
<td>.23703</td>
<td>.001</td>
<td>-1.2852 - -.3532</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contractual</td>
<td>-.42626</td>
<td>.35235</td>
<td>.227</td>
<td>-1.1189 - .2664</td>
</tr>
</tbody>
</table>

*. The mean difference is significant at the 0.05 level.

Source: Primary Data

Interpretation: Form the table 13 a significant difference has been found among Short term Financial Goal (STFG) of full time, part-time, contractual employees and other (p=0.003). It implies that nature of employment does affect financial goals (FG) of urban individuals. Post-hoc analysis suggests that the difference lies between full time and other, and contractual and other.

CONCLUSION

Financial goals are divided as long term and short term goal. In Exploratory Factor Analysis (EFA), we found six items were reliable and valid to conduct further analysis. The relationship between Financial Goals (FG) both long term and short term with age, gender, household income, work experience, marital status, nature of employment, are explored.

It was found that Long Term Financial Goal (LTFG) have statistical significant relationship with age, gender, work experience, marital status. However no significance was found with household income and nature of employment. Short Term Financial Goal (STFG) have statistical significant relationship with age, work experience, marital status, full time and others category of nature of employment. However no significance was found with gender and household income.

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Planning of Female Faculty Members—An Expense or Saving for the Future. Global Journal of Management and Business Studies, 3(5), 541-544


The Advent and Growth of Female Entrepreneurship in a Gender Biased Society Like India

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Abstract
This study examines the significance of entrepreneurial activity and focuses on the growth of a new class of entrepreneurs – the female entrepreneur. In a country like India which is primarily dominated by male centric societies, female entrepreneurs have not been able to get equal opportunity. This paper focuses on the typical factors that influence female entrepreneurs, the motivational factors which draw them towards entrepreneurship and also throws the spotlight on some obstacles which female entrepreneurs typically face. The paper recognizes the potent strength of women empowerment through entrepreneurial development and makes certain recommendations for ensuring equal opportunity and smooth passage for development of female entrepreneurs, especially in a gender biased environment like ours.

Keywords: Entrepreneurship, Female Entrepreneurship, Gender Bias, Obstacles to Entrepreneurship

INTRODUCTION

Entrepreneurs are the backbone of a nation’s progress. They organize different factors of production like land, labor & capital & in this process, provide goods & service to the people. An entrepreneur is an important factor in the economic development of a nation. Without entrepreneurship, the modern society would not have been able to witness the products & services that are available today in the market. The entrepreneur acts as catalyst of growth & development in the modern society. Richard Cantillon was the first to introduce the term “entrepreneur” & he defined an entrepreneur as a person who buys factor services at certain prices with a view to sell its product at certain uncertain prices in future. In brief, an entrepreneur is one who innovates, assembles inputs, raises money, chooses managers & sets the organization going with his ability to identify them.

According to Joseph Schumpeter, “Entrepreneur is a person who introduces innovative changes in an enterprise”. Entrepreneurship is a multilevel and complex phenomenon that gained importance in the global economy as a result of changes in employee qualifications, work contents, and psychological contracts in the employment field. Entrepreneurship
contributes to economic growth in being a conveyor of new or existing knowledge spillover and creative ideas that might otherwise not be utilized and realized for the benefit of all (Dejardin, 2002; Audretsch, Keilbach and Lehmann, 2006; Heertje, 2006; Langowitz and Minniti, 2007). The most significant contribution of small businesses and entrepreneurial activity is their ability to innovate. By doing things more effectively and efficiently, firms enable economic growth, rise in wages, an improved work environment, and enable a higher standard of living. This result cannot occur without a new idea and its implementation (an economic experiment). If the idea is successful, it replaces something already existing.

During the past century, as a result of the changing society, accelerated entrepreneurial activity was accompanied by the significant participation of women in entrepreneurship across the globe. Ufuk and Ozgen, (2001) argue that entrepreneurial activity has been adopted by increasing numbers of women in recent years. Kelly, Brush, Greene, and Litovsky (2011), reinforce this statement by emphasizing that in recent years a significant number of women entered entrepreneurial activities and thus contributed significantly to entrepreneurship in all economies worldwide. They report that in 2010, 104 million women in 59 economies, representing over 52% of the world’s population and 84% of the world’s GDP, started and managed new enterprises. Another 83 million were running established businesses that they had started over 3½ years earlier. Taken together, 187 million women were involved in creating and operating enterprises, ranging from just over 1.5% to 45.4% of the adult female population in these 59 economies. These data emphasize the contribution women make to entrepreneurship globally. According to this report, female participation in entrepreneurship varies around the globe: 19.9% of women surveyed in factor–driven economies, stated that they were starting or running a new enterprise, 9.7% said so in efficiency–driven economies, and 3.9% in the innovation–driven economies.

This paper attempts to shed light on the concept of female entrepreneurship in a gender biased society like India. Keeping in trend with the world over, women have found their calling in entrepreneurial ventures – big and small and defying social stigmas & taboos, this phenomenon is gaining momentum. This paper attempts to identify the unique motivational factors and challenges faced by this breed of entrepreneurs given the local mindset of the typical male dominated Indian society.

LITERATURE REVIEW

Muktar (2002) points out that the differences between genders are in terms of management style, organizational structure of the enterprises, and the degree of empowerment in them.

Verhaul and Thurik, (2001) use a panel of 2000 individuals, including 500 women, who started new firms in the Netherlands and found that women used low start–up capital, although there was no difference between the types of capital. Cowling and Taylor, (2001) find that the women entrepreneurs have better education than men, and that in the 1990s men entered entrepreneurship in considerably greater numbers than women.

A study conducted by the Center for Women’s Business Research in 2009 measures the economic impact of the eight million women–owned businesses in the U.S. The estimated economic impact was $3 trillion annually that translated into the creation and/or maintenance of more than 23 million jobs – 16% of all jobs in the U.S market.
This report makes an interesting statement that illustrates the importance of female entrepreneurship in the world’s strongest economy: “If U.S. women-owned businesses were their own country, they would have the 5th largest GDP in the world, trailing closely behind Germany, and ahead of countries including France, United Kingdom and Italy” (Center for Women’s Business Research 2009).

Despite this trend, the “gender gap” in this activity remains wide. Women are still less likely to enter such activity than men. Reynolds, Bygrave, Autio, Cox, and Hay (2002) indicate that female entrepreneurship varies significantly among 37 GEM 2002 (Global Entrepreneurship Monitor) countries, ranging from 0.6% in Japan to the highest level of 18.5% in Thailand. Although in China, South Africa and Thailand the gap is narrower than in other countries, they conclude that there is no country where women are more active in entrepreneurship than men. Kelly, Brush, Greene, and Litovsky (2011), indicate that the proportion of women entrepreneurs varies significantly across countries, ranging from 16% in ROC to 55% in Ghana where there are six female entrepreneurs in Ghana for one male entrepreneur.

DISCUSSION

This study is based on secondary data. Data was gathered from various government websites & available literature on the same.

Factors Influencing Female Entrepreneurship
No single factor motivates women to become an entrepreneur. Her reasons for that depend on several personal and external circumstances. Family support, social perceptions and attitudes towards women entrepreneurship are just some of the factors influencing the decision to become a female entrepreneur.

A survey that was conducted among 102 women in Israel (Tzemah 2000) points out the factors that effected them to become entrepreneurs. The results are illustrated in Table 1.

Table 1. Factors influencing women to enter to entrepreneurial activity

<table>
<thead>
<tr>
<th>THE FACTOR</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal growth</td>
<td>39%</td>
</tr>
<tr>
<td>Economic reasons</td>
<td>30%</td>
</tr>
<tr>
<td>Desire for achievement</td>
<td>15%</td>
</tr>
<tr>
<td>Recommendations from friends or family</td>
<td>11%</td>
</tr>
<tr>
<td>High self-esteem</td>
<td>9%</td>
</tr>
<tr>
<td>Creativity</td>
<td>4%</td>
</tr>
<tr>
<td>Did not answer</td>
<td>5%</td>
</tr>
</tbody>
</table>

MOTIVATIONAL FACTORS

The growth of the business depends partially on the entrepreneur’s motivation. Although it is agreed that women differ from men in their personal and professional vision of life, there are some researchers who point out that female and male motivations regarding entrepreneurship initiatives are more similar than they are different (Buttner and Moore, 1997; Birley, 1989; Batory, 2004). Buttner and Moore, (1997) argue that both genders seek independence, autonomy and higher incomes for their efforts. Berry (1980) avers that the main different factor between genders is self-confidence.
The author opines that in the present era, characterized by a strong feminist movement, Berry’s argument has to be challenged. Buttner (1993) asserts that women entrepreneurs are more adaptive, have more social awareness and prefer longterm planning in comparison to men.

The author believes that there are a certain set of factors which motivate or prompt women to take up entrepreneurial risk in modern Indian society. This may hold true for other societies as well and is mostly applicable to the educated strata of India. Some of the factors mooted by the author are:

- Glass Ceiling
- Dissatisfaction with current employment
- Frustration & Boredom with current job
- Need for change from routine life
- To gain Autonomy & Independence
- Means of adjusting career needs to family obligations
- Generation of Income or additional income
- Pride in Achievement something independently

**Generate income** – Coughlin and Thomas, (2002) argue that one of the most universal motivators for women to start businesses is the need to generate income. They opine that if they had equal opportunities as men to make money in jobs, the incentive behind this motivator would be much less.

**Pride in achievement** - The need for achievement, personal growth and self – determination are high motivating factors among women who have already started some entrepreneurial activities. Although success in business is measured in terms of profit, the need for achievement and the pride in it are paramount objectives among women.

**Need for change** – Women become entrepreneurs in order to make change. In contrast to men, they want to concentrate more on the client, to act more ethically and to contribute more to the community in addition to their economic aspirations.

Simonin (2006) points out that many women enter entrepreneurship activities because of the autonomy and flexibility that are essential to the fulfillment of their family obligations.

Women having a motherhood role are less satisfied with their careers and perceive entrepreneurship as a tool to adjust their career needs to their family obligations. Noble (1986) argues that men perceive entrepreneurship as a business decision while...
women perceive it as an integrating and balancing tool between family and career needs.

**Frustration and boredom with the present job** – These factors highly impact on women to embark on entrepreneurship. A study by Cromie and Hayes, (1991) finds that those factors were perceived by women as the main reasons for entering entrepreneurship. The present era enables women to have an opportunity for an exciting and satisfying journey in their occupation.

**Dissatisfaction with the present job** – Many women are driven to improve and expand new ideas, products and services by self-owned businesses. They fully believe they can do better than they currently do in their present jobs.

**Work environment** - Some women perceive work environments in big firms as not friendly and hence they search for entrepreneurship to change this situation (Orhan and Scott, 2001)

A significant number of women take a risky step towards entrepreneurship as a result of situations in which in their actual jobs they hit the “glass ceiling” or feel frustrated and unchallenged.

**OBSTACLES TO FEMALE ENTREPRENEURSHIP**

Having understood the motivating factors for women to don the mantle of entrepreneurship, it is also imperative to cast a look at the circumstances that hinder the growth of women entrepreneurs, especially in a gender biased society like India. Some of the obstacles mentioned below may be common to all entrepreneurs, but certain obstacles are unique to women entrepreneurs and they must bear the brunt of the repercussions of these obstacles.

**Absence of benchmarking possibilities:** The author defines role models as female entrepreneurs who serve as sources of imitation in their attitudes, decisions and actions, for those women who just began their journey and mentor them. The absence of role models is seen as a barrier by 64% of women in the US (Catalyst - Conference Board, 2002).

**Lack of experience:** Delmar and Holmquist (2004), argue that women lack the experience to explore the opportunities although educated and skilled women have more chances to do so more than uneducated women.

**Lack of social capital:** Women are less involved in social networking and have a different network from men. The networks in which women are engaged are mostly suitable to their family duties. This situation may become an obstacle to their business life. Women face “the double burden” syndrome, which is currently inherent in our model of society, in efforts to balance work and domestic responsibilities.

**Lack of financial capital:** Financial capital is a crucial and vital asset for the entire entrepreneurial process. Lack of financial capital is frequent in the developing countries where women are not independent regarding their incomes and are mostly controlled by their husbands.

**Lack of time:** Another obstacle is lack of time as a direct result of family responsibilities. Women have less time than men to develop skills and obtain updated knowledge. Lack of time prevents them from taking essential steps to achieve financial support from banks, to participate in training programs to acquire necessary skills and knowledge, and to seek out better customers or suppliers.
Risk perception: The author believes that in most cases women are more concerned about the consequences of embarking on entrepreneurship because they fear that such activity will place greater demands on them in terms of time. According to the research findings, females tend to have lower risk propensity than male entrepreneurs.

Gender discrimination in external financing: women have lower financial assets than men and hence they depend more on external finance. Women are not perceived as entrepreneurs because of prejudice, social networks and family obligations. This perception prevents women from attaining external financial capital. In developing countries like India, women confront problems in obtaining financial capital due to their inferior social position.

Stereotypical attitudes: The common perception is that women confront stereotypical attitudes on a daily basis in their contacts with banks, clients and suppliers in the management phase of their business.

Family and financing issues: Balancing family and work responsibilities concerning greater penetration into the market and attracting more customers is a very hard mission to accomplish in the growing phase of the business. Women who have more domestic responsibilities have less time to develop and leverage their business.

RECOMMENDATIONS TO POLICY MAKERS

Public policies should be aimed at supporting economic development by encouraging innovation, creativity, and growth. Governments should support the formation, development and growth of small and medium-size enterprises and encourage individuals to enter entrepreneurial activities. Policy-makers should perceive female entrepreneurs as a special group that deserves special attention and approach.

The following recommendations should be useful to policy-makers in supporting female entrepreneurs during the entire life cycle of their business:

a. Remove maximum legal and regulatory barriers to female entrepreneurship and support pro-family public policies.

b. Foster an economic regulatory environment including taxation to strengthen female entrepreneurship.

c. Increase small and medium-sized preparation programs at all levels of the education system.

d. Provide support, mentoring, coaching and training not only at the start-up phase.

e. Understand the way women perceive risk before designing support.

f. Promote equal opportunity and abolish gender discrimination.

g. Address female concerns regarding business growth and expansion in designing government supporting programs.

h. Strengthen policy coordination regarding government activities to promote female entrepreneurship.

i. Formulate strategies to provide more access to information on international markets and facilities that information and communication technology (ICT) provides.

j. Incorporate female entrepreneurship dimensions in SME related policies at the design phase.

k. Promote appropriate networks to provide knowledge and tools necessary for the development and extension of female entrepreneurship; coordinate domestic and global networks.

l. Follow up and evaluate systematically and continuously the effect of related policies on women entrepreneurship and the extent to which women take advantage of them.
CONCLUSION

The growth of a developing economy like India has to be fuelled by all sections of the populace and women are an integral part of this. Women are the pillars of the society and need to be encouraged and given all the support to go hand-in-hand in contributing to the overall economic growth of the country. And definitely, this growth can be accelerated by the entry of more and more women in the mainstream of entrepreneurial activity. There is no doubt that female entrepreneurship is one of the outstanding phenomena in modern economy. A growing number of women participating in entrepreneurial activities, reflects the transformation in economic and social fields. Women are increasingly crossing the economic and social barriers. They have greater confidence in their skills and abilities to build their enterprises equally, if not more successfully, than men.

Individual motivation, family structure, education, demography, unemployment, and social and economic environments are the main factors influencing female entrepreneurship. These factors are the main determinants of the differences between women and men regarding risk perceptions in the entrepreneurial process.

Women entrepreneurs face several obstacles along the life cycle of their businesses: the absence of benchmarking possibilities, the lack of financial and social capital, of experience, time, gender discrimination, stereotype attitudes, and, finally, domestic issues.

Many policy-makers perceive female entrepreneurship as a phenomenon that contributes to economic growth. This perception should be accompanied by special attention, support and treatment. Actually, there is much more to accomplish to encourage and assist women who aspire to embark on entrepreneurial activity.

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A Study to Identify the Determinants of Employees Satisfaction

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Abstract
The research paper aims to discuss the concept of employee satisfaction, factors or determinants of employee satisfaction, and benefits or outcomes of employee satisfaction. The study is conceptual and exploratory in nature, and based on the past literature based on which research instrument has been developed and data is collected. Employee satisfaction leads to low level of employee turnover and absenteeism also. Based on satisfaction determinants identified an attempt has been made to understand the practical aspect of job satisfaction of health workers working in hospitals as nurses and paramedics.

Keywords: Employee Satisfaction, Employee Retention, Job Satisfaction, Job Commitment, Job Performance and Working Environment

INTRODUCTION

Employee satisfaction can be defined as the satisfaction of employee towards their job, towards the organization and towards the various aspects related to job. Employee satisfaction is a term which is comprehensive in nature. Employees who are satisfied with their job but not with the working environment, or not with the attitude of management or policies of the company will not be considered as satisfied employee. Employee satisfaction is a broader term which includes the satisfaction towards the job, job profile, job features, working environment, working conditions, types of people working in the organization, culture of the organization, management behavior, policies of the company, financial and non-financial benefits of the job, and various other aspects related to job. Recruiting the efficient and skilled employees in an organization is not enough, it is also important to make them satisfied and happy with their jobs. Needs of the employees can be related to the working conditions, co-workers, leaders, supervision, growth opportunities and work itself etc. employee
satisfaction plays a crucial role in achieving the quality of services. Loveman (1998), discussed the relationship between employee satisfaction, customer loyalty and financial performance of an organization. Employee satisfaction ensures better customer services and increases in customer loyalty due to the better service quality and which in turn increases the profitability of the company. Thus, financial performance of an organization depends on the employee satisfaction.

Spector (1997), employee satisfaction can be defined as the satisfaction of an employee towards his job, and the liking for his job.

Locke (1976), explained the concept of employee satisfaction as a positive attitude of employees towards their job, an emotional state that gives pleasures to the employees while doing their job or performing a task.

Thus, it can be said that the primary goal of an organization should be employee satisfaction because employee satisfaction directly effects the productivity, profitability, service quality, employee retention rate, absenteeism, and employee turnover ratio.

**OBJECTIVES OF THE STUDY**

To do a review of the employee satisfaction, factors which affect the employee satisfaction and the theories based on the concept of job satisfaction evolved in past.

**RESEARCH METHODOLOGY**

The study is conceptual and descriptive in nature, and based on the past literature and survey. Researchers has gone through various research papers, published and unpublished reports and the books on human resource management to extract the literature available on the employee satisfaction which is discussed in the following section. Based on the literature review the organizational factors were considered to understand the job satisfaction of health workers working in hospitals of Navi Mumbai region. 12 hospitals with bed capacity of minimum 100 and above were considered for the purpose of study. All health workers of selected hospitals chosen for study participated in filling the questionnaire given for the purpose of study. Out of the 675 distributed questionnaires, 550 questionnaires which were completed filled by the respondents were considered for further analysis. The analysis is presented after discussing the determinants of employee satisfaction

**DETERMINANTS OF EMPLOYEE SATISFACTION**

Employee satisfaction is dependent in nature. It depends on various factors. Researchers have discussed various factors which directly or indirectly influence the satisfaction level of employees in an organization. Some of the important factors or determinants of employee satisfaction have been discussed in detail as following:

1. **Salary/Wages/Compensation:** The most important factor which effect the employees’ satisfaction is salary, wages or compensation. The financial value of the hard work put by an employee in completion of his job is the main factor that influences his satisfaction level towards the job (Sharma and Sindhu, 2015, Sharma and Mani, 2012).

2. **Fringe Benefits:** Fringe benefits are the financial benefits other than salary or wages. If an employee gets the salary plus various other fringe benefits than the satisfaction level of employees will be
A STUDY TO IDENTIFY THE DETERMINANTS OF EMPLOYEES SATISFACTION

higher towards their job (Morgan, 2014).

3. Medical Facilities/Medical Insurance: Now a day, the medical facilities are very costly, and the employees wish to get the free medical insurance for employee and their family members from the organization or the organization should reimburse the medical expenses of the employees and their family members in addition to the salary or compensation. Medical insurance or medical facilities are the extra benefits that an organization can provide to its employees in order to increase the level of employees’ satisfaction (Arora, 2017).

4. Training: Training is considered as an important determinant of employee satisfaction. Training to existing employees helps in increasing the knowledge of employees about a new concept, technology, new methods, or new processes or to refresh their knowledge about existing methods, or technologies used in the organization (Sharma and Sindhu, 2015). Training adds value to an employees and increases their worth in the market and make them competitive. Thus, training facilities available in an organization can make employees highly satisfied towards their job.

5. Growth and Development Opportunities: Growth and development opportunities provided by an organization to its employees highly influence the level of employees’ satisfaction. If an employee perceives huge growth prospective in his organization, then his satisfaction level will be high or vice versa. (Sharma and Mani, 2012), researchers have stated that employees are ready to work with an organization for long term which provides high growth and development opportunities even if they receive less salary or wages.

6. Interpersonal Relationship: Interpersonal relationship are the relationship of an employee with his colleagues, supervisors, subordinates, and management. Healthy and friendly relationships at workplace create the interest of employees to do their work efficiently and increase their satisfaction towards their job (Sindhu and Sharma, 2014).

7. Performance Appraisal: Performance appraisal plays an important role in employees’ satisfaction. Employee satisfaction is higher in the organizations which conducts performance appraisal on regular basis and without biasness, provides feedback to employees about their performance and conducts training to improve the performance of employees (Sharma and Sindhu, 2015).

8. Participation in Decision Making: Employees feel themselves as an important part of organization if they have a right to take part in decision making process. They may come with creative and innovative ideas and will not show resistance during implementation of any policy or rules, which has been framed after considering their suggestions. Thus, the employees’ satisfaction will be higher if the employees have a right to participate in decision making process (Nair, 2015).

9. Attitude of Management: Attitude of management also influences the level of employees’ satisfaction in an organization. If management shows positive attitude, empathy and do friendly behavior towards the employees then the satisfaction level of employees will be higher. Concern of management towards the problems of employees and equal treatment to all employees, leads to high level of employees’ satisfaction (Gomathi, 2014).

Thus, overall it can be said that there are various factors which affects the satisfaction level of employees either directly or indirectly. All the factors discussed above are related to the organizations or workplaces.
BENEFITS OF EMPLOYEE SATISFACTION

This section discusses the benefits of employee satisfaction both to an individual and to the organization.

1. Employee Satisfaction and Job Performance: Researchers have found a positive and significant relationship between employee satisfaction and job performance. Job performance of an employee is directly affected by the level of satisfaction towards a job. When employees are satisfied with their job, they start loving their job profile, and take their job seriously and try to do work not as a duty but as their passion (Jain, 2016).

2. Employee Satisfaction and Organizational Commitment: The employees who are satisfied with their jobs are found to be highly committed towards their jobs and their organizations. Organizational commitment is the output of employee satisfaction. High level of employee satisfaction, higher will be the organization commitment. Thus, it can be said that organizational commitment has born out of employee satisfaction. High level of organizational commitment leads to higher organizational performance (Jain, 2016).

3. Employee Satisfaction and Service Quality: Researchers have found positive and significant relationship between employee satisfaction and service quality. The employees, who are satisfied with their job, do their work with greater efficiency and provide better customer services (Antonvoa, 2016). Satisfied employees tries to build long term relationships with the customers.

4. Employee Satisfaction and Customer Satisfaction: Researchers have found a positive and significant relationship between employee satisfaction and customer satisfaction. If the level of employee satisfaction is high then the customer satisfaction will also be high and vice versa. Customer satisfaction gets affected by the quality of services provided by the employees of an organization (Homburg and Stock, 2004). If the employees are satisfied they will treat the customers very well and will provide better service quality which leads to higher customer satisfaction. If the employees are satisfied they will share positive words with the potential customers and customers on the recommendation of the employees make purchases and it also increases the customer satisfaction (Sharma and Mani, 2012).

5. Employee Satisfaction and Corporate Image: Employees of an organization plays an important role in creating a positive and sustained corporate image in the market. Employee satisfaction is another way to build a positive corporate image among the potential employees also (Jhajharia and Gupta, 2015).

6. Employee Satisfaction and Occupational Stress: Employee satisfaction helps in reducing the occupational or workplace stress among the employees. (Antonvoa, 2016 & Sharma, 2015), researchers have found a negative and significant relationship between occupational stress and employee satisfaction. Thus, employee satisfaction helps in reducing occupational stress and which will lead to wellbeing and good health of the employees. Employees with good health and low level of stress are able to work efficiently and effectively.

7. Absenteeism and Employees’ Turnover Rate: Researchers have found a negative relationship between employees’ absenteeism & employees’ turnover rate and employee satisfaction. Employees who are not satisfied with their job becomes irregular and tries to avoid doing job. Organizations have to bear the cost of recruitment, loss of production hours due to high absenteeism ratio thus,
employee satisfaction helps in retaining the skilled and talented employees in the organizations for long term (Sharma, 2015, Jain, 2016).

8. Employee Satisfaction and Productivity: Researchers have found a positive relationship between employee satisfaction and productivity. Employee satisfaction leads to high job performance, high organizational commitment, low cost on recruitment, few organizational conflicts, lack of occupational stress, high customer satisfaction and better service quality; all these factors leads to overall increase in the productivity of the organization and also increase in the productivity of employees (Jhajharia and Gupta, 2015).

Relationship between job commitment, job involvement, employees’ absenteeism, employees’ turnover and job satisfaction
Anshu (2015) developed a theoretical model to show the relationship between organizational commitment and job satisfaction among employees working in the management and technical institutes of developing countries. The researcher stated that job satisfaction is the important factor to be focused by the management as, the cost of recruitment and selection of new faculties is very high and the employees’ turnover also affects the students learning process. Silman (2014) conducted a study to measure the relationship between work engagement and work-related basic need satisfaction among employees. The sample size of the study was 203 employees from various Universities of Turkey. Researcher had used the Work-Related Basic Need Satisfaction Scale in order to measure the work related basic need satisfaction among employees and the Turkish Form of Utrecht Work Engagement Scale in order to measure the work engagement among employees. Researcher had used three types of basic work-related needs namely; need of autonomy, relatedness and competence. The level of satisfaction of employees towards these need determine the level of their work engagement. It was found from the study that need satisfaction and work engagement are positively related to each other. The employees whose work-related basic needs are satisfied by the management are found to be more engaged in their job. The level of adaptation and participation is also found to be high in those employees whose work-related basics needs are satisfied.

Research Instrument
Based on the literature review a self-administered questionnaire was developed. The instrument included sections of demographic characteristics, organizational factors provided by management which were to be rated on a Likert scale (Range of 1-5)

Data Analysis & Results
The reliability coefficient of questionnaire is found to be 0.89 (Cronbach’s alpha). Regression analysis was applied for data analysis.

Following is the result analysis of job satisfaction based on Organizational factors

<table>
<thead>
<tr>
<th>Overall satisfaction towards current job</th>
<th>Frequency</th>
<th>%</th>
<th>Valid %</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly Dissatisfied</td>
<td>31</td>
<td>5.6 %</td>
<td>5.6 %</td>
<td>5.6 %</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>84</td>
<td>15.1 %</td>
<td>15.1 %</td>
<td>20.7 %</td>
</tr>
<tr>
<td>Neutral</td>
<td>135</td>
<td>24.3 %</td>
<td>24.3 %</td>
<td>45.0 %</td>
</tr>
<tr>
<td>Satisfied</td>
<td>250</td>
<td>45.0 %</td>
<td>45.0 %</td>
<td>89.9 %</td>
</tr>
<tr>
<td>Highly Satisfied</td>
<td>56</td>
<td>10.1 %</td>
<td>10.1 %</td>
<td>100.0 %</td>
</tr>
<tr>
<td>Total</td>
<td>556</td>
<td>100.0 %</td>
<td>100.0 %</td>
<td></td>
</tr>
</tbody>
</table>

Table 1.1: Frequency Distribution Analysis
Interpretation: Table 1.1 the overall satisfaction of healthcare workers towards their current job. It was found that 45 percent of the total healthcare workers surveyed during current study were found to be satisfied towards their current job, followed by the healthcare workers who were found to be neutral means neither satisfied nor dissatisfied towards their current job. Hence, it can be said that the majority of the healthcare workers working in the hospitals of Thane and Navi Mumbai were found to be satisfied towards their current job.

Graph 1.1: Mean values (Organizational factors)

Mean Values of Organizational Factors

Source: Primary Data

Interpretation: Graph 1.2 shows the mean values of the organizational factors. The highest mean value was found to be 3.79 for the variable ‘organizational environment’, followed by the working conditions and training and development. While the least mean value was found to be 3.58 of the variable ‘career advancement opportunities’. It shows that the healthcare workers are highly satisfied towards the organizational environment, working conditions and training and development and less satisfied towards the career advancement opportunities.

1.14.1 Regression Analysis

Multiple regression analysis is used to identify the influence of the factors and the association between the independent variables and the dependent variable. Researcher has measured the impact of organizational factors on the job satisfaction of health workers, by using the multiple regression analysis. Researcher has used the following regression equation:

\[ X = \alpha + \beta_1 Y_1 + \beta_2 Y_2 + \beta_3 Y_3 + \beta_4 Y_4 + \beta_5 Y_5 + \epsilon, \]

Where; \( \alpha \) is the constant term, \( \beta_1, \beta_2, \beta_3, \beta_4, \beta_5 \), and \( \epsilon \) is the value of regression coefficients for the independent variables, denotes the error term, \( X \) is the dependent variable. The equation is explained as follows:

Overall satisfaction towards job = \( \alpha + \beta_1 \) organizational environment + \( \beta_2 \) working conditions + \( \beta_3 \) training or development + \( \beta_4 \) Monitoring and Evaluation system + \( \beta_5 \) Career Advancement Opportunities + \( \epsilon \),
A STUDY TO IDENTIFY THE DETERMINANTS OF EMPLOYEES SATISFACTION

The regression model summary given in table 1.2 shows that the R value as 0.375, it shows that there is a positive but low degree of correlation between organizational factors and the overall satisfaction of healthcare workers towards job. The value of R square was found to be 0.141, which indicates that organizational factors explain only 14 percent of the variation in the overall satisfaction of healthcare workers towards job. While rest of the 86 percent of the variation is caused due to other factors.

As per results of one-way Anova, the f-value was found to be 17.998, at 99 percent confidence level. Hence, it can be said that the dependent variable and independent variables are significantly related and the regression model emerged between dependent variable i.e. overall job satisfaction and the independent variables.

Regression coefficients represent the mean change in the response variable for one unit of change in the predictor variable while holding other predictors in the model constant. The value of regression coefficients extracted through multiple regression analysis. It was found from the p-value corresponding to the regression coefficients that except one variable i.e. Monitoring and Evaluation system, were found to be positively and significantly related to the overall satisfaction of healthcare workers towards job.

Hence, it can be said that the overall satisfaction of healthcare employee towards the job depends on the organizational factors namely; organizational environment, working conditions, training or development, and Career Advancement Opportunities. If any improvement in monitoring & evaluation aspect will be made in these factors, then it will lead to overall satisfaction among health workers.

The following Table 1.2 presents the aggregate results of above analysis:

<table>
<thead>
<tr>
<th>Table 1.2: Regression Analysis (Organizational factors &amp; Job)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Regression Model Summary</strong></td>
</tr>
<tr>
<td>Model</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>a. Predictors: (Constant), Monitoring and Evaluation system, Organizational environment, Career Advancement Opportunities, Working Conditions, Training and Development</td>
</tr>
<tr>
<td><strong>ANOVA&lt;sup&gt;a&lt;/sup&gt;</strong></td>
</tr>
<tr>
<td>Model</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>a. Dependent Variable: satisfaction towards current job</td>
</tr>
<tr>
<td>b. Predictors: (Constant), Monitoring and Evaluation system, Organizational environment, Career Advancement Opportunities, Working Conditions, Training and Development</td>
</tr>
</tbody>
</table>

<sup>a</sup> Predictors: Monitoring and Evaluation system, Organizational environment, Career Advancement Opportunities, Working Conditions, Training and Development.
Thus, overall it can be said that employee satisfaction plays a crucial role in the performance of an organization. Employee satisfaction is the result of investment by the organizations in improving their working environment and various aspects of job. Investment by the organizations in increasing the satisfaction level of employees, gives return in the form of high level of job performance, low absenteeism, high productivity, organizational peace, efficient, creative and effective workforce etc.

CONCLUSION

Thus, overall it can be concluded that employee satisfaction is the satisfaction of an employee towards his job, towards the working environment, towards the job conditions, management attitude, supervisor, leadership style, behavior of supervisor, knowledge and skill level of supervisors, participation in decision making process, interpersonal relationships, relationship with supervisors, co-workers, subordinates, superiors, policies of the company, rules, regulations, code of ethics, code of conduct, culture, communication, working hours, training facilities, career growth and development opportunities, and other factors. Thus, it can be said that employee satisfaction is one of the important issue before the companies. Employee satisfaction may take the organization towards the success while dissatisfaction of employees may take an organization towards fall. The profits or sales, productivity, performance of the organization largely depends on the satisfaction level of employees. Employee satisfaction gets affected by both the internal and external factors. Internal factors are related to organizations and external factors are related to the personal life of employees. Organizational related factors can be improved by the companies to increase the employee satisfaction while personal factors of employees are beyond the control of the organizations.

REFERENCES


An Analytical Study on the Cyclical Movements of Stock Index under Bull Market

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Malad (East), Mumbai - 400097

Abstract
Indian stock markets have given good returns in the long run. A case definitely exists for choosing stocks as an investment option. However performance of the NIFTY50 index clearly brings out the vagaries of the returns on year to year basis. If value of portfolio fluctuates like yearly returns of NIFTY50 the peace of mind of investor will be lost. An investor does not want a roller coaster ride that NIFTY50 promises but a smooth and steady ride akin to a train journey. Any measure of reduction of risk will always is welcome. The surest way of avoiding any risk is by not investing at all in stocks. But the opportunity cost of such method is very high. A reasonable risk for decent returns should be the motto of any investor. Over the period of time many studies have been done on technical analysis and technical trading strategies on global financial markets and Indian stock markets. These studies give no conclusive evidence of effectiveness of technical analysis for improving return on investment. The research study therefore attempted to analyze the cyclical movements of NIFTY50 equity index which concluded that success in the stock market depends not only on choosing correct stocks but also a correct time for entry and exit. The purpose of the study was to determine whether this timing can be improved by use of some objective methods of analysis. Technical analysis proves to be an effective tool in this regard.

INTRODUCTION
Stock markets are barometers of economic activities. The mood of the economy can be judged by the buoyancy or gloom in stock markets. Stock markets have always been large mobilisers of funds. Average daily turnover of the National Stock Exchange cash segment is Rs. 17,000 crores (December 2015). Investments in stocks as an asset class are subject to market fluctuations. Historically, investments in stocks (shares) have given a handsome return, however the path is not always smooth. Investments in stocks do not come with any guarantee. Stock prices do not always move up. Nor is the return assured. On many occasions investors have lost the capital invested.

Everyone interested in stocks wants to know:
• Which stocks are profitable investments?
• Right time to buy these stocks
• Ideal holding period for these stocks.
• Right time to sell these stocks, if at all they should be sold.

Since stock prices move up and down all times, determining the time of entry and exit is as critical as choosing a right stock for successful stock investing. Bad timing can nullify advantages of choosing an excellent stock as an investment.

Over the decade of the 1980s, millions of households became investors in the equity market. These households were adversely affected by the crisis of 1992 and worked as a new political constituency in favour of a market design which served the interests of investors rather than financial intermediaries. More generally, the fixed income and equity market crisis of 1992 was useful in briefly diminishing the political strength of the status quo.” From day one, it has adopted the form of a demutualised exchange - the ownership, management and trading is in the hands of three different sets of people. It is owned by leading financial institutions and is managed by professionals, who do not directly or indirectly trade on the exchange. This has completely eliminated any conflict of interest and helped NSE in aggressively pursuing policies and practices that are in public interest. NSE commenced operations in the wholesale debt market (WDM) segment in June 1994. The capital market (Equities) segment commenced operations in November 1994 and operations in derivatives segment commenced operations in June 2000. Over years NSE has surpassed BSE in terms of turnover and has emerged as the premier stock exchange of India.

In a twenty one year period from 1st January 1995 to 31st December 2015 the compounded annual growth rate (CAGR) of two major indexes of the National Stock Exchange of India, the S&P CNX 50 (NIFTY 50)9 and the S&P CNX 500 (CNX 500)10 was 9.50 %. The following table explains yearly returns of NIFTY 50.

<table>
<thead>
<tr>
<th>Year</th>
<th>CAGR %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>7.60</td>
</tr>
<tr>
<td>1996</td>
<td>9.63</td>
</tr>
<tr>
<td>1997</td>
<td>12.88</td>
</tr>
<tr>
<td>1998</td>
<td>10.40</td>
</tr>
<tr>
<td>1999</td>
<td>12.88</td>
</tr>
<tr>
<td>2000</td>
<td>11.96</td>
</tr>
<tr>
<td>2001</td>
<td>10.28</td>
</tr>
<tr>
<td>2002</td>
<td>9.57</td>
</tr>
<tr>
<td>2003</td>
<td>8.85</td>
</tr>
<tr>
<td>2004</td>
<td>9.01</td>
</tr>
<tr>
<td>2005</td>
<td>9.21</td>
</tr>
<tr>
<td>2006</td>
<td>9.42</td>
</tr>
<tr>
<td>2007</td>
<td>9.63</td>
</tr>
<tr>
<td>2008</td>
<td>9.84</td>
</tr>
<tr>
<td>2009</td>
<td>10.05</td>
</tr>
<tr>
<td>2010</td>
<td>10.27</td>
</tr>
<tr>
<td>2011</td>
<td>10.49</td>
</tr>
<tr>
<td>2012</td>
<td>10.70</td>
</tr>
<tr>
<td>2013</td>
<td>10.88</td>
</tr>
<tr>
<td>2014</td>
<td>11.07</td>
</tr>
<tr>
<td>2015</td>
<td>11.27</td>
</tr>
</tbody>
</table>

Source: Researcher’s Compilation
The CAGR has fluctuated widely year on year basis. Generally the value of investments is synchronised with the performance of the index. Over the period the CAGR has varied from negative to moderate to very high. The return on investments has accordingly been negative, mediocre or excellent. Though stock markets have given an excellent CAGR on investments in the long run, these vagaries make the timing of entries and exits critical for success in stock investments.

LITERATURE REVIEW

Hamid et al\(^1\) studied the weak-form market efficiency of stock market returns of Pakistan, India, Sri Lanka, China, Korea, Hong Kong, Indonesia, Malaysia, Philippines, Singapore, Thailand, Taiwan, Japan and Australia from January 2004 to December 2009. They found that monthly returns are not normally distributed, because they were negatively skewed and leptokurtic. They concluded that the monthly prices do not follow random walks in all the countries of the AsianPacific region. George\(^2\) found that nearness to the 52-week high dominated and improved upon the forecasting power of past returns (both individual and industry returns) for future returns and future returns forecast using the 52-week high do not reverse in the long run. These results indicated that short-term momentum and long-term reversals are largely separate phenomena. Lento et al\(^3\) studied the profitability of technical trading rules by evaluating their ability to outperform the buy-and-hold trading strategy. They studied Moving average cross-over rules, filter rules, Bollinger Bands and trading range break-out rules by testing these rules on the S&P/TSX 300 Index, the Dow Jones Industrial Average Index, NASDAQ Composite Index, and the Canada/U.S. spot exchange rate. After accounting for transaction costs, excess returns were generated by the moving average cross-over rules and trading range break-out rules for the S&P/TSX 300 Index, NASDAQ Composite Index and the Canada/U.S. spot exchange rate. Filter rules also earned excess returns when applied on the Canada/U.S. spot exchange rate. The profitability of the technical trading rules was further enhanced with a combined signal approach. Epps\(^4\) observed that price changes in common stocks of companies in one industry move in tandem. However the correlations among price changes were found to decrease with the length of the interval for which the price changes are measured. Hirose et al\(^5\) examined the relationship between investor behavior and stock returns focusing on Japanese margin transactions using weekly data from 1994 to 2003. Margin trading was dominated by individual investors in Japan. In an analysis at the firm level, they found a significant cross-sectional relationship between margin buying and stock returns. The information about margin buying could help predict future stock returns, especially for small-firm stocks at short horizons. The predictive power did not diminish even after controlling for firm size and liquidity.

Many studies have been done on technical analysis and technical trading strategies on global financial markets and Indian stock markets. These studies give no conclusive evidence of effectiveness of technical analysis for improving return on investment.

RESEARCH OBJECTIVES

1. To analyze the cyclical movements of NIFTY 50 equity index for the period under the study.
2. To draw conclusions and suggestions from the research study.

Research Hypothesis

H1: Amongst the trading strategies that outperform the buy and hold strategy some outperform others...
in specific cyclical conditions in bull market.

**Research Methodology**
The secondary data is collected from various published sources of the National Stock Exchange of India, newspapers, journals and books and internet. Wherever necessary the past price and volume data is adjusted for splits and bonuses to make it comparable with current data.

The hypotheses are tested by following method: CNX500 index has a CAGR of 9.50%. Out of 500 stocks in CNX500 index 279 stocks have better CAGR than 9.50%. They are shortlisted for the study.

**Data Analysis and Interpretation**
The present hypothesis is tested for these 4 shortlisted strategies S01, S06, S08 and S09. These strategies are compared amongst themselves for values of variables V04, V05, V06 and V07.

**List of Outperforming Strategies**

<table>
<thead>
<tr>
<th>Sr</th>
<th>Strategy Name Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Closing Prices Crosses Moving Average S01</td>
</tr>
<tr>
<td>6</td>
<td>Relative Strength Index S06</td>
</tr>
<tr>
<td>8</td>
<td>Stochastic Momentum Index S08</td>
</tr>
<tr>
<td>9</td>
<td>Volatility Breakout S09</td>
</tr>
</tbody>
</table>

**Step 1: For Bull Market**

**NULL HYPOTHESIS (Ho):** No strategy amongst S01, S06, S08 and S09 performs better than other strategies for risk adjusted return, expectancy, recovery factor and risk reward ratio for 279 stocks shortlisted from CNX500 index for bull period under study.

**ALTERNATIVE HYPOTHESIS (H1):** At least some strategies performs better than other strategies for risk adjusted return, expectancy, recovery factor and risk reward ratio for 279 stocks shortlisted from CNX500 index for bull period under study.

**Results:**
For Strategies: S01, S06, S08 and S09 Number of observations: 279

**Step 1: Univariate statistics**

**Table 1: Univariate statistics For Bull Period For V04 (Risk Adjusted Return)**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Mean</th>
<th>Median</th>
<th>Variance</th>
<th>Sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>S01</td>
<td>80.53</td>
<td>64.55</td>
<td>6965.38</td>
<td>83.46</td>
</tr>
<tr>
<td>S06</td>
<td>77.45</td>
<td>63.67</td>
<td>6516.75</td>
<td>80.73</td>
</tr>
<tr>
<td>S08</td>
<td>116.50</td>
<td>90.66</td>
<td>93717.86</td>
<td>306.13</td>
</tr>
<tr>
<td>S09</td>
<td>98.63</td>
<td>80.73</td>
<td>14114.55</td>
<td>118.80</td>
</tr>
</tbody>
</table>

Source: Researcher’s Compilation

**Table 2: Univariate statistics For Bull Period For V05 (Expectancy)**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Mean</th>
<th>Median</th>
<th>Variance</th>
<th>Sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>S01</td>
<td>1924.68</td>
<td>464.54</td>
<td>69319692</td>
<td>8325.85</td>
</tr>
<tr>
<td>S06</td>
<td>2197.67</td>
<td>543.93</td>
<td>75293595</td>
<td>8677.19</td>
</tr>
<tr>
<td>S08</td>
<td>1491.10</td>
<td>312.58</td>
<td>193915915</td>
<td>13925.37</td>
</tr>
<tr>
<td>S09</td>
<td>1435.12</td>
<td>306.55</td>
<td>120195722</td>
<td>10963.38</td>
</tr>
</tbody>
</table>

Source: Researcher’s Compilation
Table 3: Univariate statistics For Bull Period For V06 (Recovery Factor)

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Mean</th>
<th>Median</th>
<th>Variance</th>
<th>Sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>S01</td>
<td>3.09</td>
<td>2.85</td>
<td>6.84</td>
<td>2.62</td>
</tr>
<tr>
<td>S06</td>
<td>2.92</td>
<td>2.66</td>
<td>6.42</td>
<td>2.53</td>
</tr>
<tr>
<td>S08</td>
<td>3.46</td>
<td>2.96</td>
<td>10.43</td>
<td>3.23</td>
</tr>
<tr>
<td>S09</td>
<td>3.39</td>
<td>3.04</td>
<td>7.86</td>
<td>2.80</td>
</tr>
</tbody>
</table>

Source: Researcher’s Compilation

Table 4: Univariate statistics For Bull Period For V07 (Risk Reward Ratio)

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Mean</th>
<th>Median</th>
<th>Variance</th>
<th>Sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>S01</td>
<td>1.58</td>
<td>1.52</td>
<td>4.03</td>
<td>2.01</td>
</tr>
<tr>
<td>S06</td>
<td>1.57</td>
<td>1.49</td>
<td>3.93</td>
<td>1.98</td>
</tr>
<tr>
<td>S08</td>
<td>1.91</td>
<td>1.59</td>
<td>10.72</td>
<td>3.27</td>
</tr>
<tr>
<td>S09</td>
<td>1.64</td>
<td>1.53</td>
<td>3.04</td>
<td>1.74</td>
</tr>
</tbody>
</table>

Source: Researcher’s Compilation

Strategy S08 has highest mean and median for variables V04, V06 and V07. Strategy S06 has highest mean and median for variable V05

Step 2: Shapiro-Wilk Normality Test

Table 5: Shapiro-Wilk Normality Test Results For Bull Period For V04 to V07

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>V04</td>
<td>V05</td>
</tr>
<tr>
<td>S01</td>
<td>0.7988</td>
<td>0.1832</td>
</tr>
<tr>
<td>S06</td>
<td>0.7996</td>
<td>0.2158</td>
</tr>
<tr>
<td>S08</td>
<td>0.2117</td>
<td>0.0611</td>
</tr>
<tr>
<td>S09</td>
<td>0.6728</td>
<td>0.0816</td>
</tr>
</tbody>
</table>

Source: Researcher’s Compilation

Observations:
All strategies have p values less than 0.01. It means non normality of data for all strategies for all variables.

Step 3: Fligner-Killeen test of homogeneity of variances For V04 to V07

Table 6: Fligner-Killeen Test of Homogeneity of Variances Results for Bull Period for V04 To V0

<table>
<thead>
<tr>
<th>Variable</th>
<th>Fligner-Killeen: med X^2 test statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>V04</td>
<td>20.33936</td>
<td>1.44E-004</td>
</tr>
<tr>
<td>V05</td>
<td>72.09069</td>
<td>1.52E-015</td>
</tr>
<tr>
<td>V06</td>
<td>9.114227</td>
<td>0.0278101</td>
</tr>
<tr>
<td>V07</td>
<td>6.871772</td>
<td>0.0760991</td>
</tr>
</tbody>
</table>

Source: Researcher’s Compilation Observations
AN ANALYTICAL STUDY ON THE CYCLICAL MOVEMENTS OF STOCK INDEX UNDER BULL MARKET

Two variables V04 and V05 have p values less than 0.01 and one variable V06 has p value less than 0.05. This indicates these groups are not homogeneous (equal variance) for V04 and V05 @99% significance level and V06 @95% significance level.

Variable V07 has p value more than 0.05. This indicates that the groups are homogeneous (equal variance) for V07.

**Step 4: Kruskal-Wallis rank sum test For V04 to V07**

df: 3  

<table>
<thead>
<tr>
<th>Variable Group</th>
<th>Chi squared statistic</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>V04</td>
<td>12.73945</td>
<td>5.24E-003</td>
</tr>
<tr>
<td>V05</td>
<td>27.25921</td>
<td>5.19E-006</td>
</tr>
<tr>
<td>V06</td>
<td>4.376513</td>
<td>0.2235731</td>
</tr>
<tr>
<td>V07</td>
<td>1.176629</td>
<td>0.7586149</td>
</tr>
</tbody>
</table>

Source: Researcher’s Compilation Observations

Two variables V04 and V05 have p value less than 0.01. It means at least two strategies have different means for this variable.

Two variables V06 and V07 have p values more than 0.05. It means that no two strategies have different means for these variables.

**Step 5: Wilcoxon signed rank test**

**Table 8: Wilcoxon Signed Rank Test Results For Bull Period For V04 (Risk Adjusted Return)**

<table>
<thead>
<tr>
<th>Pairwise p values</th>
<th>S01V04</th>
<th>S06V04</th>
<th>S08V04</th>
</tr>
</thead>
<tbody>
<tr>
<td>S06V04</td>
<td>5.60E-004</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>S08V04</td>
<td>1.30E-007</td>
<td>1.6E-010</td>
<td>-</td>
</tr>
<tr>
<td>S09V04</td>
<td>5.20E-008</td>
<td>1E-010</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Researcher’s Compilation

**Table 9: Wilcoxon Signed Rank Test Results For Bull Period For V05 (Expectancy)**

<table>
<thead>
<tr>
<th>Pairwise p test</th>
<th>S01V05</th>
<th>S06V05</th>
<th>S08V05</th>
</tr>
</thead>
<tbody>
<tr>
<td>S06V05</td>
<td>3.30E-007</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>S08V05</td>
<td>9.2E-014</td>
<td>3.6E-016</td>
<td>-</td>
</tr>
<tr>
<td>S09V05</td>
<td>&lt; 2e-16</td>
<td>&lt; 2e-16</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Researcher’s Compilation
Table 10: Wilcoxon Signed Rank Test Results For Bull Period For V06 (Recovery Factor)

<table>
<thead>
<tr>
<th>Pairwise p values</th>
<th>S01V06</th>
<th>S06V06</th>
<th>S08V06</th>
</tr>
</thead>
<tbody>
<tr>
<td>S06V06</td>
<td>0.010</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>S08V06</td>
<td>0.36</td>
<td>0.013</td>
<td>-</td>
</tr>
<tr>
<td>S09V06</td>
<td>0.573</td>
<td>0.006</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Researcher’s Compilation

Table 11: Wilcoxon Signed Rank Test Results For Bull Period For V07 (Risk Reward Ratio)

<table>
<thead>
<tr>
<th>Pairwise p values</th>
<th>S01V07</th>
<th>S06V07</th>
<th>S08V07</th>
</tr>
</thead>
<tbody>
<tr>
<td>S06V07</td>
<td>0.013</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>S08V07</td>
<td>0.314</td>
<td>0.098</td>
<td>-</td>
</tr>
<tr>
<td>S09V07</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Researcher’s Compilation Observations

Only results of variable V04 and V05 are relevant. For variable V04 all pairs have p values less than 0.01 except pair of S08 and S09. S08 has the highest means for V04, however it is not significantly better than S09. No strategy is clearwinner.

For variable V05 all pairs have p values less than 0.01 except pair of S08 and S09. S06 has the highest means for V04, therefore it is significantly better than other strategies.

ANALYSIS AND INTERPRETATION

From test of normality:
For all variables V04 to V07, it is observed that all p values for normality tests are less than 0.01. This indicates that non-normality of data for all strategies for variable V04 to V07.

For test of homogeneity of variances:
For V04 and V05 groups are not homogeneous (equal variance). For V06 and V07 groups are homogeneous (equal variance).

Since data is not normal, standard parametric tests for testing equality of means must be discarded. Hence we use non-parametric tests for testing significant difference between trading strategies for variables V04 to V07.

For testing robust equality of means:
For V06 and V07 p values is are more than 0.05 for each group, therefore means of the shortlisted strategies are not statistically different for V06 and V07. For V04 and V05 p value is less than 0.05 for each group, therefore at least two strategies have different means for V04 and V05.

For testing paired equality of means:
Test for paired equality of means is relevant only for variables V04 and V05.

For variable V04 all pairs have p values less than 0.01 except pair of S08 and S09. S08 has the highest means for V04, however it is not significantly better than S09. No strategy is clearwinner.

For variable V05 all pairs have p values less than 0.01 except pair of S08 and S09. S06 has the highest means for V04, therefore it is significantly better
than other strategies.

S06 is significantly better for V05. However, no strategy is significantly different from other strategy for bull period for all variables.

S06 is significantly better than others for expectancy amongst shortlisted strategies. However not strategy is significantly different for risk adjusted return, recovery factor.

Therefore null hypothesis is accepted and alternate hypothesis is rejected.

No strategy performs significantly better for risk adjusted return, expectancy, recovery factor and risk reward ratio than any other strategy for 279 stocks shortlisted from CNX500 index for bull period.

**CONCLUSION**

Results show that trading strategies based on the technical indicators outperform the buy and hold strategy. Improvements happen on account of increase in returns and reduction of risk. Strategies that perform better than the buy and hold strategy are compared amongst themselves. However no strategy is clearly better than other strategies amongst these successful strategies. All strategies give their best results in the bull phase and the worst in the bear phase. In bear phase all strategies have negative CAGR. Success in the stock market depends not only on choosing correct stocks but also a correct time for entry and exit. The purpose of the study was to determine whether this timing can be improved by use of some objective methods of analysis. Technical analysis proves to be an effective tool in this regard.

**REFERENCES**


Effect of the Levels of Intelligence on Academic Achievement of Higher Secondary Students of English and Hindi Medium Schools

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Email: malhotrabikramjit@gmail.com

** Prof. Dr. Daljit Kaur
Patrician College for Women

Abstract
The study was undertaken to study the effect of the level of intelligence on academic achievement of higher secondary students of English and Hindi medium schools. The study was conducted on 600 higher secondary students of English and Hindi medium schools of district, Dehradun. The final percentage obtained by the students were taken as the academic achievement of the higher secondary students. Questionnaire on General Mental Ability Test by Roma Pal and Rama Tiwari (Hindi / English) for age group 13 to 17 years was taken for data collection of levels of intelligence.

Keywords: Levels of intelligence, Academic achievement, Higher secondary students, High level of intelligence (High I.Q.), Low level of intelligence (Low level of intelligence), English and Hindi medium students.

INTRODUCTION

It is acknowledged by all the researchers that one of the most important single variable which affects schooling is the quality of behaviors called intelligence. It can be more generally described as the ability to perceive information, and retain it as knowledge to be applied towards adaptive behaviours within an environment. Intelligence is most widely studied in humans, but has also been observed in animals and plants. Individuals differ from one another in their ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacle by taking thought. Although these individuals difference can be substantial, they are never entirely consistent a given person’s intellectual performance will vary on different occasion, different domains as judged by different criteria. There are individuals’ differences with regard to various features such as academic achievements, aptitude, intelligence etc. Different children have different I .Q level and according to that different problem solving ability that affects their academic achievement. Academic achievements is considered to be one of the most important values held in high esteem in all cultures, countries and time. Thus levels of intelligence have
an impact on the academic achievement of a person.

**INTELLIGENCE**

Intelligence comes from the Latin word ‘intellegere’ which means ‘to understand’. Intelligence has been defined in many different ways including one’s capacity for logic, abstract thought, understanding, self-awareness, communication, learning, emotional knowledge, memory, planning, creativity and problem solving.

**According to Freeman’s classification:**

1. **Intelligence is the ability to adjust:**
   - Stern: “Intelligence is the general adaptability to new problems of life”.
   - Burt: “It is the capacity of flexible adjustment”
   - Ross: “The continuous adaptation to new situation is intelligence”.

2. **Intelligence is the ability to learn:**
   - Buckingham: “Intelligence is the capacity to learn”.
   - Thorndike: “Intelligence is the ability to make a profitable use of the past experience”.
   - Woods worth: “It is the capacity to acquire knowledge”

3. **Intelligence is the ability of Abstract thinking:**
   - Spearman: “Intelligence is relational thinking”.
   - Terman: “An individual is intelligent in proportion as he is able to carry out abstract thinking.”

4. **Intelligence is the ability of solving problems:**
   - Burt: “Intelligence is the ability to judge well, to comprehend well and to reasons well”.
   - Wechsler: “Intelligence is the aggregate or global capacity of the individual to act purposefully to think rationally and deal effectively with his environment”.

**TYPES OF INTELLIGENCE:**

According to E.H. Thorndike intelligence is classified into three categories which are as follows:

1. **Concrete Intelligence**
   Concrete intelligence means intelligence in relation to concrete materials. It is the ability of an individual to comprehend actual situation and reacts to them adequately. The concrete intelligence is evident from various activities of daily life. This kind of intelligence is measured by performance test.

2. **Abstract intelligence**
   It is the ability to respond to words numbers and letters etc. all tests of intelligence which require manipulation of symbols are tests of abstracts intelligence. The example of abstracts intelligence is such as reading writing history & so on.

3. **Social intelligence:**
   Social intelligence means ability of an individual to react to social situations of daily life. Social intelligence would not include the feeling or emotions aroused in us by other people, but merely one’s ability to understand other and to react in such a way towards them that the ends desired should be attained.

Before Gardner’s research, many people believed that Intelligence was a single inherited entity. He described nine distinct intelligence that were quite independent of each other. Binet (1916) was one among them who conceptualized intelligence as a single, integrated but a complex mental process. Furthermore it was thought that human beings were born with a blank slate and could be trained to learn anything, provided it was presented in an appropriate way.

According to Howard Gardner intelligence is
classified into nine categories which are as follows:

1. **Naturalist Intelligence (“Nature Smart”)**
   Naturalist intelligence designates the human ability to discriminate among living things (plants, animals) as well as sensitivity to other features of the natural world (clouds, rock configurations, etc.). This ability was clearly of value in our evolutionary past as hunters, gatherers, and farmers; it continues to be central in such roles as botanist or chef. It is also speculated that much of our consumer society exploits the naturalist intelligences, which can be mobilized in the discrimination among cars, sneakers, kinds of makeup, and the like.

2. **Musical Intelligence (“Musical Smart”)**
   Musical intelligence is the capacity to discern pitch, rhythm, timbre, and tone. This intelligence enables us to recognize, create, reproduce, and reflect on music, as demonstrated by composers, conductors, musicians, vocalists, and sensitive listeners. Interestingly, there is often an affective connection between music and the emotions; and mathematical and musical intelligences may share common thinking processes. Young adults with this kind of intelligence are usually singing or drumming to themselves. They are usually quite aware of sounds others may miss.

3. **Logical-Mathematical Intelligence (“Number/Reasoning Smart”)**
   Logical-mathematical intelligence is the ability to calculate, quantify, consider propositions and hypotheses, and carry out complete mathematical operations. It enables us to perceive relationships and connections and to use abstract, symbolic thought; sequential reasoning skills; and inductive and deductive thinking patterns. Logical intelligence is usually well developed in mathematicians, scientists and detectives. Young adults with lots of logical intelligence are interested in patterns, categories, and relationships. They are drawn to arithmetic problems, strategy games and experiments.

4. **Existential Intelligence**
   Sensitivity and capacity to tackle deep questions about human existence, such as the meaning of life, why do we die, and how did we get here.

5. **Interpersonal Intelligence (“People Smart”)**
   Interpersonal intelligence is the ability to understand and interact effectively with others. It involves effective verbal and nonverbal communication, the ability to note distinctions among others, sensitivity to the moods and temperaments of others, and the ability to entertain multiple perspectives. Teachers, social workers, actors, and politicians all exhibit interpersonal intelligence are examples of it. Young adults with this kind of intelligence are leaders among their peers, are good at communicating, and seem to understand others’ feelings and motives.

6. **Bodily-Kinesthetic Intelligence (“Body Smart”)**
   Bodily kinesthetic intelligence is the capacity to manipulate objects and use a variety of physical skills. This intelligence also involves a sense of timing and the perfection of skills through mind–body union. Athletes, dancers, surgeons, and craftspeople exhibit well-developed bodily kinesthetic intelligence.

7. **Linguistic Intelligence (“Word Smart”)**
   Linguistic intelligence is the ability to think in words and to use language to express and appreciate complex meanings. Linguistic intelligence allows us to understand the order and meaning of words and to apply meta-linguistic skills to reflect on our use of language. Linguistic intelligence is the most widely shared human competence and is evident in poets, novelists, journalists, and effective public
EFFECT OF THE LEVELS OF INTELLIGENCE ON ACADEMIC ACHIEVEMENT OF HIGHER SECONDARY STUDENTS OF ENGLISH AND HINDI MEDIUM SCHOOLS

speakers. Young adults with this kind of intelligence enjoy writing, reading, telling stories or doing crossword puzzles.

8. **Intra-personal Intelligence (“Self Smart”)**
Intra-personal intelligence is the capacity to understand oneself and one’s thoughts and feelings, and to use such knowledge in planning and directing one’s life. Intra-personal intelligence involves not only an appreciation of the self, but also of the human condition. It is evident in psychologists, spiritual leaders, and philosophers. These young adults may be shy. They are very aware of their own feelings and are self-motivated.

9. **Spatial Intelligence (“Picture Smart”)**
Spatial intelligence is the ability to think in three dimensions. Core capacities include mental imagery, spatial reasoning, image manipulation, graphic and artistic skills, and an active imagination. Sailors, pilots, sculptors, painters, and architects all exhibit spatial intelligence. Young adults with this kind of intelligence may be fascinated with mazes or jigsaw puzzles, or spend free time drawing or daydreaming.

**CONCEPT OF I.Q. OR INTELLIGENCE QUOTIENT**

This term was initiated by the German psychologist, William Stern and put into wide practice by Terman. I.Q. is defined as the relationships or ratio between one’s mental age and chronological age. The ratio was given the name of intelligence Quotient. To do away with the decimal point way again multiple by 100 and thus the formula to calculate I.Q. is as follows:

$$I.Q. = \frac{\text{Mental Age (M.A.)}}{\text{Chronological age (C.A.)}} \times 100$$

In order to understand the concept of I.Q. following terms need classification.

**Chronological Age:**
This is the real age of a person which is counted from time and date of birth. It may be counted from time and date of birth. It may be counted in years, months and hours.

**Mental Age:**
Mental age expression of a child’s performance on an intelligent various items of the test we added and the total is converted into mental age.

For e.g. : \[ I.Q. = \frac{12}{10} \times 100 = 120 \]

Where chronological age = 10
Mental age = 12

On the basis of the I.Q. the individual can be classified as shown in the table:

<table>
<thead>
<tr>
<th>Intelligence level</th>
<th>I.Q. Range</th>
<th>Intelligence level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher I.Q.</td>
<td>140 and Above</td>
<td>Genius</td>
</tr>
<tr>
<td></td>
<td>130-139</td>
<td>Gifted</td>
</tr>
<tr>
<td></td>
<td>120-129</td>
<td>Superior</td>
</tr>
<tr>
<td></td>
<td>110-119</td>
<td>Bright</td>
</tr>
<tr>
<td></td>
<td>90-109</td>
<td>Average</td>
</tr>
<tr>
<td>Lower I.Q.</td>
<td>80-89</td>
<td>Dull</td>
</tr>
<tr>
<td></td>
<td>70-79</td>
<td>Border line defective</td>
</tr>
<tr>
<td></td>
<td>Below 70</td>
<td>Feeble minded</td>
</tr>
</tbody>
</table>

In the present study the students are distributed on the levels of Intelligence which are higher and lower levels of intelligence. This categorization is done on the basis of General Mental Ability Test by Roma Pal and Rama Tiwari where the maximum score is 70. The I.Q. calculated from these scores categorized them in two levels i.e. (I.Q. below 89 as Lower I.Q. and I.Q. above 90 as higher I.Q. levels).
**Higher level of Intelligence:** I.Q. more than 90% is taken as higher levels of intelligence (I.Q. > 90 %)

**Lower level of Intelligence:** I.Q. less than 89% is taken as lower levels of intelligence (I.Q. < 89 %)

**ACADEMIC ACHIEVEMENT**

Educational or academic achievement is specific level of attainment or proficiency in academic work as evaluated by teachers, by standardized test or by a combination of both. It predicts an individual ability to acquire new knowledge in a given academic area.

It is a specified level of success on learning task or a certain level of proficiency in academic work. It bears the meaning “The attained ability to perform school task” which can be general or specific to a given subject matter. It has been observed that intelligence contribute substantially to the variants in the academic achievement scores.

**Higher Secondary students:** Higher Secondary students are the students who are studying in class IX.

**English medium schools:** Schools in which medium of instruction is English.

**Hindi medium schools:** Schools in which medium of instruction is Hindi.

**EMERGENCE OF THE PROBLEM**

The review of literature revealed that most of the studies were found conducted in other countries (Adetayo and Kiadese (2011), Ghazi et al. (2011), Habibollah Naderi (2010), Asthana (2011), and Umadevi (2009). The researcher has chosen the present study because being a lecturer I found out that no study was conducted on levels of intelligence on academic achievement of higher secondary students of English and Hindi medium schools of district Dehradun. Further the students face so many problems in class and how they apply their intellectual skills to solve them, this area attracted me to do the research in. However, academic achievement can be said to be the outcome of intelligence. Also stated that achievement is the end product of a learning experience.

**OBJECTIVES**

1. To find out the effect of the high level of intelligence on the academic achievement of higher secondary students of English and Hindi medium schools.
2. To find out the effect of the low level of intelligence on the academic achievement of higher secondary students of English and Hindi medium schools.

**HYPOTHESES**

1. There will be no significant difference in the effect of the high level of intelligence (High I.Q.) on academic achievement of higher secondary students of English medium schools.
2. There will be no significant difference in the effect of the low level of intelligence (Low I.Q.) on academic achievement of higher secondary students of English and Hindi medium schools.

**METHOD:**

The present study is of the descriptive survey method is used.

**SAMPLE:**

For the present study, the sample size taken is 600
EFFECT OF THE LEVELS OF INTELLIGENCE ON ACADEMIC ACHIEVEMENT OF HIGHER SECONDARY STUDENTS OF ENGLISH AND HINDI MEDIUM SCHOOLS

higher secondary students studying in English and Hindi medium school of District, Dehradun. The sample comprises of students from English and Hindi medium schools of Dehradun. The sample will contain 300 English medium students and 300 Hindi medium students. The total numbers of students are 600 in the field of investigation.

TOOLS:
1. General Mental Ability Test by Roma Pal and Rama Tiwari (Hindi / English) For age group 13 to 17 years.
2. Academic Achievement on the basis of marks obtained in the examination.

RESULTS
For the calculation of results t-test was used to study the effect of levels of intelligence on academic achievement (A.A.) of English and Hindi medium higher secondary school students.

Table No.1
Effect of the high level of intelligence (High I.Q.) on academic achievement (A.A.) of English and Hindi medium higher secondary school students:

<table>
<thead>
<tr>
<th>Variables</th>
<th>High level of Intelligence (High I.Q.)</th>
<th>df</th>
<th>t-value</th>
<th>p</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Achievement (A.A.) of English medium higher secondary students</td>
<td>N</td>
<td>Mean</td>
<td>Std. Dev.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>46.00</td>
<td>62.03</td>
<td>9.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Achievement (A.A.) of Hindi medium higher secondary students</td>
<td>7.00</td>
<td>61.11</td>
<td>13.06</td>
<td>51.00</td>
<td>0.22</td>
</tr>
</tbody>
</table>

*Non Significant at 0.05 level of significance
Figure No. 1.1

Mean of effect of High level of intelligence (High I.Q.) on Academic Achievement (A.A.)

50%

- English medium higher secondary students
- Hindi medium higher secondary students

Figure No. 1.2

S.D. of High level of Intelligence (High I.Q.) on Academic Achievement (A.A.) based on medium of the schools

- English medium higher secondary students
- Hindi medium higher secondary students
According to Table No.1., the mean scores of high level of intelligence (High I.Q.) on academic achievement of English and Hindi medium higher secondary school students is 62.03 and 61.11. Standard deviation of high level of intelligence (High I.Q.) on academic achievement are 9.75 and 13.06 respectively. The t-ratio between the two groups comes out to be 0.22 and p value 0.83 which is non-significant at 0.05 level. The Mean and S.D. for both the mediums are plotted in the form of bar graphs and pie charts in Figure No.1.1. and 1.2.

In the comparison of the mean scores of the high level of intelligence (High I.Q.) on academic achievement of English and Hindi medium higher secondary school students shows that there is no significant effect of high level of intelligence on academic achievement of English and Hindi medium students. The findings are well supported by Naderi Et Al. (2010) and S.N. Dandagal, Dr. M.C. Yarriswami (2017).

Therefore, the hypothesis No.1. which predicted that, "There will be no significant effect of the high level of intelligence (High I.Q.) on academic achievement of higher secondary students of English and Hindi medium schools", is accepted.
### Table No.2
Effect of the low level of intelligence (Low I.Q.) on academic achievement of English and Hindi medium schools higher secondary students

<table>
<thead>
<tr>
<th>Variables</th>
<th>Low level of Intelligence (Low I.Q.)</th>
<th>df</th>
<th>t-value</th>
<th>p</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Std. Dev.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Achievement (A.A.) of English medium higher secondary students</td>
<td>254</td>
<td>60.1104</td>
<td>9.9557</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Achievement (A.A.) of Hindi medium higher secondary students</td>
<td>293</td>
<td>52.9439</td>
<td>9.2677</td>
<td>545</td>
<td>8.71363</td>
</tr>
</tbody>
</table>

*Significant at 0.05 level of significance*

### Figure No.2.1
Mean of effect of Low level of intelligence (Low I.Q.) on Academic Achievement (A.A.) based on medium of the schools
EFFECT OF THE LEVELS OF INTELLIGENCE ON ACADEMIC ACHIEVEMENT OF HIGHER SECONDARY STUDENTS OF ENGLISH AND HINDI MEDIUM SCHOOLS

Figure No.2.2

Mean of effect of low level of intelligence (low I.Q.) on Academic Achievement (A.A.)

- 47%
- 53%

- English medium higher secondary students
- Hindi medium higher secondary students

Figure No.2.3

S.D. of effect of Low level of intelligence (Low I.Q.) on Academic Achievement (A.A.) based on medium of the schools

- English medium higher secondary students
- Hindi medium higher secondary students
According to Table No.2, the mean scores of low level of intelligence (Low I.Q.) on academic achievement of English and Hindi medium higher secondary school students is 60.1104 and 52.9439. Standard deviation of low level of intelligence (Low I.Q.) on academic achievement are 9.9557 and 9.2677 respectively. The t-ratio between the two groups comes out to be 8.71363 and p value 0.000000 which is significant at 0.05 level. The Mean and S.D. for both the mediums are plotted in the form of bar graphs and pie charts in Figure No. 2.1 and 2.2.

In the comparison of the mean scores of low level of intelligence (Low I.Q.) on academic achievement of English and Hindi medium higher secondary school students shows that there is significant effect of low level of intelligence on academic achievement of English and Hindi medium students. This confirms that academic achievement of English medium higher secondary students with low level of intelligence (Low I.Q.) differ significantly from Hindi medium higher secondary students with low level of intelligence (Low I.Q.). English medium higher secondary students with low level of intelligence (Low I.Q.) are good in academic achievement than Hindi medium higher secondary students with low level of intelligence (Low I.Q.). The findings are well supported by Deshpande (1984), Das (1986), Asthana (2011), Arini Et Al. (2009), Press and Franova (2006), Dhall and Praveen (2005) and Rajput, A.S. (1984).

Therefore, the hypothesis (No.2.) which predicted that, “There will be no significant effect of the low level of intelligence (Low I.Q.) on academic achievement of higher secondary students of English and Hindi medium schools,” is rejected. Therefore it is concluded from Table No. 1, that there is a no significant effect of the high level of intelligence on academic achievement of higher secondary students of English and Hindi medium schools. From Table No.2, it is evident that there is significant effect of low level of intelligence on
EFFECT OF THE LEVELS OF INTELLIGENCE ON ACADEMIC ACHIEVEMENT OF HIGHER SECONDARY STUDENTS OF ENGLISH AND HINDI MEDIUM SCHOOLS

academic achievement of English and Hindi medium higher secondary students. English medium higher secondary students have higher academic achievement than Hindi medium higher secondary students. It is evident from the results that the effect of levels of intelligence on academic achievement is more on English medium higher secondary students than Hindi medium higher secondary students. English medium students are good at academic achievement than Hindi medium higher secondary students.

REFERENCES


25. S.N. Dandagal, Dr. M.C. Yarriswami, (2017).”A Study of Intelligence in Relation to Academic


Assessment of Students’ Learning in Different Subjects at Different Level of Grades in Maharashtra (India)¹

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Abstract
The National Achievement Survey (NAS) is a large scale survey being conducted periodically in India, to provide reliable information about the achievement of students in the different grades of education in government and government-aided schools. Recently NAS was conducted in 2017 in 701 districts of all states in India in grades III, V and VIII. This paper is focused only on achievement of students in the state of Maharashtra. How the students are performed in different grades in different subjects. The comparisons between gender, school location, and school management are also discussed in the paper.

Keywords: National Achievement Survey, NAS, Assessment, Schools, Grades, Intervention.

1. INTRODUCTION

The National Achievement Survey (NAS) is a large scale survey being conducted periodically in India since the year 2001, to examine the health of the country’s education system in general. The aim of National Achievement Survey is to provide reliable information about the achievement of students in the different grades of education in government and government-aided schools. It is based on the information gathered through tests and questionnaires administered to a sample of students in sampled schools across the districts of all 36 States and Union Territories (UTs) in the country. The subjects covered were Mathematics, Language (including Reading Comprehension), Science and Social Science. This is achieved by applying standardised tests to students and collecting information about relevant background factors including school environment, instructional practices, qualification and experience of teachers and home background of students.

The data from National Achievement Survey gives the policymakers, curriculum specialists, researchers and, most importantly, school principals and teachers a ‘snapshot’ of what students are achieving in key subjects at a particular point in time. By repeating such measurements at regular intervals, trends can be explored providing an invaluable perspective.

¹ Analysis presented here is compiled by the author. Author will responsible for any discrepancy
from which to consider educational reform and improvement. It does not give scores to individual students or schools.

National Achievement Survey 2017 was achieved by administering standardized tests to students of Grades III, V and VIII. NAS 2017 has contributed several new elements and gave remarkable momentum to the development of competency-based assessment. One of the main virtues of NAS 2017 is that it is embedded in an extremely rich system of background variables. The results help to accurately discover the students’ performance in different learning outcomes vis-à-vis the contextual variables. The synthesis of the results of the national level provides a rich repository of evidence for developing and designing the future course of action for the Indian education system.

2. PROCESS OF ADMINISTRATION OF NAS

Since 2000, the National Achievement Survey has been conducted in the country in the different cycles for each grade 3, 5 and 8 in a period of 2-3 years. Till 2017, 4 cycles of each grade have been conducted. In these cycles, the reporting unit was State and districts were sampled from each state. So NAS reported the learning level status of state only. The time-line of the conduct of NAS is given below:

![Figure 1: The time-line of the conduct of NAS](image)

To reflect the situation of each district in the country, in National Achievement Survey 2017, little change has been considered. Now using Probability Proportional to Size (PPS), schools have been sampled from each district. The PPS methodology is accepted internationally and is used by Organization for Economic
Co-operation and Development (OECD) for drawing samples for Programme of International Student Assessment (PISA). The NAS survey comprises of sample of approx. 2.2 million students from 1,10,000 government and government-aided schools across 36 States/Union Territories. The subjects covered in this survey were Language, Mathematics, and Environmental Studies (EVS) for Grades III and V; and Language, Mathematics, Science and Social Science for Grade VIII (NCERT, 2017).

During the conduction of NAS, two types of booklets were used to get response from the students. One is test booklet and another is Questionnaire booklets. Both booklets had multiple-choice questions. The learning level of students was assessed through test booklets are in two sets for each grade 3, 5 and 8. In grades 3 and 5, three subjects were tested namely, Language (state language), Mathematics and Environment Sciences (EVS). 15 test items of each subject in a booklet so total 45 test-items in a test booklet. However, in both test booklet 5 test-items of each subject were anchor items so total anchor items were 15. Hence, the unique test-items of a subject in a grade (3 or 5) in both test-booklets were 25. So in total, the unique test-items in both test-booklets were 75 and total test-items were 90.

Similarly in grade 8, four subjects were tested namely, Language (state language), Mathematics, Science and Social Sciences. 15 test items of each subject in a booklet so total 60 test-items in a test booklet. However, in both test booklets, 5 test-items of each subject were anchor items so total anchor items in a test-booklet was 20. Hence, the unique test-items of a subject in a grade (3 or 5) in both test-booklets were 25. So in total, the unique test-items in both test-booklets were 100 and total test-items were 120.

Other booklets were three questionnaires i.e. Student Questionnaire (PQ), Teacher Questionnaire (TQ) and School Questionnaire (SQ) were also developed for NAS 2017 to analyze the associations between the achievement and the background variables.

3. MAJOR FINDINGS

3.1 Average Achievements of different Subjects:
National Achievement Survey 2017 for grades 3, 5 and 8 was conducted on November 13, 2017 in 702 districts in all states/Union Territories in the country including Maharashtra state.

In Maharashtra, NAS 2017 was conducted in all 36 states. In grade 3, 44,048 students from 2125 schools; in grade 5, 51,454 students from 2193 schools and in grade 8, 49,603 students from 1830 schools participated in the survey. 3443, 5,666 and 6,893 teachers have contributed their services for NAS at grades 3, 5 and 8 respectively. In total, 145,105 students from 6148 schools and 16002 teachers were engaged in the conduct of NAS 2017.

It reveals from the Maharashtra state report that an average achievement (percent correct) of grade 3 students in subject Environment Science (EVS) was 69% with 23.5 standard deviations (sd). In Language, average achievement was 70% with 22.9 sd and in Mathematics average achievement was 65% with 23.1 sd. In Maharashtra, the language tested was Marathi. Whereas at National level, the achievement score (percent correct) was 65% (24.3), 68% (23.8) and 64% (23.5) in subject EVS, language and mathematics respectively.

At grade 5, average achievement (percent correct) in Environment Science was 56% (22.8); in Language, it was 61% (23.9) and in Mathematics average achievement is 52% (23.8).
Graph 1: Average Achievement by subjects and grades

Graph 2: Distribution of Students Achievement in intervals and by Subjects

E.g. In Class 3 language, percentage of students achieving upto 30% is 6.9, between 30%-50% is 14.2, between 50%-75% is 31.2 and above 75% is 47.8.
At National, achievement (percent correct) were reported as 57% (23.6) in EVS, 58% (23.4) in language and 53% (23.8) in mathematics.

At grade 8, average achievement (percent correct) in language was reported 63% (22.4); in mathematics 40% (21.4), in science 40% (21.2) and in social science 42% (20.6). At National, achievement were reported as 57% (23.3), 42% (22.6), 44% (22.4), 44% (22.4) in subjects language, mathematics, science and social science respectively.

On comparing State achievement with National achievement, it is concluded that at grade 3 and grade 5 state performances were higher than national performance. However in grade 8 expect language achievement level of other subjects (namely mathematics, science, and social science) was significantly lower than national achievement.

From the above graph 2, it is observed that in grade 3 mathematics, 9.5% of students had achieved below 30%, 18% students had achieved between 30 to 50%, 36% students had achieved between 50 to 75% and 36.5% students had achieved above 75%.

In grade 5, the share of students had changed. Here, 20.7% of student’s achievement was in the range of below 30%, 21.9% student’s achievement was in range 30 to 50%, 32% student’s in range 50 to 75% and 19.4% student’s achievement was above 75%.

In grade 8, 37.6% of student’s achievement was below 30%, 33% of student’s achievement was in range 30 to 50%, 22% student achievement was between 50 to 75% and 7% student was above 75%.

From the above discussion, it is concluded that the achievement level of students is declining in each grade instead of increase with their promotion from lower grade to higher grade. In grade 3, 72.5% students had their achievement score in a range of 50 to 100% while, 51.4% students of grade 5 and 29% students of grade 8 had achievement scores in the range 50 to 100%. It is a very serious issue. It needs to find the reasons behind this declination. Similar situations in other subjects also, including environmental science in grades 3 and 5 and which is split into two subjects (namely science and social science) from grade 6 onwards. It is very clearly shown in graph 3.

![Graph 3: Average Achievement with the declining Indicator line](image-url)
3.2 Students’ Learning Level by Gender in different subjects by grade

In Maharashtra, 145,105 students randomly selected from 6,148 sampled schools who were participated in NAS 2017 in grades 3, 5 and 8. Out of total students, 48% were girls students and 52% were boys students.

Graph 4: Students’ participation by gender

Graph 5: Performance of students’ in grade 3 by gender

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3 Students from sampled schools were selected by using randomized sampling procedure (RSP) designed by NCERT and continuous using in different earlier cycle of National Achievement Surveys. Basic condition was that atleast 5 students should be enrolment in a sampled section of the grade and maximum size of sample was 30. If less than 30 students were enrolment then sampled all students without applying the RSP. In any case, procedure will considered absent (on the day of administration of test) student also.

4 Schools were sampled (drawn) by using probability proportional to size procedure
In grade 3, the average achievement (percent correct) of girls was 69% which was slightly higher side of boys 68% in Environment Science. In Language, girls’ average achievement (71%) was higher than boys (70%). In Mathematics, both boys and girls had equal achievement levels (65%). On comparing the state achievement level with National achievement, performance of state was significantly better than National performance.

![Graph 6: Performance of students' in grade 5 by gender](image)

In grade 5, the average achievement of girls in Environment Science was 56% which was slightly higher side of boys by 55%. In Language, girls’ average achievement (62%) was higher than boys (59%). In Mathematics also girls’ achievement (53%) was higher than boys’ achievement level (52%). In grade 5, overall girls’ performance was significantly better than boys’ performance. Comparing with National level performance, students’ achievement at National level was significantly higher than State in subject Environment Science and Mathematics however in Language, state achievement was in upper side against National achievement level.

![Graph 7: Performance of students' in grade 8 by gender](image)
In grade 8, the average achievement of girls in Language was 64% and boys’ achievement was 61%. In Mathematics girls’ average achievement was 41% and boys’ average achievement level was (40%). In Science, girls’ achievement level was 40% and boys’ achievement level was 41% and in Social Science, both boys and girls had equal perform with average achievement score 42%. Comparing with National level performance, students’ average achievement at National level was significantly higher than State in all subjects except Language.

3.3 Students’ achievement Level by School Location in different subjects at different grades:

(i) At Grade 3:

![Graph 8: Students’ participation in grade 3 by school location](image)

NAS 2017 at Grade 3 was administered in 2125 schools in Maharashtra state. Of the total, 66% (1402) schools were located in rural parts of the state while 34% (723) schools were from urban areas. The selection of the schools was performed by using probability proportional to size (PPS) procedure.

![Graph 9: Performance of students’ in grade 3 by school location](image)
In grade 3, the average achievement of rural area students in Environment Science was 69% and urban area students’ achievement was 67%. In Language, the average achievement of rural area students was 71% and urban area students were 68%. In Mathematics, rural students’ achievement was 66% and urban students’ achievement was 63%. Comparison between State achievement and National achievement score, state’s rural school students perform significantly better than National’s rural school students. Similarly in case of urban schools, state schools were performing better than National level urban schools.

(i) At Grade 5:

At Grade 5, the NAS 2017 was administered in 2193 schools in Maharashtra state. Of total, 65% (1425) schools were located in the rural part of the state while 35% (768) schools were from urban areas. The selection of the schools was performed by using probability proportional to size (PPS) procedure.

In grade 5, the average achievement of rural area students in Environment Science was 57% and urban area students’ achievement was 53%. In Language, the average achievement of rural area students was 62% and urban area students were 59%. In Mathematics, rural students’ achievement was 55% and urban
students’ achievement was 50%. Comparison between State achievement and National achievement score, state and national rural school students have performed equals in subjects except Language where state rural schools were performing better than national urban schools, their average achievement score was 62% and 58%, respectively.

(ii) At Grade 8:

Graph 12: Students’ participation in grade 8 by school location

At Grade 8, the NAS 2017 was administered in 1830 schools in Maharashtra state. Of the total, 64% (1171) schools were located in rural parts of the state while 36% (659) schools were from urban areas. The selection of the schools was performed by using probability proportional to size (PPS) procedure.

Graph 13: Performance of students’ in grade 8 by school location

In grade 8, the average achievement of rural area students in Language was 62% and urban area students’ achievement was 63%. In Mathematics, the average achievement of rural area students was 41% and urban area students’ was 38%. In Science, rural students’ achievement was 41% and urban students’
achievement was 39%. And in Social Science, rural students’ achievement was 43% and urban students’ achievement was 41%. On comparison between State achievement and National achievement score, state’s rural school students’ performance was significantly lower than National’s rural school students except in Language where state rural schools were performing better than National rural schools. The same also reflected in urban schools of both locations.

3.4 Students’ achievement Level by School Management in different subjects at different grades:

(i) At Grade 3:

Graph 14: Students’ participation in grade 3 by the school management

NAS 2017 at Grade 3 was administered in 2125 schools in Maharashtra state. Of the total, 61% (1296) schools were Government schools and 39% (829) schools were Government Aided schools. The selection of the schools was performed by using probability proportional to size (PPS) procedure.

Graph 15: Performance of students’ in grade 3 by the school management

In grade 3, the average achievement of students in Government and Government Aided schools were reported very equal in all tested subjects. However, performance of Government schools at National level was reported lower compare to Government Aided schools in all subjects. On the other side, State
Government schools and Government Aided schools were performing better than National level Government schools and Government Aided schools, respectively.

(ii) At Grade 5:

At Grade 5, the NAS 2017 was administered in 2193 schools in Maharashtra state. Of the total, 36% (789) schools were Government schools and 64% (1404) schools were Government Aided schools. The selection of the schools was performed by using probability proportional to size (PPS) procedure.

In grade 5, the average achievement of state Government schools in subject Environment Science was 57% and state Government Aided schools were 54%. In Language, Government schools’ average achievement was 62% and Government Aided schools’ was 60%. In Mathematics, Government schools’ average achievement was 55% and Government Aided schools’ was 51%. Overall, state Government schools were performing better than Aided schools. Between State achievement and National achievement score, state Government schools performing better but aided schools at state and national level were performing equally.
(iii) At Grade 8:

Graph 18: Students’ participation in grade 8 by the school management

At Grade 8, the NAS 2017 was administered in 1830 schools in Maharashtra state. Of the total, 16% (293) were Government schools and 84% (1537) was Government Aided schools. The selection of the schools was performed by using probability proportional to size (PPS) procedure.

Graph 19: Performance of students’ in grade 8 by the school management

In grade 8, the average achievement of state Government schools was 60% and Aided schools students’ were 63% in subject Language. In Mathematics, the average achievement of Government students was 41% and Aided school students’ was 40%. In Science, both management schools’ achievement was 40% and in Social Science, Government school achievement was 44% and Aided schools’ achievement was 42%. In Language, aided schools’ students were performing better than government schools’ students however in subject mathematics, science and social science government schools’ students performing better than aided schools or performing equally between State and National achievement, in Language subject state performing better while and other subject National level schools were significantly higher than State schools.
3.5 Students’ achievement Level by Social Groups in different subjects at different grades:

(i) At Grade 3

Graph 20: Students' participation in grade 3 by social group

NAS 2017 at Grade 3 was administered in 2125 schools and 44,048 students participated in this survey. Students from all social groups namely SC, ST, OBC, and General participated. Out of total participated students, 14% of students belonged to SC group, 14% of students were from ST group, 36% students were from OBC group and rest 35% students were General category students.

Graph 21: Performance of students’ in grade 3 by social groups

It is observed that students belonging to ST group had lowest achievement level compared to other social group students followed by SC students had comparatively higher achievement level than ST students.
ASSESSMENT OF STUDENTS’ LEARNING IN DIFFERENT SUBJECTS AT DIFFERENT LEVEL OF GRADES IN MAHARASHTRA (INDIA)

General category students had highest achievement score (average) among all social groups. On comparing the achievement score of different social groups in different subjects at state level with the National level achievement score of students of different social groups, the performance of state was significantly higher than National level performance, in each subject.

(ii) At Grade 5

![Graph 22: Students' participation in grade 5 by social group](image)

NAS 2017 at Grade 5 was administered in 2193 schools and 51,454 students participated in this survey. Students from different social groups namely SC, ST, OBC, and General participated. Out of total participated students, 13% students belong to SC group, 14% students from ST group, 35% students from OBC group and rest 37% students were General category students.

![Graph 23: Performance of students' in grade 5 by social groups](image)

It is observed that at grade 5 student belongs to SC group had lowest achievement level compare to other social group students followed by ST students had comparatively higher achievement level than SC.
students. General category students had highest achievement score (average) but it is also noticed that the achievement score of ST group and general students were equal in subject Environment Science and Mathematics. On comparing the achievement score of different social groups in different subjects at state level with the National level achievement score of students of different social groups, the performance of state was significantly lower than National level performance, in each subject.

(iii) At Grade 8:

Graph 24: Students’ participation in grade 8 by social management

NAS 2017 at Grade 8 was administered in 1830 schools and 49,603 students participated in this survey. Students from different social groups namely SC, ST, OBC, and General participated. Out of total participated students, 14% students belong to SC group, 13% students from ST group, 37% students from OBC group and rest 36% students were General category students.

Graph 25: Performance of students’ in grade 8 by social groups

It is observed that in grade 8 students belong to the SC group had lowest achievement level compare to other social group students in subjects Mathematics, Science and Social Science except Language. In
Language, ST group students had score lowest in the state. General category students had higher achievement score (average) among the other groups in subject Language and Social Science but it is also noticed that the achievement score of OBC group and general students were equal in subject Science and Mathematics. Between State and National average achievement scores, National level had scored higher than state in subject Mathematics, Science and Social Science except Language. In Language, National score was lower than state scored each group.

4. COMMENTS AND SUGGESTIONS

After releasing the district report cards and state report, outcomes of the NAS were shared and discussed with the state and district officials in a workshop. The objective of the workshop was to sensitize the participants on how assessment helps to transform education systems, how to use NAS data for policy, planning and improving pedagogical interventions. Through the workshop, three phases Post NAS Quality Intervention programme has been planned.

(i) Immediate/short term intervention
- Sharing of findings with teachers, school leaders, parents, SMCs members, other stakeholders;
- Identifying learning gaps and understanding by the teachers;
- Facilitation by the teachers (use of alternative instructional strategies to outcomes learning gaps with the support of BRC/CRC and peer support (eg. Teacher-teacher, student-student, etc.)
- Seeking support from parents and another important member of the family and community.

(ii) Mid Term Intervention Programme (2 years programme)
- The orientation of teachers on evolving learning strategies to achieve earning outcomes such as content enrichment training programme, pedagogy training programme, development of supplementary learning resources materials for students and teachers, orientation of school teachers;
- Development of e-content on learning outcomes identified as difficult;
- Development of interactive models on learning outcomes identified as difficult;
- Organization of awareness programme for the community.

(iii) Long term Intervention Programme (up to 5 years)
- Organizing the workshops for the development of materials and videos;
- Revisiting the curriculum/syllabi and textbooks;
- Formation of a team of teachers (KRPs) as master trainer in different subjects;
- Developing the web portal to address the queries of teachers and teachers facing difficulties;
- Review the curriculum of the pre-service teacher education program;
- Create a discussion forum of teachers for improving the quality of education through mass media;

5. REFERENCE

“Comparative Study of Level of Aspiration of High Academic Achievers and Low Academic Achievers of Senior Secondary Students of District Dehra Dun”

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Abstract
The purpose of the present study is to see the similarities and differences in the Aspiration Level of high and low academic achievers of government schools and non-government schools. To determine the significant difference between high and low achievers of government schools and non-government schools a sample of 600 senior secondary school students (300 of government and 300 non-Government) were selected by stratified random technique from different schools located in Debra Dun. To measure the various levels of aspiration of senior secondary students from district Dehradun the researcher has administered ‘level of Aspiration Test’ (based on Underwood’s method), designed by Dr. H.M Singh, Psychology Dept., R.B.S College Agra and Dr. Govind Tewari Psychology Dept. Agra College, to both the group. Data was analyzed by using means, standard deviations and t test. Result revealed that there is no significant difference between the Aspiration Level of high academic achievers and low academic achievers of Govt and non-Govt schools.

Keywords: High academic achievers and Low academic achievers, Aspiration Level.

INTRODUCTION

LEVEL OF ASPIRATION
The concept of level of aspiration was introduced into experimental psychology by Hoppe (1930). His study consists of a preliminary “qualitative” investigation of the concept, which he defines as “a person’s expectations, goals or claims on his own future achievement” in a given task. To this statement he added that “the experience of a performance as a success or failure does not depend alone on its objective goodness, but whether the level of aspiration appears to be reached or not reached”.

The term level of aspiration is best explained as a frame of reference involving self-esteem, or alternatively as a standard with reference to which an individual experiences, i.e. has the feeling of “failure or success”. Level of aspiration is a crucial aspect of individual’s motivation since it determines his effort towards attaining goals as well as the degree of his judgment. The term level of aspiration in a psychological context means, the standard that
an individual expects to reach in a field of performance of which he had some previous experiences. Cronbach (1954) defines the level of aspiration as the standard a person expects to reach in a particular performance. It is a good definition no doubt but J.D. Frank (1935) gives a clearer picture when he interprets it as the level of future performance in a familiar task which an individual knowing his level of past performance in that task, explicitly undertakes to reach. According to Good C.V. (1957) as mentioned in Dictionary of Education, defined level of aspiration as “the goal or quality of performance desired by an individual (or group) in a specified activity”. Frank (1935) defines that “level of aspiration is the level of future performance in familiar task which an individual, knowing his level of past performance in that task explicitly undertakes to reach”. Level of aspiration, in modern psychology is explained in more than one ways. It is taken to be an expression of one’s ambition and desire a motivation to set a goal as well as to achieve it. Level of aspiration, as discussed by Symonds (1951) is not only a diagnostic sign for ambition, but also a motivating force by itself. It takes an individual normally towards positive achievement and higher levels of performance. Dembo (1931) a student of Lewin is the pioneer to formulate the concept of level of aspiration, which is the English translation of the German word “Anspruchsniveau”, which means the level of performance. Frank found some personality variables positively correlated with different indices of level of aspiration. Sears’ studies confirmed this relationship, those who set their level of aspiration realistically in the positive direction are according to Sears, confident practical, well mannered and strongly involved in the task those on the other hand, who set their goal either very high or very low, as compared to their actual performance are sensitive, insecure, self-protective and defensive. Aspiration are said to be strong desires to reach something high or great (Hass, 1992). According to Lewin et al. (1944), psychological problems, “especially those in the fields of motivation and personality, inevitability involve goals and goal directed behavior”. Adler (1925) emphasized that everyone has a “life plan”, a purpose or goal which determines his/her reactions. This life plan is generally developed early in life as a result of certain relationships between the person and his/her physical, social environment. Very often the level of aspiration is raised after success and lowered after failure. Level of aspiration at all stages of life affects the process of self enhancement. An individual’s aspiration level represents him or her not only for a particular moment but how he or she will would be like at a similar problem in future. The aspiration level of an individual is an important motivating factor.

Academic Achievement

Educational or academic achievement is specific level of attainment or proficiency in academic work as evaluated by teachers, by standardized test or by a combination of both. It predicts an individual’s ability to acquire new knowledge in a given academic area. It is a specified level of success on learning task or a certain level of proficiency in academic work. It bears the meaning “The attained ability to perform school to task”. Which can be general or specific to a given subject matter. It has been observed that intelligence contributes substantially to the variants in the academic achievement scores.

STATEMENT OF THE PROBLEM

It is important to define a problem in order to provide direction to the course of the study. When research lacks direction it loses its focus and diverts from its main goal. Therefore it is necessary to define a problem. The title of the study that the
researcher has undertaken is as follows:

“A Comparative study of Aspiration Level of High Academic Achievers and Low Academic Achievers of Senior Secondary Students of government schools and non-government schools District Dehra Dun”.

OBJECTIVES

Objectives are the specifications which help the researcher to achieve the desired aims. For the given study, the researcher has outlined objectives that will help her to reach the goal. Following are the objectives outlined for present study: “A Comparative study of Aspiration Level of High Academic Achievers and Low Academic Achievers of Senior Secondary Students of government schools and non-government schools District Dehra Dun”.

1. To compare the Aspiration Level of High Academic Achievers of Senior Secondary Students of government schools and non-government schools District Dehra Dun”.
2. To compare the Aspiration Level of low Academic Achievers of Senior Secondary Students of government schools and non-government schools District Dehra Dun”.

Hypotheses of the study

Once the aims and objectives of the study have been outlined the next steps in research process is the formulation of hypothesis.

“Research hypothesis or substantive hypothesis must be stated in a testable form for its proper evaluation”. In the context of statistical analysis, null hypothesis or alternative hypothesis is considered. However generally the null hypothesis is preferred for hypothesis testing.

There will be no significant difference between the Aspiration Level of high achievers of govt and non-govt schools.

There will be no significant difference between the Aspiration Level of low achievers of govt and non-govt schools.

Delimitation of the study

1. The present study will be conducted on the students of district Dehra dun.
2. The study is confined to the students of senior secondary level.
3. The study is confined to Govt and non-government schools.
4. The study is conducted on male and female students both.

Definitions of operational terms

Frank defines level of aspiration as the level of future performance in a familiar task (studies) and the explicitly undertaken to reach the goal.

In clinical psychology, the degree or quality of performance (exhibited in a testing situation) that a person desires to attain or feels he or she can achieve.

High Academic Achievers: The students who have scored 65% and above marks in the final examination is an indicator of high academic achievement.

Low Academic Achievers: The students who have scored 45% and below marks in the final examination is an indicator of low academic achievement.

Senior Secondary Level: It is a term used to describe the final stage of compulsory school
education. It includes class XI and class XII.

Method of the Study
In the present study the researcher employed the descriptive method of the comparative type in descriptive research; the researcher seeks to find answers to questions through the analysis of the likeness and differences for the given phenomenon and enabled a researcher to ascertain the extent of relationship existing between the variables.

Population
Walter R. Bord and Heredith D. Gall (1983) states that:
“Target population also called universe, we mean all the members of the real or a hypothetical set of people, events or objectives to which we wish to generalize the result of our population.”

For the study in hand children studying in senior secondary are taken as sample.

Nature and the size of Sample
C.R. Kothari, “sample size refers to the number of items to be selected from the universe to constitute a sample. The size of the sample should neither be excessively large, nor too small; it should be optimum.

An optimum sample is one which fulfills the requirement of efficiency represent activeness and flexibility. For the present study, the population comprised of

The areas and sample of the study

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Boys</th>
<th>Girls</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government School</td>
<td>150</td>
<td>150</td>
<td>300</td>
</tr>
<tr>
<td>Non Government School</td>
<td>150</td>
<td>150</td>
<td>300</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>300</td>
<td>600</td>
</tr>
</tbody>
</table>

Tools of the study:
For the collection of the relevant data some specific tool and techniques have been used by the researcher, the detail of which is given below.

Academic achievement
For the present study academic achievement of XI th and XIIth was required. The academic achievement was measured through the result of their final examination i.e. the marks obtained in the final examination were taken from their respective teachers.

1. Level of Aspiration (Based on Underwood’s Method) - Dr. H.M. Singh and Dr. Govind Tiwari

Administration of the Tool
Considering many factors, the researcher has selected ‘level of Aspiration Test’ (based on Underwood’s method), designed by Dr. H.M Singh, Psychology Dep’t., R.B.S College Agra and Dr. Goving Tewari Psychology Dep’t Agra college, Agra (C) APRC 1976, to measure the various levels of aspiration of senior secondary students from district Dehradun. The primary rational for employing this particular test to measure the level of aspiration was that this can be easily administered in group as well as to an individual.

Administration of the test
For the measurement of level of aspiration a person is asked to draw a figure generally comprising six lines in 48 blocks for which 30 seconds time is given.

This behavior is known as goal setting behavior  His experience of success or failure guides him throughout the process of change his goal setting behavior, facilitating the measurement of aspiration level.
In the test sheet there are 5 rows of 48 rounds. In three rows, there are ten rounds. On the left hand corner of the page, there is a space for expected scores and on the bottom right hand side, there is a space for actual scores. It is easily administered, only stop-watch is needed along with the test sheets. Only two signals ‘start’ and ‘stop’ are given. In group situation, the subject is requested to count his performance score and write it in the right hand bottom corner.

**Scoring Procedure**

For example, a subject gets the scores as given in table given below:

<table>
<thead>
<tr>
<th>Trial no</th>
<th>Expected scores</th>
<th>Actual Scores</th>
<th>D-scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>x</td>
<td>25</td>
<td>X</td>
</tr>
<tr>
<td>2</td>
<td>38</td>
<td>24</td>
<td>+13</td>
</tr>
<tr>
<td>3</td>
<td>35</td>
<td>25</td>
<td>+11</td>
</tr>
<tr>
<td>4</td>
<td>32</td>
<td>23</td>
<td>+7</td>
</tr>
<tr>
<td>5</td>
<td>30</td>
<td>22</td>
<td>+7</td>
</tr>
<tr>
<td>6</td>
<td>25</td>
<td>21</td>
<td>+3</td>
</tr>
<tr>
<td>7</td>
<td>25</td>
<td>23</td>
<td>+1</td>
</tr>
<tr>
<td>8</td>
<td>26</td>
<td>22</td>
<td>+3</td>
</tr>
<tr>
<td>9</td>
<td>27</td>
<td>21</td>
<td>+5</td>
</tr>
<tr>
<td>10</td>
<td>28</td>
<td>23</td>
<td>+7</td>
</tr>
</tbody>
</table>

(Expected Scores of the next trial-Actual Scores)

Since in the first trial, actual scores is 25 and the aspired score trial is 38, hence the difference of the two is (38-25) ‘13’ (or D Score). Since this level of aspiration is for the second trial and so it is written in the second row. Similarly the D scores are calculated for each trial and the mean of all such D-scores gives the level of aspiration.

Of the subject. in the present example level of aspiration

=13+11+1+7+7+3+1+3+5+7=57

Mean of the D-Scores=+57/9=+6.3. Thus round up value is +6.

**Interpretation of D-scores**

If the D-score value comes always to be positive, then the subject is having high level of aspiration (as in example). Such subjects are imaginary or idealists. They are generally subjected to frustration in life and can be categorized as ‘unrealistic’ or maladjusted personalities.

If the D-Scores are always negative, then the subject under study is having low level of aspiration. The subject is over realistic and pessimistic, unprogressive and has a negative attitude towards life.

When the value of D-scores is sometime negative and at other time positive, then the subject is having comparatively higher level of aspiration and is categorized as Realistic. Such subjects are well adjusted in their lives and have an optimistic, progressive and balanced attitude towards life. They are always ready to accept the new challenges.

The norms for level of aspiration are as follows:
D-scores Personality Categories
0-1.5 over realistic (well adjusted personality)
1.6-4.5 Realistic (Average person generally present in the world)
4.6-7.5 unrealistic (Maladjusted personality)

Thus mean (X) = $\frac{\sum X}{N}$
Where, $\Sigma$ = sum of
X = Scores in the distribution
N = Total numbers of score.

DATA COLLECTION

The data of data collection commenced once the tools were ready. The researcher selected government and non government schools from Dehra Dun for data collection. The researcher obtained a letter from the Dean of ICFAI University, Dehradun and my Guide, Prof. Dr. Daljeet Kaur, seeking permission for data collection. The letter was shown to the principal of the school and the nature of the research study explained to them to obtain permission. The principals allotted time for data collection and the researcher collected data from these schools.

The researcher first built the rapport with the students by introducing herself to them. The researcher then reads out the instruction to the students that it is to be filled in the given time. The researcher emphasized the need for completing the tool and answering questions honestly. She also requested the students not to cheat the answers from their partners. The researcher similarly collected the data from other schools also.

The researcher also thanked the school authorities and personnel responsible for giving permission to carry out data collection.

Statistical treatment:
Mean: The mean of a distribution is commonly understood as the arithmetic average. It is computed by dividing the sum of all the scores by the number of scores.

Standard deviation (σ):
The standard deviation or SD is the most stable index of variability and is usually employed in experimental work it is denoted by the symbol ‘σ’.

Standard Deviation = $\sigma = \frac{\sum X^2}{N}$
Where x = deviation of the raw score from the mean

CR- test: CR- test is used for yielding the difference between the means of two samples data and then compared with its probable value used on statistical table at specified level of significance for the concerning degree of freedom for accepting or rejecting the hypothesis.

INTERPRETATION AND ANALYSIS OF DATA

ANALYSIS OF DATA
Analysis of data is an important part of the research design. It includes the processing of the data that is collected for the study. Analysis of data means studying the organized material in order to discover inherent facts. In the process of analysis, relationship or differences supporting or conflicting with original hypothesis should be subject to statistical test of significance of difference to check with the validity of data. Thus the researcher processed and analyzed the data descriptively & inferentially.

Descriptive analysis:
For the descriptive analysis for the present study the researchers determined mean and standard
deviation from the scores obtained.

**Inferential Analysis:**
Inferential analysis is carried out for testing the hypothesis. For the present study the researcher used the CR-test to ascertain the relationship.

**Graphical Representation:**
Graphs are used widely in research to represent data. Data obtained after analysis can be represented in graphs to illustrate the findings. Bar graphs are used by researcher to plot the mean for the variables under different dimensions of personality.

**PROCEDURE FOR DATA ANALYSIS**

As the data was collected, the researcher began scoring the tools administered to the students. Scores were entered in a worksheet of SPSS Excel windows for each student. While entering the scores, the researcher classified the students on the basis of high achievers and low achievers of higher secondary students. The mean and standard deviation were calculated for the data which were divided into many groups. With these achieved mean values and standard deviations, standard error of mean were calculated. To test the significance of difference between the mean, the C.R. values (t-values) were calculated with a view to find out if any variance exists between two groups or not. The C.R. values were tested for significance at 0.05 level.

**INTERPRETATION OF DATA**

The usual step after data analysis is interpretation. “Interpretation involves attaching meaning and significance to the analysis, explaining descriptive patterns, and looking for relationships and linkages among descriptive dimensions. Interpretation is an important aspect of any study without which, the raw scores are meaningless. With the help of the interpretation step one is able to achieve a conclusion from the set of the gathered data. Interpretation has two major a aspects namely establishing continuity in the research through linking the results of a given study with those of another and the establishment of some relationship with the collected data. Interpretation can be defined as the device through which the factors, which seem to explain what has been. The analysis of research data does not on its own provide the answers to research questions. The purpose of interpreting the data is to reduce it to an intelligible and interpretable form so that the relations of research problems can be studied and tested, and conclusions drawn. Keeping in view the objectives of the study, data analysis and interpretation has been carried out in four phases.

**Table 1. There will be no significant difference between the Aspiration Level of high achievers of govt and non-govt schools**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Valid N Govt.</th>
<th>Valid N non-Govt</th>
<th>Mean of High achievers of govt</th>
<th>Mean of high achievers of non-govt</th>
<th>Std. Dev High achievers of govt</th>
<th>Std. Dev high achievers of non-govt</th>
<th>t-value</th>
<th>df</th>
<th>p</th>
<th>S/NS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asp Lev</td>
<td>150.00</td>
<td>150.00</td>
<td>1.73</td>
<td>1.35</td>
<td>2.98</td>
<td>2.61</td>
<td>1.17</td>
<td>298.00</td>
<td>0.24</td>
<td>NS</td>
</tr>
</tbody>
</table>

The above table 1 reveals that null hypothesis of no significant difference between the Aspiration Level of high achievers of govt and non-govt schools has been accepted at 5% level of significance. As no
significant difference was found between the mean score of high achievers of govt is 1.73 while the mean of mean of high achievers of non-govt is 1.35 whereas the standard deviation of high achievers of govt and high achievers of non-govt is 2.98 and 2.61 respectively. There was no significant difference found between the means of Aspiration Level of high achievers of govt and non-govt schools when compared with the t-value=-1.17 and p =0.24 at a level of 5% level of significance. Thus the null hypothesis of no significant difference is accepted. It infers that there is no significant difference is found between the Aspiration Level of high achievers of govt and non-govt schools.

![Aspiration Level Chart]

Table 2. There will be no significant difference between the Aspiration Level of low achievers of govt and non-govt schools

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Valid N Govt.</th>
<th>Valid N Non-Govt</th>
<th>Mean of low achievers of govt</th>
<th>Mean of low achievers of non-govt</th>
<th>Std. Dev. low achievers of govt</th>
<th>Std. Dev. low achievers of non-govt</th>
<th>t-value</th>
<th>df</th>
<th>p</th>
<th>S/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asp Lev</td>
<td>150.00</td>
<td>150.00</td>
<td>2.14</td>
<td>1.98</td>
<td>2.97</td>
<td>2.48</td>
<td>-0.49</td>
<td>298.0</td>
<td>0.62</td>
<td>NS</td>
</tr>
</tbody>
</table>

A glance at TABLE 2. reveals that the mean score of low achievers of govt is 2.14 while the mean of low achievers of non govt is 1.98 whereas the standard deviation of low achievers of govt and low achievers of non-govt is 2.97 and 2.48 respectively. No Significant difference was found between the means of low academic achievers of government and non government schools when compared with the t-value=-0.49 and p =0.62 at 5% level of significance. Thus the null hypothesis of no significant difference is accepted. This infers that there is no significant difference between the Aspiration Level of low achievers of govt and non-govt schools.
MAIN FINDINGS

1. No significant difference was found between the Aspiration Level of high achievers of govt and non-govt schools.

2. No significant difference was found between the Aspiration Level of low achievers of govt and non-govt schools.

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Tools:
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A Study of Perception of Students Towards Change in College Evaluation Pattern

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Abstract
It has been said that every person should be literate, and knowledge is something that plays a major role in literacy. But at the same time the source of knowledge is also important and how it gets delivered. We as individuals first start learning from our schools beginning with alphabets to history, science, basic maths etc. and colleges help us to enhance ourselves in specialised fields. In this time period we spend lot of time preparing for exams, in colleges most probably there are descriptive exam pattern to check our knowledge in specific fields. There are mostly more of long answers and solving questions from the books but it is very rare that there rare questions which are based on practical knowledge or on case studies about the current affairs. It has been seen that in the case of descriptive exam pattern number of students mug up the answers and do not focus on the actual concepts. Which is the main reason students face difficulties while going into corporates. When it comes to Multiple Choice Question pattern and Open book Test (based on Case Studies), it only considers concept based syllabus and will help to enhance the student’s knowledge about certain topic. This research will help us to find out the perception of students in change in exam pattern from descriptive pattern to Multiple Choice Questions and Open Book Test (Case Study Based). This study focuses on students which are currently studying in the college.

Keywords: Concepts, Multiple Choice Questions, Open Book test.

1. INTRODUCTION

In this competitive world, students are literally running a race to get a stable and satisfying job. A job is where application of concepts takes place after 5 years of rigorous college lectures. It is very difficult to get a strong hold on the concepts what we study in college. If students are able to grasp various jargons and concepts efficiently, then this boosts their chances of getting a stable job and also to sustain in their field of study for many years. But this would only be possible if steps are taken at college level, where student’s concepts rather than their learning capability is tested. College can take
up multiple choice questions and case study based exams to test the critical thinking of students. This would also enhance the analytical thinking skills within students.

Every student at least once in their life has to go through an interview and interview is the place where the actual conceptual knowledge is tested. On the bases of the answers of the students they are/are not given jobs. So conceptual knowledge has become a must criteria for all types of jobs. The reason people have reached executive levels in a company is solely because of their clarity in the field.

Many competitive exams in finance like CFA, FRM, CAIA, etc. test the conceptual knowledge of the candidate. Multiple choice questions and case studies based exams would help students to crack these difficult and competitive exams easily.

Our education system gives more weightage to the quantity of the answers written rather than the quality. This has created a lag between the conceptual knowledge of students in India and abroad. A change to MCQ and case study based exams would definitely change the face of our education system and it would also build a sense of confidence among the students to face the global competition efficiently.

2. OBJECTIVES OF RESEARCH

1. To make the education system more efficient and effective.
2. To obtain perspective of students if there is change in exam pattern.
3. To encourage students to gain practical knowledge.
4. To make the education system interesting and informative.

4. HYPOTHESIS

H₀ Students will not accept change in evaluation pattern.

H₁ Students will accept change in evaluation pattern.

5. RESEARCH METHODOLOGY

1. The research is to find out the perception of students towards changing college exam pattern to Multiple Choice Questions and Open book test (case study based exams).
2. Primary data has been collected in the form of questionnaire which was filled by 62 respondents (who are above the age of 18).
3. Percentage method was used to analyse the findings.
4. The sample of 62 respondents is analysed by percentage method and hypothesis was tested.
5. Secondary data is also collected through various e-journals, articles, newspapers etc.

And due credits have been given by means of references and bibliography

6. REVIEW OF LITERATURE

Dr. Christina Donnelly¹ has talked about the impact of blended assessment methods on student learning. The study adopts a rigorous three-staged qualitative methodology to capture third level lecturers’ and students’ perception to (1) the level of learning when using MCQs; (2) the level of learning when blended assessment in the form of case based MCQs are used. The findings illuminate the positive impact of cased based MCQs as students and lecturers suggest that it leads to a higher level of learning and deeper information processing over that of MCQs without case studies. (Published by ARROW@DIT, 2014) (Dr.Donnelly, 2014)
Natela Doghonadze, Huseyin Demir\(^1\) have mentioned a critical analysis of open book exams for university students. They have talked about the structure of open book exams. A questionnaire held with 80 students and 20 teachers involved 6 questions: 2 - in yes/no, 3 - in Likert scale and one - in open answer format. The results show that the overall assessment is positive enough. Students perceive the OBE more positively than teachers, however, none of them sees it as a perfect exam. (Doghonadze and Demir, 2018)

Leticia Anaya, Nicholas Evangelopoulos and Uyi Lawani\(^3\) have talked about the ongoing dispute on what is the better method of assessing college students during examinations: open-book or closed-book. What is unique about this research is that an experimental Latin Square design was used to conduct the research which allowed for analysis of the data to include controlling for group order and content. (Anaya, Evangelopoulos and Lawani, 2010)

7. LIMITATIONS OF THE STUDY

1. The present study is limited to only 62 respondents from colleges.
2. The research is bound in Mumbai region only.
3. Applicability of this new pattern will take time.
4. Time constraint to complete the research might have led to incomplete or inaccurate research findings. Further research is recommended.

8. FINDINGS AND OBSERVATIONS

We have taken responses from college students. The respondents are mainly between ages from 16 to 23.

8.1 Do you think our education system is efficient?

Most of the people think that our current education system is efficient enough but still there are approx 10% of students think that its not that efficient yet. There should be more efficiency in our education system.

8.2 Do you think current exam pattern and syllabus are the good enough to enhance the student intellect?

There is a positive response towards current exam pattern from college students. But some of them are not enough confident if current exam pattern and syllabus are good enough to enhance the students intellect. And there are very few students are against current exam pattern.

8.3 Do you think there will be a change in our exam pattern in coming future?

Everything changes by time to time. Students are not sure whether there willa change in our exam pattern or not. But at the same time more than 40% students think that there will be a change in the exam pattern.
8.4 Do you think concept based mcqs and case studies can upgrade education era?

Students strongly agree that that multiple choice questions and open book tests can upgrade the education system. It will make education system more effective than current one. More than 45 students stand with a such change in the education system.

8.5 Will you prefer exam pattern consisting of case studies, practical knowledge based mcqs, and more of current affairs?

More than 55 students think that such change can enhance critical and analytical thinking skills in students and 8 to 10 students are not confident about it.

8.6 Multiple choice questions and Open book test (case study) are good exam pattern than a current one.

College students agree that such type of exam pattern consisting of multiple choice questions and open book tests are good exam pattern than current one. More than 43% students strongly agree this statement while 29% students are with this statement.

8.7 Do you think concept based questions would enhance critical and analytical thinking skills in students?

Students are very comfortable exams consists of case studies, questions on practical knowledge and on current affairs. Research shows that more than 55 students wants such type of exam pattern in their colleges.
A STUDY OF PERCEPTION OF STUDENTS TOWARDS CHANGE IN COLLEGE EVALUATION PATTERN

8.8 Which exam pattern you will prefer in future?

Most of the students will choose multiple choice questions and open book test over descriptive exam pattern. There are only few students lets 8 will choose descriptive question pattern in the future.

8.9 Will you support such type of change in exam pattern?

We can see that students are ready to encourage such type of such type of change in current exam pattern. Also they think that that it will make education system more efficient and will lead students in a best way.

9. CONCLUSION

After a thorough analysis, it was proved that H 0 was rejected. It was highlighted that students will accept a change in college evaluation process. It has been seen that students don’t see any change in the evolution process in college but if its take place, most of the students think that it will help students to do effective studies. The research shows that students are more comfortable with the Multiple choice questions and open study test. If syllabus contains more of current affairs or a practical knowledge from the world it will help students to get more knowledge. This type of exam pattern can also train college students for international competitive exams such as CFA, FRM, CAT etc. in the case of Multiple choice questions, students get more conceptual questions and it affects their intellect. Students agree with the fact that multiple choice questions and open book test exam pattern is better than descriptive exam pattern. It has been seen that they think that this type of exam can enhance critical and analytical thinking skills in students. And if this change happens all college students are ready to support that change.

10. REFERENCES

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Capital Account Liberalization: Investment, Exports and Economic Growth

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Abstract
Over the past more than two decades many less developed countries have liberalized their capital account. An important plank in the advocacy of capital account liberalization is the belief that a more liberal regime will lead to increase FDI and exports which in turn will have a favourable effect on economic growth.

In India, with the announcement of the New Economic Policy (NEP) of 1991, the currency reforms were introduced and Rupee was made fully convertible since 1993-94 on the current account and partially convertible on the capital account.

On the background of the far reaching changes in the State policy concerning capital account, foreign investment and trade since 1991, an attempt is made in this paper with a specific objective to examine the impact of capital account liberalization on investment, exports and economic growth. For this, eleven years time period i.e. from 2007-08 to 2018-19 is selected for the purpose of the study.

Keywords: Capital Account Convertibility, Liberalization, FDI, FII, Export, GDP

INTRODUCTION

In the early 1990s India faced a balance of payments crisis. This crisis was followed by an IMF structural adjustment program, economic reforms and liberalization of the trade and capital accounts. Policy makers were, however, very cautious about opening up the economy to debt flows. The experience of the Balance of Payments (BOP) crises as well as the lessons learned from other developing countries suggested that debt flows, especially short term debt flows, could lead to BOP difficulties if the country faced macroeconomic imbalances and had an inflexible exchange rate. The emphasis was, therefore, on foreign investment- both foreign direct investment (FDI) and portfolio investment. Even these were opened up slowly and a system of capital controls remained in place.

The international trade regime in India has undergone significant changes since 1991, with a reduction in quantitative restrictions accompanied by a gradual shift from an inward- looking import substitution policy to an outward- looking export promotion strategy.
CAPITAL ACCOUNT LIBERALIZATION:
INVESTMENT, EXPORTS AND ECONOMIC GROWTH

Over the past more than two decades many less developed countries have liberalized their capital account. An important plank in the advocacy of capital account liberalization is the belief that a more liberal regime will lead to increase FDI and exports which in turn will have a favourable effect on economic growth.

In India, with the announcement of the New Economic Policy (NEP) of 1991, the currency reforms were introduced and Rupee was made fully convertible since 1993-94 on the current account, and made partially convertible on the capital account.

Capital account convertibility of the rupee is a distant dream because macro economic parameters have to be stable before it is implemented. The low current account deficit should be sustained and the fiscal deficit needs to be contained.

Jasvant Sinha, minister of state for finance said, India should embrace capital account convertibility if it has to become a top global economy. Reserve Bank of India Governor Raghuram Rajan said, “My hope is we will get to full capital account convertibility in a short number of years.”

On the background of the far reaching changes in the State policy concerning capital account, foreign investment and trade since 1991, an attempt is made in this paper with a specific objective to examine the impact of capital account liberalization on investment, exports and economic growth. For this, eleven years time period i.e. from 2007-08 to 2018-19 is selected for the purpose of the study.

OBJECTIVES OF THE STUDY

1. To examine the impact of capital account liberalization on investment, exports and economic growth.
2. To suggest some policy measures relating full capital account convertibility.

HYPOTHESES

There is a positive change in the growth rates of macro economic variables such as FDI, exports and economic growth during the study period. CAC has led to an increase in the variability of inflows of capital such as FDI, exports and economic growth during the study period.

- Capital account liberalization and inflow of FDI, exports as well as economic growth are correlated with each other.

METHODOLOGY OF THE STUDY

The present study is based mainly on the secondary data collected from published and unpublished records i.e. ‘handbook of statistics on Indian Economy 2018-19’, published by RBI available on ‘RBI website www.rbi.org.in’ Annual Report 2018-19 Dept. of Commerce, Economic Survey 2018-19 Govt. of India. The data gathered is organized in tabular form and analyzed in order to draw meaningful conclusion.

Following a brief review of the literature available on the impact of capital account liberalization on investment, exports and economic growth is examined in section I. Concluding remarks and policy recommendations are given in section II.

SECTION – I

According to the neo-classical growth model pioneered by Solow (1956), liberalizing the capital account facilitates a more efficient international allocation of resources and produces all kinds of
salubrious effects. Resources flow from capital-abundant developed countries, where the return to capital is low, to capital-scarce developing countries where the return to capital is high. The flow of resources into the developing countries reduces their cost of capital, triggering a temporary increase in investment and growth that permanently raises their standard of living (Fischer, 1998, 2003; Obstfeld, 1998; Rogoff, 1999; Summers, 2000). Motivated in part by the prospective gains from incorporating allocative efficiency arguments into their economic policies, dozens of developing-country governments have implemented some form of capital account liberalization over the past 20 years.

A number of recent studies have analyzed the impact of trade liberalization. The World Bank has found that exports, particularly manufactured exports, tend to increase following liberalization (Michaely et al., 1991: Ch. 12; Thomas et al., 1991: Ch. 3), and that reforming countries have performed better than non-reformers (Thomas et al., ibid). On the other hand, three studies for UNCTAD find little evidence to support a link between liberalization and export performance (Agosin, 1991; Shafaeddin, 1994; UNCTAD, 1989: Part I, Ch.V.B), a conclusion that is supported by Clarke and Kirkpatrick (1991).

RESULT

The impact of capital account liberalization on investment, export and economic growth can be measured and judged through growth of FDI, growth of exports, and increase in economic growth during the study period.

1. Growth of FDI, FII (FPI):- The following table shows that India’s FDI growth is uneven. It was 34,8,43 million US dollars in 2007-08 which increased to 41,8,73 million US dollars in 2008-09. However it fell down to 34,8,47 million US dollars in 2010-11. This is mainly because of meltdown of global economy; the financial crisis in Europe had adversely affected the flow of FDI in India. The FDI again increased significantly to 46,5,56 million US dollars in 2011-21. But this impact was temporary and the flow of FDI fell down to 34,2,98 million US dollars in 2012-23. This was due to recessionary situation at the global level.

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Foreign Direct Investment (FDI)</th>
<th>Investment by FII’s</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Equity</td>
<td>Total FDI</td>
</tr>
<tr>
<td>2007-08</td>
<td>24,573</td>
<td>34,843</td>
</tr>
<tr>
<td>2008-09</td>
<td>31,364</td>
<td>41,873</td>
</tr>
<tr>
<td>2009-10</td>
<td>25,606</td>
<td>37,745</td>
</tr>
<tr>
<td>2010-11</td>
<td>34,833</td>
<td>46,556</td>
</tr>
<tr>
<td>2011-12</td>
<td>21,825</td>
<td>34,298</td>
</tr>
<tr>
<td>2012-13</td>
<td>24,299</td>
<td>36,046</td>
</tr>
<tr>
<td>2013-14</td>
<td>30,933</td>
<td>45,148</td>
</tr>
<tr>
<td>2014-15</td>
<td>40,001</td>
<td>55,559</td>
</tr>
<tr>
<td>2015-16</td>
<td>43,478</td>
<td>60,220</td>
</tr>
<tr>
<td>2016-17</td>
<td>44,857</td>
<td>60,974</td>
</tr>
<tr>
<td>2017-18</td>
<td>44,366</td>
<td>64,375</td>
</tr>
<tr>
<td>Cumulative Total</td>
<td>3,87,511</td>
<td>5,52,484</td>
</tr>
</tbody>
</table>

Source: Fact sheet on FDI (As per DPIIT’s FDI data base)
However, in spite of this situation the flow of FDI increased to sky high i.e. 64,3,75 million US dollars in 2018-19. The cumulative total FDI flow in India is 5,52,484 million US dollars during 2007-08 to 2018-19. The same trend can be observed in case of FDI Equity inflow during the same period. The FII in India is uneven during the same period. It was 20,328 million US dollars in 2007-08 which increased to 29,422 million US dollars and declined to 5009 million US dollars in 2013-14. The FII significantly increased to 40,923 million US dollars in 2014-15 and it became -3,587 million US dollars in 2018-19. The trend in FDI flow in India during 2007-08 to 2018-19 is shown in the following Figure No.1.

Figure No. 1 Year-Wise FDI Flow in India

2. Growth of Exports and GDP Growth Rate: Indian economy is $ 2.936 trillion (nominal 2019) economy and 5th (nominal) largest economy in terms of GDP in the world. This clearly revels that GDP has been increasing in India. The India’s exports increased enormously during 2007-08 to 2018-19. The following Table No. 2 shows increasing trends in exports.

<table>
<thead>
<tr>
<th>Years</th>
<th>Exports Million US $</th>
<th>GDP Growth Rate 2011-12 base year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-08</td>
<td>1,63,132</td>
<td>9.3</td>
</tr>
<tr>
<td>2008-09</td>
<td>1,85,295</td>
<td>6.7</td>
</tr>
<tr>
<td>2009-10</td>
<td>1,78,751</td>
<td>8.6</td>
</tr>
<tr>
<td>2010-11</td>
<td>2,49,816</td>
<td>8.9</td>
</tr>
<tr>
<td>2011-12</td>
<td>3,05,964</td>
<td>6.7</td>
</tr>
<tr>
<td>2012-13</td>
<td>3,00,401</td>
<td>5.4</td>
</tr>
<tr>
<td>2013-14</td>
<td>3,14,405</td>
<td>6.1</td>
</tr>
<tr>
<td>2014-15</td>
<td>3,10,338</td>
<td>7.2</td>
</tr>
<tr>
<td>2015-16</td>
<td>2,62,291</td>
<td>7.9</td>
</tr>
<tr>
<td>2016-17</td>
<td>2,75,852</td>
<td>6.6</td>
</tr>
<tr>
<td>2017-18</td>
<td>3,03,526</td>
<td>--</td>
</tr>
<tr>
<td>2018-19</td>
<td>3,31,020</td>
<td>--</td>
</tr>
</tbody>
</table>

Source: DGCI&S and RBI
The above table clearly shows that, India’s Exports increased continuously from 1,63,132 million US dollars in 2007-08 to 3,31,020 million US dollars in 2018-19. No doubt the growth performance of exports is very impressive. This is shown in the following Figure No. 2. Export sector has contributed considerably to India’s GDP growth rate. However, GDP growth shows dismal performance because it is affected by the global slowdown. This is shown in the following Figure No.3.

The trade performance of a country is very closely and inseparably linked with the country's overall economic performance. With the backdrop of world trade recovery, India’s biggest tax reform such as GST and improvement of indicators like ease of doing business and investment rating, one may be of optimistic view with respect to India’s trade scenario. This will boost robust growth forecast with a strong pull factor for inward investment in the future. By and large, Indian economy is in good
state in current days, so these reforms will have positive long term impact. To address the external problems very efficiently, India have to tackle all the domestic inadequacies very carefully, no doubt long term interventions are needed, but many short and medium term measures such as sector specific economic policies can improve the trade ecosystem and growth rate of the country.

MAJOR FINDING

The above study clearly indicates that, “Capital Account Liberalization” has a positive impact on the growth of FDI, growth performance of exports sector and the GDP growth rate of India during 2007-08 to 2018-19. The process of Capital Account Liberalization and trade liberalization has not only increased the FDI and exports but also succeeded considerably to contribute to India’s GDP growth rate. It also shows that, there is a positive correlation between capital account liberalization and FDI, Exports as well as economic growth (GDP). The process of liberalization and economic reforms initiated since 1991, created tremendous opportunities for the growth of investment and exports. Manufacturing sector has succeeded to take the benefits of opportunities and accepted the challenges posed by the liberalization and globalization.

IMPLICATION

The general impression of secondary data clearly reveals that, “Capital Account Liberalization” has a positive impact on the growth of FDI, growth performance of exports sector and the GDP growth rate of India during 2007-08 to 2018-19. It also shows that, Capital Account Liberalization and inflow of FDI, exports as well as economic growth are positively correlated with each other.

SECTION- II

CONCLUSION

There is no denying the fact that sound capital controls have worked well in the Indian case and helped the economy sail through financial and currency crisis. A truly globalised economy, which the Indian economy is likely to become in the future, cannot afford to remain isolated for a very long period of time.

However, the most important preconditions like fiscal consolidation, inflation control, low level of NPAs, low and sustainable current account deficit, strengthening of financial markets, prudential supervision of financial institutions, etc. should be met before India embarks on the path of full capital account convertibility.

Writing about capital account liberalization in 1998, Jagdish Bhagwati threw down the gauntlet, declaring that “It is time to shift the burden of proof from those who oppose to those who favor liberated capital” (Bhagwati, 1998). The explosion of papers written on the subject since that time indicates the seriousness with which the profession has taken his challenge. There is little evidence that economic growth and capital account openness are positively correlated across countries. But there is lots of evidence that opening the capital account leads countries to temporarily invest more and grow faster than they did when their capital accounts were closed.

REFERENCE


Prospects and Problems in the Demand for Organic Food Products: A Study of Thane City

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Abstract
The research article aims at analyzing the trends in retailing and consumption of organic food products. Two major stakeholders are included in the study- consuming households and retailers. The perceptions and responses of both the stakeholders provide insights into the prospects and problems in the selling and purchase of organic food products in Thane city. Aggregate demand for organic food products has been estimated.

Observations regarding the type of products sold by retailers, the frequency of the purchase of organic food products and the number of consumers preferring organic food products, led us to infer that organic food is not yet widely accepted. A major concern among consumers was the lack of trust regarding the source of organic food and it’s credibility. The retailers emphatically pointed out that the consumers are unable to map the price proposition to the quality of the organic product being offered. The other aspects of concern expressed by the retailers were the inadequacies of storage mechanisms, temperature management, transportation etc.

Keywords: Consumers, Organic Food Products, Retailers.

I. INTRODUCTION

“Food Crisis’ is the biggest economic problem the world is facing currently. It is estimated that almost 1 billion people are struggling with hunger every day, most of them are children. Global food prices show an increasing trend due to higher oil prices, adverse weather conditions and Asia’s strong demand for food imports. If the current forecasts for increased food production do not materialize,
global food prices could reach higher levels. (FAO, 2012). The June 2015 Global food price index indicates a decline in international food prices by 14% during August 2014- May 2015, sliding to the five year low (World Bank, 2015). This is due to higher food production, low oil prices and sufficient food stocks. This decline in food prices however may not be sustainable.

India, in spite of all the progress through the planning period is once again experiencing the same food crisis that it had to handle immediately after independence. But the situation now is more critical, as earlier it had to fend for a mere 380 million and now it has to cater to the demands of 1.2 billion population.

The demand –supply gap is the main factor for such a challenging situation in a country like India; which has been one of the largest exporters of food products. While the demand for food has been growing due to rise in population and increasing living standards, the production has not been able to catch up with the pace. But it also needs to be noted that India, with 52% of total cultivable land as against 11% of the world, 15 major climates of the world, 20 agro-climatic regions, nearly 46 out of 60 soil types, sunshine hours and day length best suited for round the year cultivation of food crop, can become the food supplier of the world (N.Viswanadham, 2011).

Thus it is clear that food prices do fluctuate globally and in India. They are influenced by several factors. Demand driven high and volatile food prices continue to impact the world’s poorest people in the form of growing starvation. Thus, achieving food security has emerged as a pressing need. It thus becomes pertinent to focus on sustainable agriculture production and consumption.

II. SIGNIFICANCE OF THE STUDY

‘Food security’ is a serious problem for India. To achieve food security agricultural productivity has to increase rapidly. The conventional method of farming which was introduced in 1960s in India is not successful in improving agricultural productivity anymore. At the same time the research has proved that conventional method of farming and conventional food both have harmful effects on mankind as well as environment. So we need to adopt a technique that will increase agricultural productivity and at the same time will be safe for mankind and ecology. Organic farming as a new technique and organic food seems to be an answer to the problem. Globally organic farming is growing and organic food is becoming popular among the consumers. However in India growth of organic farming is slow. Organic food production is growing but it is largely exported. Domestic consumption of organic food is limited. There are many reasons responsible for this such as insufficient government support, lack of awareness among the farmers about benefits of organic farming, lack of awareness among the consumers about significance of organic food and faulty supply chain management.

In short demand – supply mismatch is the reason behind slow growth of organic food industry in India. In this context an elaborate study needs to be conducted which will analyze various economic issues related to related to short fall in supply of organic food in domestic market and also reasons behind low demand for organic food from the consumers and the amount of Government support required. The study may help in suggesting effective ways of promoting organic farming among the farmers and organic food amongst the Indian consumers.
By signing the World Trade Agreement in 1993 (WTO agreement) our government has agreed to remove subsidies in agriculture and permit the import of subsidized food and fiber from other countries. Thus, while cheap chemically produced food with less nutritional values is being dumped on our markets, there is a big demand for Indian Organic Food and Fiber in the rich nations. Now that developed countries consumer have become aware of benefits of organic food, demand for Indian Organic food is growing. However Indian demand for Organic food being limited, we are importing cheap industrially produced food and sending the best food out of our country. Thus on one side Indian population is deprived of the safe and most nutritious food that is produced in their own country, on the other hand Indian Organic farming community and Organic food industry is losing huge Indian market (Bokey, 2009).

In this background, it is highly essential to analyze the socio-economic factors that are preventing the growth of demand for organic food products in India and provide viable solutions for these problems. It would be equally crucial to investigate the incentive system that would support marketing of organic food products. It would be pertinent to study the consumers’ perceptions and analyze the demand for organic food products. A study of problems and challenges faced by organic food product retailers would flesh out important policy implications. This study focuses on the organic food retailers and consumers in Thane city, Maharashtra, India.

III. LITERATURE REVIEW

In the Indian context, organic farming can be thus significant in two distinct ways:

1) To increase the efficiency and sustainability of production: Organic farming can help to reduce production costs (especially where labor is cheap compared to input costs) and to increase or stabilize yields on marginal soils. This is especially relevant for smallholders in marginal areas where Green Revolution agriculture has led to a depletion of soil fertility and to high debts because of increase in input costs.

2) To increase income from farming through expansion of huge Indian as well international market due to increase in global demand (Salvador & Katke, 2003).

Over the past several years, the organic food industry in India has been experiencing an annual growth between 20-22 percent. The nation has the potential to be largest organic food producer. Apart from certified organic farms, there are many small farmers growing organic food by using organic practices (Sushil Kumar & Jabir Ali, 2011).

Research studies clearly indicate the superiority of organic farming over conventional farming. In short organic food can be a solution to the problem of global food insecurity. Awareness of significance of organic farming is growing in the world. Not only consumers but also producers’ the world over are shifting to organic farming & organic food.

A report by ‘Markets n Markets’ (2011) states that, demand for organic food and beverages is growing rapidly; especially in the developed economies such as North America and Europe. There are various driving factors for the growth of global organic food and beverages market such as increasing health concerns among people, awareness about the harmful effects of pesticide residues in food and its impact on health, rising food scarcity, government support through various subsidies and increasing trend towards standardization for organic foods. At present, North America and Europe are the largest markets for organic food and beverages. By 2020,
it is expected that Asia-Pacific and Latin America region would witness a significant growth in the organic food market.

However according to the report, the basic challenges faced by the global organic food and beverages market are in the form of high conversion cost from conventional farming to organic farming, supply shortage of organic food and beverages in major European and North American markets, non-uniform organic regulations across the globe and high prices of organic food products. Consumers are switching to organic products as a difficult proposition since organic food is more expensive than the non-organic food. Moreover, organic seeds are usually priced higher than conventional ones.

Among the countries, Australia is the country with the most organic agricultural land, 97 percent of which is extensive grazing area. Argentina is second, followed by the United States in third place. The ten countries with the most organically managed agricultural land have a combined total of 26.63 million hectares, constituting almost three quarters of the world’s organic agricultural land. From all the above studies, it can be deduced that organic farming and organic food is gaining popularity in the world and countries are opting for organic farming over conventional farming.

Organic farming and organic food production is although growing in India, but its growth is comparatively slow. India is home to 30 per cent of the total organic producers in the world, but accounts for just 2.59 per cent (1.5 million hectares) of the total organic cultivation area of 57.8 million hectares, according to the World of Organic Agriculture 2018 report.

At the same time, most organic farmers are struggling due to poor policy measures, rising input costs and limited market, says a study by the Associated Chambers of Commerce and Industry of India (ASSOCHAM) and global consultancy firm Ernst & Young. According to the Indian Council of Agricultural Research, productivity on an average dips by 6.7 per cent in the first year, and the government needs to have a plan in place to support farmers during the transition from conventional to organic farming.

According to the study of Dr. S. Narayanan (2005), 85 per cent of organic produce is exported. Domestic consumption is marginal and is concentrated in the metropolitan cities in the country. According to the study, India is lagging far behind in the adoption of organic farming. Factors responsible for the slow growth are:

1) Lack of substantial financial support from government.
2) Market development for the organic products is a crucial factor to promote domestic sales. Supplies do not match the demand for organic products in the country and the absence of proper links between the two has been pointed out as a major reason for the slow growth of organic farming in the country.
3) Cumbersome paper work and high cost of certification.
4) Unawareness of farmers and consumers about benefits of organic farming and organic food against the conventional system.

Increasing domestic demand for organic food can be one of the driving forces behind fast growth of organic farming in India. Considering this fact, Sushil Kumar and Jabir Ali (2011) conducted a study for finding factors affecting consumer’s awareness about organic food in India. According to the study, the potential Indian consumers’ awareness of organic food is strongly and significantly affected by factors such as education and stream of education. The awareness is only slightly affected by factors such
PROSPECTS AND PROBLEMS IN THE DEMAND FOR ORGANIC FOOD PRODUCTS: A STUDY OF THANE CITY

as gender and income level. To tap the market potential in organic food, the organic industry needs to educate consumers.

Let us now very briefly review the state policy towards organic farming and the implications in terms of facilitation for selling of organic food products.

Maharashtra’s Organic Farming Policy 2013 aspects for retailers:

1. Organic product processing and selling:
   It was recommended to create storing and marketing related infrastructure at metro cities as well as small towns. The policy extends to include marketing of animal husbandry, dairy, poultry, fisheries and minor forest products. Other promotional measures the policy encompasses are organizing farmers’ mela, organic food bazaars at cities and promote organic food through websites. Direct network between farmers and consumers was to be encouraged. It was also recommended to set up residue testing labs. It was to be made mandatory to label organic products as ‘organic’.

2. Organic farming education and research:
   This component was to include educating students on the importance of eco-friendly farming and consumption of safe food at various levels. Introducing degree course on organic agriculture with integrated and holistic farming syllabus at the State Agriculture and Horticulture Universities is yet another important feature of this policy in terms of organic farming education.

3. Disbursement of funds:
   Allotted funds would be spent for spreading awareness about organic farming; farmer’s training, for developing infrastructure for grading, processing, packaging and marketing of organic food. Financial expenditure plan need to be approved by organic farming committee before disbursal.

Recent policy changes
   To encourage organic farming in Maharashtra, the State Government has formulated a special policy for the sector. In Maharashtra, about 200 lakh hectares under cultivation is organic farming. Over the last 15 years, a number of farmers’ groups have been practicing organic farming techniques.

   The Maharashtra government has decided to set up a mission for promoting organic agriculture in the State (Business Line, August 21, 2018). The mission will also help create a value chain for distributing organic farm products. Finance Minister Sudhir Mungantiwar had declared a ₹ 100-crore provision for promoting organic agriculture in the last budget. A press statement issued by the Chief Minister’s office said that the mission has been named Dr Punjabrao Deshmukh Organic Agriculture Mission. He was a veteran farmer leader of Maharashtra. The mission will help distribute organic farm products such as fruits, vegetables and grains. In the first phase, the mission will be implemented in farmer suicide-prone districts of Buldana, Akola, Washim, Amravati, Yavatmal and Wardha. The mission will focus on low-cost technology for enhancing income, create a system for recycling of farm waste, create a marketplace for selling of organic farm products and explore export opportunities.

IV. RESEARCH DESIGN

Objectives:
1. To determine the factors influencing the demand for organic food products in Thane city.
2. To study the prospects, challenges and problems faced by retailers of organic food products.
3. To ascertain the perceptions of consumers about organic food products.
Methodology
The sample size for retailers was 15 out of the 22 retailers in the geographical region of Thane. These retailers included the listed retailers on the relevant portal. A small sample of consumers from Thane city, Maharashtra was included in the study to ascertain their views on organic food. Both Primary and Secondary data were used. Primary data was collected through a questionnaire and supplemented by an interview. The Secondary data included journal articles, government policy documents, newspapers and web sources. The data analysis was done by applying basic statistical tools, such as, the average/aggregate, modal values and correlation analysis.

Scope:
The study included two stakeholders, namely the consumers and retailers of organic products. The study is confined to the consumers and retailers in Thane City. Both the demand and supply side of organic food has been included to provide a holistic perspective.

V. SAMPLE DESCRIPTION:
The composition of retailers included in the study is represented in the table given below.

<table>
<thead>
<tr>
<th>Product Type</th>
<th>No of retailers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic and conventional products</td>
<td>5</td>
</tr>
<tr>
<td>Organic, Conventional and Natural products</td>
<td>1</td>
</tr>
<tr>
<td>Organic and natural products</td>
<td>4</td>
</tr>
<tr>
<td>Exclusively organic</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Sample survey: primary data

One third of the retailers covered in the study, sell exclusively organic food products. Only one retailer sells a complete mixture of organic, conventional and natural products. The composition reflects that the retailers prefer to adapt to the preferences of varied consumers.

- There were more than 40 brands of organic food products sold by the retailers. (Annexure I)
- ‘Pure for Sure’ is the brand that has been sold by maximum number of retailers. Six retailers sell the brand, i.e., 40% of the retailers sell ‘Pure for Sure’. This also means that ‘Pure for Sure’ is demanded more by consumers.
- It is followed by the brand ‘Organic India’ where 33.4% of retailers sell this brand to consumers.
- Very negligible number of unbranded organic products are sold by the retailers.

Some of the retailers covered in the sample, were engaged in online selling of organic food products and few intended to do so in the future.
PROSPECTS AND PROBLEMS IN THE DEMAND FOR ORGANIC FOOD PRODUCTS:
A STUDY OF THANE CITY

- Out of the 15 retailers in the sample space, 6 retailers i.e., 40% engage in online selling, 6 retailers i.e., 40% do not engage in online selling.
- The remnant of 20% of the retailers i.e., 3 retailers would engage in online selling in the future.

VI. FINDINGS

A. Retailers:
1. A significant part of the study was to comprehend the major factors considered in the selling of organic food products. The factors pointed out by the retailers are given in table 1 below:

<table>
<thead>
<tr>
<th>Factor</th>
<th>No of Retailers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage</td>
<td>8</td>
</tr>
<tr>
<td>Awareness of the organic</td>
<td>2</td>
</tr>
<tr>
<td>products</td>
<td></td>
</tr>
<tr>
<td>Pricing</td>
<td>1</td>
</tr>
<tr>
<td>Certification ambiguity</td>
<td>1</td>
</tr>
<tr>
<td>Quality of the organic</td>
<td>1</td>
</tr>
<tr>
<td>food</td>
<td></td>
</tr>
<tr>
<td>Packaging</td>
<td>3</td>
</tr>
<tr>
<td>Expiry of the organic</td>
<td>1</td>
</tr>
<tr>
<td>food</td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>1</td>
</tr>
<tr>
<td>Transportation</td>
<td>7</td>
</tr>
<tr>
<td>Procurement</td>
<td>2</td>
</tr>
<tr>
<td>Marketing</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Sample survey: primary data

- Various important factors where enlisted by retailers during the study.
- The most important and attention-drawing factor about organic food items was the factor of adequate storage facilities. About 54% of retailers, i.e., eight retailers rated storage as the most important factor for organic products.
- This can also corroborated by the previous observation made regarding leafy vegetables. Leafy vegetables require an optimum temperature for storage and for keeping them fresh.
- Likewise, transportation was the next most important factor expressed by retailers.
- The retailers’ response was sought on the difficulties they encounter with respect to various organic products in terms of storage and sale of perishable products. The table given below represents the number of retailers who found this difficulty across various organic products.

<table>
<thead>
<tr>
<th>Perishable organic items difficult to sell</th>
<th>No. of retailers facing the difficulty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leafy vegetables</td>
<td>4</td>
</tr>
<tr>
<td>Mushroom</td>
<td>1</td>
</tr>
<tr>
<td>Salad</td>
<td>1</td>
</tr>
<tr>
<td>Fruits</td>
<td>3</td>
</tr>
<tr>
<td>Vegetables</td>
<td>3</td>
</tr>
<tr>
<td>Milk</td>
<td>3</td>
</tr>
<tr>
<td>Broccoli</td>
<td>1</td>
</tr>
<tr>
<td>Avocado</td>
<td>1</td>
</tr>
<tr>
<td>Organic Apple</td>
<td>1</td>
</tr>
<tr>
<td>Ghee</td>
<td>1</td>
</tr>
<tr>
<td>Seasonal Fruits</td>
<td>1</td>
</tr>
<tr>
<td>Mango</td>
<td>1</td>
</tr>
<tr>
<td>Strawberry</td>
<td>1</td>
</tr>
<tr>
<td>Pulses</td>
<td>1</td>
</tr>
<tr>
<td>Xs Juice</td>
<td>1</td>
</tr>
<tr>
<td>Xs Energy Bars</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Sample survey: primary data

- Various retailers find different perishable items that are difficult to sell
- Roughly 27% of the retailers, i.e., four retailers out of the 15 included in the sample survey
find leafy vegetables to be a perishable organic food item that is most difficult and challenging to cell. The reasons were mainly that leafy vegetables dry up and it is difficult to maintain the optimum temperature that is required.

- When leafy vegetable dry up or even look unconvincing in appearance, consumers do not purchase them. A factor for consumers to purchase organic food is also appearance as collated in the data later.
- The other items included fruits, other vegetables and milk.

1. Another crucial aspect the study tried to probe into was the price range of the organic food products sold by the retailers. The detailed data is presented in table no. 3.

- The costliest and the cheapest most liked product have been mentioned against the name of the retailer in the table above. The price dispersions in their products have been found using coefficient of range- \( \frac{H-L}{H+L} \) where H is the highest value and L is the lowest value.
- A large diversity is found among the retailers with respect to the most expensive and the relatively cheaper products sold by them. There is no overlapping of these items among those sold by the retailers.
- Lowest price dispersion has been observed for products sold by ‘Nature’s basket’, i.e., 0.19
- The highest price dispersion has been observed in case of ‘Girija Natural Organic Farmer’s Store’, i.e., 0.90.

<table>
<thead>
<tr>
<th>Name of the Retailer</th>
<th>Costliest Product</th>
<th>Price (INR)</th>
<th>Cheapest Product</th>
<th>Price (INR)</th>
<th>Price Dispersion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature's Basket</td>
<td>Okra per kg</td>
<td>175</td>
<td>Cabbage per kg</td>
<td>119</td>
<td>0.19047619</td>
</tr>
<tr>
<td>Organic Shop Thane</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heena Ayurvedic</td>
<td>Turmeric Tablet per strip</td>
<td>260</td>
<td>Jeera Organic Seeds</td>
<td>100</td>
<td>0.4444444444</td>
</tr>
<tr>
<td>Good Food Kart</td>
<td>A2 Cow Ghee per kg</td>
<td>1590</td>
<td>Ragi Flour</td>
<td>166</td>
<td>0.810933941</td>
</tr>
<tr>
<td>Nature's Bloom</td>
<td>Cold pressed oil per litre</td>
<td>250</td>
<td>Jaggery</td>
<td>100</td>
<td>0.428571429</td>
</tr>
<tr>
<td>Girija Natural Organic Farmer's Store</td>
<td>Ghee per litre</td>
<td>2000</td>
<td>Rice and Wheat</td>
<td>100</td>
<td>0.904761905</td>
</tr>
<tr>
<td>Chheda Ayurveded</td>
<td>Ghee per kg</td>
<td>700</td>
<td>Flour</td>
<td>70</td>
<td>0.818181818</td>
</tr>
<tr>
<td>Star Market</td>
<td>Organic Flour per kg</td>
<td>250</td>
<td>Brown rice</td>
<td>100</td>
<td>0.428571429</td>
</tr>
<tr>
<td>Yash Organic</td>
<td>Turmeric per 100gms</td>
<td>400</td>
<td>Coriander per bunch</td>
<td>30</td>
<td>0.860465116</td>
</tr>
<tr>
<td>Farmer's Story</td>
<td>Ghee per litre</td>
<td>3200</td>
<td>Insence stick</td>
<td>169</td>
<td>0.899673494</td>
</tr>
<tr>
<td>Jeevanta Products</td>
<td>Honey per kg</td>
<td>500</td>
<td>Vegetables</td>
<td>80</td>
<td>0.724137931</td>
</tr>
<tr>
<td>Gomatha Organic</td>
<td>Ghee per litre</td>
<td>4000</td>
<td>Jaggery</td>
<td>1200</td>
<td>0.538461538</td>
</tr>
<tr>
<td>Tejiovalay Krishi</td>
<td>Ghee per kg</td>
<td>1400</td>
<td>Unpolished rice</td>
<td>90</td>
<td>0.879194631</td>
</tr>
<tr>
<td>Mrs. Supriya Sagare</td>
<td>Pomegranate per kg</td>
<td>150</td>
<td>Banana per dozen</td>
<td>70</td>
<td>0.363636364</td>
</tr>
<tr>
<td>Amway India Pvt. Ltd.</td>
<td>Protein Powder per kg</td>
<td>4000</td>
<td>Toothpaste for 190gms</td>
<td>230</td>
<td>0.891252955</td>
</tr>
</tbody>
</table>

Source: Sample survey: primary data
B. CONSUMERS:

1. The most crucial consumers’ response we tried to seek was the trust the consumers had in organic food products. Their perceptions on the reliability of the products would be an essential factor influencing their purchase decisions.

Table 4: Consumers’ Trust Rating for Organic Food Products

<table>
<thead>
<tr>
<th>Rating</th>
<th>Number of consumers</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: Sample survey: primary data

- Trust responses provided by consumers were obtained on a rating scale of 0 to 10. Zero referred to no trust while 10 referred to complete trust.
- The responses from the consumers in the sample survey have been extremely varied, ranging from 0 to 10 on the rating scale presented.
- While two consumers have no trust in organic food, four consumers have complete trust in organic food.
- The average rating for consumers’ perceived trust works out to be about 6.4 /10 i.e. 64% trust in organic food on an average.
- Maximum number of customers have given a rating of 8/10 as the trust level.

We also tried to gauge at consumers’ perception about the incidence of consumption of organic food products in the city. The responses indicate consumer perceptions about how many people out of every 10 people residing in the city do they see consume organic food. 0 referring to 0 people around the consumer who consume organic food, and 10 referring to 10 people out of 10 they see consume organic food.

Table 5: Perceptions about the Incidence of Organic Food Consumers

<table>
<thead>
<tr>
<th>Incidence of organic food consumers perceived</th>
<th>Number of consumers</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Sample survey: primary data

Perceptions of consumers who see other people consuming organic food indicates a low demand or purchase trend. Highest number of consumers (10) perceived that only 1 out of 10 consumers in the city would be purchasers of organic food products. The average number of consumers perceived as consumers of organic food is 2 out of every 10 people.
Another crucial factor determining the demand for organic food is the frequency of its purchase. The consumers’ responses on this are presented in table no. 6.

<table>
<thead>
<tr>
<th>Frequency of purchase</th>
<th>No. of consumers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regularly</td>
<td>13</td>
</tr>
<tr>
<td>Sometimes</td>
<td>5</td>
</tr>
<tr>
<td>Occasionally</td>
<td>10</td>
</tr>
<tr>
<td>Rarely</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Sample survey: primary data

The frequency of purchase of organic food is divided into 4 categories, namely, regularly, sometimes, occasionally and rarely. Among the consumers covered in the sample survey, 13 were regular purchasers followed by 10 purchasing occasionally. This corroborates with the highest number of consumers in the sample giving a high trust rating for organic food products (as seen in table no. 4).

4. A correlation analysis was performed between trust ratings and frequency of purchase and another between trust level and perceptions about incidence of organic food product consumers. The coefficient of correlation was a moderate positive correlation (0.3249) for trust ratings and frequency of purchase. In case of trust level and perceptions about incidence of organic food product consumers the coefficient of correlation was found to be low positive (0.0825).

5. The study also tried to analyze the variety of organic food purchased by these consumers (Details in Annexure II). It was found that a variety of 37 organic food items are being purchased by the consumers in the survey. On an average 3.5 organic products are purchased by each consumer. The maximum number of consumers purchased organic pulses and vegetables (11 consumers each). These products are followed by Brown rice (9 consumers).

C. AGGREGATE RESPONSES:

<table>
<thead>
<tr>
<th>Factors</th>
<th>Total responses (Retailers &amp; Consumers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefits of organic food</td>
<td>6</td>
</tr>
<tr>
<td>Genuineness of the food being organic</td>
<td>17</td>
</tr>
<tr>
<td>Marketing proposition</td>
<td>3</td>
</tr>
<tr>
<td>Quality of organic food dropping</td>
<td>5</td>
</tr>
<tr>
<td>Ambiguity in certification</td>
<td>5</td>
</tr>
<tr>
<td>Harmful Effect of organic farming on the environment</td>
<td>1</td>
</tr>
<tr>
<td>Packaging</td>
<td>1</td>
</tr>
<tr>
<td>Visual appeal</td>
<td>2</td>
</tr>
<tr>
<td>Lack of regulatory measures</td>
<td>1</td>
</tr>
<tr>
<td>Breach of trust</td>
<td>1</td>
</tr>
<tr>
<td>Availability issues</td>
<td>5</td>
</tr>
<tr>
<td>Lack of need</td>
<td>1</td>
</tr>
<tr>
<td>Taste of the organic food</td>
<td>3</td>
</tr>
<tr>
<td>Product Standardization</td>
<td>1</td>
</tr>
<tr>
<td>Awareness among consumers</td>
<td>6</td>
</tr>
<tr>
<td>Knowledge of sourcing</td>
<td>2</td>
</tr>
<tr>
<td>Old habits of the consumers</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Sample survey: primary data
Consumer and Retailer opinions for factors responsible for low demand or lowering consumption of organic food and organic products were sought. The table no. 7 above enumerates the various unfavourable factors that are likely to lower the consumption and hence responsible for low demand and supply of organic food and organic food products as well.

- The most important and worrisome factor adversely affecting the consumption of organic food products is that of mistrust about the food being genuinely organic. 13 consumers have raised this question and 4 retailers have also acknowledged the genuineness of the food being organic, to be a factor of lowering demand for organics.
- Retailers also emphasized the presence of the factor of the benefits of organic food not been understood by the consumers as important in affecting the low demand for organic food products.
- The other unfavourable factors include ambiguity of certification as ‘organic’, irregular availability of the products, declining quality and lack of awareness among consumers.

The sample of consumers varied in terms of income, education and occupation. Considering the sample and perceptions of both the stakeholders, around 20% households are likely to potentially consume organic products. So we took a product of 20% households in Thane city and the average no. of products bought by consumers in our sample survey was taken to arrive at the estimated aggregate demand for organic food products in the city and it came to 560280 items (160080*3.5).

VII. CONCLUDING REMARKS

Through informal conversations with sellers and consumers we also attempted to find out the various issues in the sale and distribution of organic food products. Irregular supply emerged as the biggest problem faced by sellers. Other problems which they specified were –

a) Food pricing problems - As market prices fluctuate especially when prices fall, farmers grumble while prices are reduced. Customers on the other hand, find organic agro product prices too high.
b) Huge operational cost due to high rent of shop as well as organic certification expenses.
c) Some sellers were grumbling of less awareness among customers about organic food. So they visit the shop with lots of enquiries and leave without buying anything under pretence of food looks different or it is very expensive.
d) Problem regarding preservation and storage of product was also pointed out.

Our observations regarding the type of products sold by retailers, the frequency of the purchase of organic food products and the number of consumers preferring organic food products, led us to infer that organic food is not yet widely accepted. A major concern among consumers was the lack of trust regarding the source of organic food and its credibility. Some consumer responses also indicate mistrust in the mechanism of acquiring certification for producing and selling organic food.

The retailers emphatically pointed out that the consumers are unable to map the price proposition to the quality of the organic product being offered. The other aspects of concern expressed by the retailers were the inadequacies of storage mechanisms, temperature management, transportation etc.

Both, consumers and retailers unanimously agree
that there is insufficient and inadequate knowledge about organic products, in general. Major suggestions for promoting organic food products are use of certification as an impressive marketing tool for international market and online platforms for tapping new urban customers.

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Effective Extraction Technique to Enhance Antioxidant Activity and DNA Protection Potential of Seed Extract of Trachyspermum Ammi (Ajwain)

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Abstract
The present study is conducted to identify effective extraction condition and technique to provide antioxidant rich extract from seeds of Trachyspermum ammi (Ajwain). The extracts were prepared by three methods, Soxhlet, Hot and Cold using water and methanol as solvent. The screening of each extract was done by Folin-Ciocalteu spectrophotometric method to estimate TPC and spectrophotometric assay was used for determination of TFC. The free radical scavenging activity was evaluated by DPPH (2,2-diphenyl-1-picrylhydrazyl). The potential of each extract to prevent DNA damage is assessed by photolyzing pBR322 DNA in the presence of H₂O₂ and performing agarose gel electrophoresis. The highest value of TPC (53.19 mg GAE/g) was observed in hot methanolic extract of Ajwain seed powder and lowest TPC value (24.61 mg GAE/g) was obtained when hot aqueous extraction was carried out. The highest TFC were found in methanolic hot seed powder extract and methanolic Soxhlet extract showed lowest TFC value. All extract showed antioxidant activity. The DPPH scavenging activity was maximum by cold methanolic seed extract. All extracts of Ajwain showed ability to prevent DNA damage. The methanolic cold extract showed maximum DNA protection potential. The DPPH and DNA damage assay revealed that Ajwain is a potent source of natural antioxidant. The cold extraction in methanol is effective method to provide antioxidant rich extract from seeds of Ajwain.

Keywords: DNA, DPPH, TFC, TPC

INTRODUCTION
Man is an integral part of nature; hence, the drug obtained from nature (i.e., plant origin) is highly accepted by the human body (Lehniger et al., 2005). Hence, the medicinal preparations since ancient times rely on natural sources of plant origin such as spices, herbs and parts of trees. The interest of scientist in herbal research has seen a tremendous increase because antioxidant constituents present in plants are useful in the maintenance of good health and protection from coronary heart disease and cancer (Lo’liger, J., 1991). The plants possess high phenolic content – a characteristic associated with

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high antioxidant activity of plants (Shahidi et.al., 1992). Flavonoids are a type of phenolic structures found in plants that are produced as a secondary metabolite and mainly functions as a phytoneutrient. The flavonoids are formed only in plants and not in animals (Benthsath, et.al., 1936). Numerous studies reflect the importance of flavonoids in nutraceutical, pharmaceutical, medicinal and cosmetic applications. Therefore, the diet rich in antioxidants plays an important role to prevent various diseases in the human body. The high demand for natural antioxidant over synthetic has raised the interest among scientists, consumers and food manufacturers to develop functional food with specific health effects and potent antioxidant properties. Hence optimization of extraction techniques to extract antioxidant-rich component from plants is an important area of research.

*Trachyspermum ammi*, commonly known as Ajwain belongs to family Apiaceae. It is an annual herb. The plant is mainly cultivated in India and Iran. Both the leaves and fruits (mistakenly called as seeds) are consumed by humans. In Ayurveda, it is used as medicine to cure stomach disorder such as abdominal pain, fatigue, indigestion, diarrhoea and loss of appetite. Researchers have reported that the seeds of Ajwain possess medicinal activities such as antioxidant (Anilakumar, et.al., 2009), antimicrobial (Khanuja, et.al., 2004), hypo-lipidemic (Javed, et.al., 2002) and antihypertensive (Gilani, et. al., 2005). The objective of this study is to investigate and optimize the extraction method for active ingredients of *Trachyspermum ammi* seed extract and to determine the antioxidant activities and potential to prevent DNA damage.

**MATERIALS AND METHODS**

**Plant Material:**
The plant of *Trachyspermum ammi* (Ajwain) was grown by the gardener of Royal College, Thane, India. The plant was authenticated by Prof. P. Jayaraman, Director, Institute of Herbal Botany, Plant Anatomy Research Centre, Chennai, India.

**Chemicals:**
- Gallic acid, Folin-Ciocalteu phenol reagent, Quercetin, Aluminium chloride, Potassium acetate, Sodium carbonate, Ascorbic acid, Chloroform and Methanol were purchased from Prerana enterprises.
- 2, 2-diphenyl-1-picryl-hydrazyl (DPPH) extra pure, make – SRL was procured from Urmi Enterprises, Mumbai, India.

**Extract Preparation:**
The seeds of Ajwain were dried at room temperature. Their extracts were prepared by three methods.

**Soxhlet Extraction:**
15g of seeds were soaked in 60ml methanol for 24 hours. Additional 50ml methanol was used to load the seeds in Soxhalate extractor. The extraction was carried out for 6 hours. The collected extract was dried and weighed. The residue obtained was dissolved in known quantity of methanol.

**Hot Extraction:**
The seeds (15g) soaked in 80 ml solvent for 12 hours and boiled gradually for 20 minutes. The solution was kept in water bath for 6 hours at 50°C and filtered using Whatmann filter paper. The extract was dried in thermostat at 35°C and known weight of residue was dissolved in solvent. The hot seed extract were prepared in two different solvent, water and methanol. The dried seeds were grounded into fine powder using electrical grinder and hot extract was prepared in methanol.

**Cold Extraction:**
The dried 15g seeds were soaked overnight in 80ml methanol. The flask was placed in a shaker at 240
rpm for 6 hours. The seed solution was stored in refrigerator at 4°C for 15 hour. The cold solution was filtered using Whatmann filter paper. The filtrate was dried at 30°C in water bath and extract was prepared by dissolving known quantity of residue in methanol.

**Determination of Total Phenolic Content (TPC):**
The TPC of the extracts was determined by the Folin-Ciocalteu (FC) spectrophotometric method described by Singleton and Rossi, (1965) with some modifications. The standard calibration curve of gallic acid was generated by reacting 1mL of different concentration of gallic acid (2-10µg) with 5mL of FC reagent (diluted 10 fold) and 4mL of 7.5% sodium carbonate. This mixture was vortexed for 15sec and then incubated for 30min at 40°C. The blank / control sample was prepared by adding all the reagents except extract. All samples were incubated for 30 min at 40°C. The absorbance was measured at 765 nm using a spectrophotometer. The TPC of each extract was calculated in terms of gallic acid equivalent per gram of dry extract (GAE/g dry extract) using calibration curve.

**Determination of Total Flavanoid Content (TFC):**
The TFC of the extracts, used in the study, was determined by the method described by Christ and Muller, (1960) with some modifications. The standard calibration curve of quercetin was generated by reacting 1mL of different concentration of quercetin (10-50µg) with 1.5mL methanol, 0.1mL of 10% aluminium chloride, 0.1mL of potassium acetate and 2.8mL distilled water. This mixture was mixed thoroughly and then incubated for 30 min at room temperature. The volume was made up to 10mL after incubation and absorbance measured at 415nm using a spectrophotometer. The blank/control was set up by adding all the reagents except the seed extract. The absorbance was measured at 415nm using a spectrophotometer. The TFC of each extract was calculated in terms of quercetin equivalent per gram of dry extract.

**DPPH (2,2-Diphenyl-1-picyrylhydrazyl) Assay**
The ability of the extracts to scavenge free radicals was measured using modified method described by Miliauskas et.al., (2004). In clean labeled glass tubes 3 ml of methanolic DPPH solution was mixed with 0.5ml of extract. After thorough mixing the tubes were kept in dark for 30 minutes. The control was prepared by mixing 3ml DPPH with 0.5ml methanol. The absorbance at 517.5 nm was measured using Spectrophotometer (Elico SL171 Mini Spec). The experiment was performed in duplicate. The solution of ascorbic acid (5 -100 µg/ml) was used as standard. The radical scavenging capacity was calculated using equation

\[
\% \text{ Inhibition} = \frac{\text{Absorbance of control} - \text{Absorbance of sample}}{\text{Absorbance of control}} \times 100
\]

**DNA Damage Assay**
The DNA damage assay was performed according to the method described by Ali and Sharma, (2014) The study was done using super coiled pBR322 plasmid as a standard DNA sample. For carrying out the assay, the plasmid (0.25ig) prepared in 100mM potassium phosphate buffer (pH7.4) was incubated with H₂O₂ (60mM) in the presence and absence of selected seed extracts (10ig) shown in Table 4.3-4.5. The tubes were incubated at 37°C for three hours. The pBR322 plasmid DNA (0.25ig) in 100mM potassium phosphate buffer (pH7.4) along with methanol was kept as a control.
RESULTS AND DISCUSSION

Total Phenolic Content:
The total phenolic content of selected extract of Ajwain is presented in Figure 1.

Figure 1: TPC of Ajwain extract

The highest value of TPC (53.19 mg GAE/g) was observed in extract prepared in methanol by hot extraction technique from seed powder. The lowest TPC value (24.61 mg GAE/g) was obtained when hot extraction was carried out using water. Based on TPC values it can be concluded that methanol is best solvent for extraction of polyphenols from Ajwain seeds. The results of TPC also indicated that efficiency of methanol to extract phenols from Ajwain seed is independent of temperature.

Total Flavanoid Content:
Figure 2 shows the percentage of total flavonoids obtained in extracts of Ajwain prepared in different solvent by different methods.

Figure 2: % TFC of Ajwain extracts
The highest TFC (1.481%) was observed in methanoic extract prepared from ajwain seed powder and minimum TFC value (0.806%) was showed by methanolic seed extract by Soxhlet method. The variation in temperature did not produce significant change in % TFC.

**DPPH Assay:**
The experimental data indicates that all Ajwain seed extracts have the proton donating ability but it is lesser than ascorbic acid. The extract prepared by using methanol as solvent displayed high antioxidant activity. Similar antioxidant activity was shown by methanolic extract prepared by cold and hot method. The ajwain extracts A1, A2, A4 obtained at high temperature (Figure 3) showed no significant difference in radical scavenging activity.

**DNA Damage Assay:**
The protective effect of different Ajwain seed extracts against \( \text{H}_2\text{O}_2 \)-Induced DNA damage is shown in figure 4. The presence of \( \text{H}_2\text{O}_2 \) enhanced DNA strand breakage by converting the super coiled form into circular form in the same manner as that of pBR322 (Figure 5.5.2: Lane 2). The incubation of DNA with \( \text{H}_2\text{O}_2 \) along with Ajwain (10 ig) inhibited the damage caused by strand breakage and the maximum is retained in the super coiled form (Figure 5.5.2: Lane 3- Lane 9). The presence of \( \text{H}_2\text{O}_2 \) enhanced the strand breakage (lane 2), whereas lane 4 to 9 has shown maximal antioxidant activity except in lane 3.
From the results of DNA damage assay of Ajwain extracts it is evident that all extracts of Ajwain have ability to prevent DNA damage hence possess high antioxidant activity except aqueous Ajwain seed extract prepared by hot extraction method. The results of cold extract prepared using methanol and chloroform extract shows that in methanol the efficiency of DNA protection is higher than in chloroform. Also from DNA damage assay it is evident that the variables such as temperature of extraction, method of extraction and size of particle does not affect the ability of extracts to prevent DNA damage.

CONCLUSION

The results of DNA damage assay have confirmed the antioxidant activities of all extracts. The comparative results of seed and seed powder showed that antioxidant activity decreases with decrease in particle size. It was observed that extracts prepared at low temperature showed high phenolic, flavonoid and hence high antioxidant activity. As the extracts showed high antioxidant activity at low temperature it is recommended that seeds of these plants must be lyophilize before use. Lyophilisation at low temperature will help in retention of active ingredients. It can be concluded that the extract with high medicinal property from seeds of Trachyspermum ammi can be prepared at low temperature using methanol as solvent.

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EFFECTIVE EXTRACTION TECHNIQUE TO ENHANCE ANTIOXIDANT ACTIVITY AND DNA PROTECTION POTENTIAL OF SEED EXTRACT OF TRACHYSPERMUM AMMI (AJWAIN)


Relevance of Kautilya’s ‘Arthashastra’ in Investment Management in Emerging Indian Economy

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Abstract
The title “Arthashastra” is often regarded as “the science of politics” but the book Arthashastra has a broader scope. It includes knowledge on the nature of government, law, civil and criminal court systems, ethics, economics, markets and trade, the methods for screening ministers, diplomacy, theories on war, nature of peace, and the duties and obligations of a king as well as effective financial and investment management. The Arthashastra explores issues of Investment management and social welfare. It advises the king that in times and in areas devastated by famine, epidemic and such acts of nature, war or recession, he should initiate public projects such as creating irrigation waterways and building forts around major strategic holdings and towns and exempt taxes on those affected, thus providing solution for king to deal with recession and financial slow down. The text was influential on other Hindu texts that followed, such as the sections on king, governance and legal procedures included in Manusmriti. Arthashastra is an idea work on Economics, Finance and Investment, creating a perfect balance between Investment management and people’s welfare which was created 2,500 years before but is relevant even in present times. This research paper attempts to analyse the relevance of principles laid down by Kautilya in Arthashastra for investment and its applicability in present times for Indian Economy. This paper also puts light on some of the investment principles of the Arthashastra which are offered by different scholars of diverse academic disciplines. In Arthashastra, the theory meets practice, concepts meet application.

Keywords: Investment Management, Finance, Return on Investment (ROI), Compunding, Financial Risk, Emergency Funds, Knowledge of Markets.

INTRODUCTION
The ‘Arthashastra’ is an ancient book or a treatise on statecraft, economic policy, financial management and military strategy, written in Sanskrit. Kautilya, also identified as Vishnugupta and Chanakya, is believed to be the author of the text. Kautilya was a scholar at Takshashila, the teacher and guardian of Emperor Chandragupta Maurya. Arthashastra is said to be composed between the 2nd century BC and 3rd century BC. The Arthashastra was influential till the 12th century, after which it
disappeared. It was rediscovered in 1905 by R. Shamasasstry, who published it in the year 1909. The first English translation was published in the year 1915. Kautilya or Chankya or Vishnugupta, India’s finest Financial Guru, economist, teacher, philosopher and royal adviser during the 3rd century for Gupta kingdom, may have some solutions for dealing with problem of recession and effective financial and investment management in such times. The Arthashastra, Chanakya’s political and financial treatise explaining various strategies contains economically and financially sane yet socially relevant ideas and practices. Kautilya practiced several economic, Investment, financial, political and administrative strategies during 3rd - 4th century BC. But, many of his ideas and practices are still followed today. The census, segmentation analysis (both general and demographic) and other statistical tools that we follow today were started by Chanakya. And these practices are detailed in the Arthashastra. This research project sheds lights on the historical origins of the Arthashastra while specifically and concisely concentrating on the Investment management done in Mauryan Empire of ancient India and its practical applicability in today’s time by Indian Companies in order to manage their finances and investments effectively even during the phase of Global recession.

RESEARCH METHODOLOGY

The proposed study is based on primary and secondary data collected through various books and journals. Review and analysis of various books available on Arthashastra and kautilya teachings had been done in order to relate it with current Investment scenario and thereby arriving at ways how a sound financial and Investment management can be done by Investors.

Primary Data: The primary data had been collected by personal visits to people who have expertise in field of Kautilya and Arthshastra. Interviews had been taken of various Investment managers in Mumbai region.

Secondary Data: Secondary data had been collected through various books, journals and articles on Arthashastra.

Hypothesis:-
- To understand the concept of Investment management which was explored thousands of years ago in the ‘Arthashastra’ and whether the same is applicable in the contemporary era.

ARTHASHAstra & INVESTMENT MANAGEMENT (RESULTS & DISCUSSIONS)

A renowned teacher, philosopher, jurist, economist and royal advisor of ancient India, Kautilya, popularly known as Chanakya is the author of the famous book named ‘Arthashastra’. His story of falling out with King Dhananda leading him to take revenge on the great empire by guiding and assisting the young Changragupta Maruya is well known to all. However, what one might not know is that Chanakya’s book and his advices not only held
relevance during Maurya dynasty, but is of extreme importance even till date, even in the world of finance and investments.

Here’s what one can learn from Chanakya’s advises preached in ‘Arthashastra’ and implement it in their investment game:-

**Financial Planning**

“One should start a work only after proper planning”

It is always advised to make a proper plan before taking up any work, this is applicable in terms of personal finance and Investment as well. According to the ‘Arthashastra’, it is said that only if your work is well planned then only you will be able to earn good results. Similarly, even during bad times or recession, if you have a proper and well chalked out plan in place, you are likely to gain profit.

**Emergency Fund**

“Save your wealth against future calamity... when riches begin to forsake one even the accumulated stock dwindles away.”

This piece of advice from ‘Arthashastra’ holds great importance even today. We all know of the recent Jet Airways incident where almost 20,000 employees lost their job. Imagine the struggle the employees are undergoing at the time, it is when such incidents come up that we wish that instead of spending on the expensive pair of shoes or branded perfume, it were rather saved for such an emergency situation. If you have gone to a financial planner, they advise you to first create an emergency fund, which would suffice you with at least 6 month’s expenses.

**Risk Assessment**

Another noteworthy quote by Chanakya in ‘Arthashastra’ is ”One should wear ornaments according to one’s financial capacity.” This piece of advice is of great importance while planning your investment. Every person has their own sense of taking risks, some are alright with taking higher risks while some don’t prefer to take risks. So, it is better to create a risk profile keeping in mind your preferences and capacity, instead of following blindly.

**Investment Planning**

“Accumulated wealth is saved by spending well in business or in charity or by investing it profitably, just as a reservoir is kept fresh by letting out the stagnant water”

Today, there are a variety of investment options available in the market. So, select an option, which is stable and has a sustainable value or return. One must always examine the opportunities before investing. With customers being spoilt with choices, it is of utmost importance to gather knowledge of the options before you select any option. But first, one must be sure of their financial goals before taking a step in the direction of investing, as a lot is dependent on it. Always invest with a motive and according to one’s suitability, since it is better to invest the extra amount of your hard earned money instead of parking it in the savings bank account, which will deliver no return.

**Gather More Knowledge**

“Learning about various disciplines is like a cow of desire. It, like a cow yields in all seasons; Like a mother, it feeds you on your journey. Hence learning is a hidden treasure.”

One who is aware of the works of Chanakya will know that his ‘Arthashastra’ did not talk about just one discipline. It was a book which spoke of politics, economy, Investment Management, daily duties of a king and the subjects, and so on. He has always encouraged his disciples to gather knowledge of more than one discipline to widen their knowledge.
base. This is similar in the case of Investment management as well.

Selecting the right Investment option is not enough. It has only begun. Much like your personal life, in financial life as well if you stop educating yourself, your investments will get stagnant. It is always necessary to stay updated of the happenings in the world of finance and investment so that by availing those opportunities you can take better benefit. In a recent interview with CNBC, 95-year old billionaire Charlie Munger said, “Without lifelong learning, you’re not going to do very well. You’re not going to get very far in life. Without Warren Buffett being a learning machine — a continuous learning machine, the record would have been absolutely impossible. Warren Buffett is the 3rd richest human being on Earth. Why? Because he has pocketed 20.9% annual return from 1965-2017. How? By reading 8-10 hours every day in his office at Omaha. By widening his circle of learning, he has invested in a diverse set of companies across numerous sectors. That’s an unparalleled track record. Continuous learning really helps.

Avoid Speculation and rely more on planning
“He who is prepared for the future and he who plans adequately are both happy; But the fatalistic man who wholly depends on luck is ruined”

This is one basic lesson that makes so much sense when it comes to financial and Investment planning. The moment we cry for the very first time in the World, we are designated with dozens of life-goals instantly. Child’s Education. Retirement Planning. Ringing the Wedding Bells. Fancy Car. Big House. And probably what not. As we grow in age, the bucket-list keeps expanding like a hot air balloon. And thus arises the need for money too. Plenty of money to accomplish plenty of goals. But the fascination of ‘You Only Live Once (YOLO)’ lifestyle pushes the financial planning off the exit door. In a company of like-minded people, we keep believing only in enjoying the present. We somehow neglect the planning of these goals in advance. How much shall we need to shell out of our pocket? How deep the inflation is going to hurt the future value of money? Hardly we pay any heed to such questions. Only at the later stage of our lives, we realize how hard it is to save a massive amount of money on a monthly basis. Year-by-year as we continue delaying it, thousands-by-thousands the monthly amount to be saved keeps rising the ladder. The unwanted consumption lifestyle that we get accustomed to, makes it hard for us to save, invest, and build the desired corpus in a less period of time. Too tough, right? Instead, what if we start planning about our goals the day we receive our first paycheck? What if we plan to allocate 10-20% of our monthly income towards them? What if we start taking care of our future needs a bit early? This way we can enjoy our present while preparing for the future. As a brownie point, we may never have to borrow whenever our goals approach the horizon.

Invest early for compounding your Investments
“A mere trickle of the tiny drops of water can fill the pitcher; The same way we must keep on collecting knowledge, Dharma, and money”

One can consider this as an extension of the first lesson. Although planning in advance really does help, at the same time, the monthly amount that requires to be invested becomes considerably low. Well, that’s the miracle of compounding. With decades of time spared, compounding really turns a disciplined investment into a mammoth capital. However small it may be.
Consider this: The moment we receive our first paycheck, we can either consume 100% or 80% of it. The choice is truly ours. But if we allow a portion of it to build our retirement corpus, it can work wonders. The monthly investment amount to build a corpus of Rs.5 Crore turns out to be just Rs.4600. This is when we start at the age of 20. If we delay it by 5 years and start at 25, the monthly contributions increase to 8100 per month. Plan to delay it further? Be ready to shell out Rs.14500 even at a small age of 30. If we get accustomed to living paycheck-by-paycheck and somehow get enlightened towards building a retirement fund at 45, will we find it easy to spare Rs.92000 on monthly basis? I believe most of us would say – No.

Start early. Plan goals in advance. Prefer not to live paycheck-to-paycheck. An early stage foundation of investing a tiny amount will help us reach our goals in a smooth manner. As we grow in age, these tiny contributions compound. As my friends, Amit and FI say, “Slowly. Steadily. Surely.”

CONCLUSION

Arthashastra remains exclusive in entire Indian literature because of its total absence of specious reasoning. Scholars and researchers continue to study it for its clear cut and practical opinions on financial and Investment management. Kautilya’s economic treatise ‘Arthshastra’ is an idea work, a perfect balance between state and Investment management and people’s welfare which was created 2,500 years before. The influence of Kautilya to economy has been ignored by western researchers despite the fact that his coverage of this subject was perhaps the most sophisticated and broadly based on internationally accepted economical standards until Adam Smith published his Wealth of Nations in 1776. The Arthashastra provides broad coverage on the overall economy, which includes: infrastructure (roadwork, irrigation, forestry, and fortification), weights and measurements, labour and employment, commerce and trade, commodities and agriculture, land use and property laws, money and coiage, interest rates and loan markets, tariffs and taxes, and government expenditures, finance, investments and the treasury. It is noteworthy that a book such as ‘Arthashastra’ was written more than 2000 years ago in northern India. It is a book of substantial size. It provides practical advice for the financial and Investment management of the state and organizations and thereby enhance their wealth. It can be used for financial and investment management in modern time and can be useful to exemplify several contemporary economic thoughts. He offered a set of different economic policy measures to encourage economic and financial development of companies as well as nations. The Arthashastra is the science of wealth, investment and warfare, a handbook on efficient statecraft for kings and high-level ministers and officials for whom good governance was to provide the basis for „sustainable development, welfare, and splendour. Same techniques and teachings can be used by today’s leaders, Top level Management, CEO, Financial experts etc for the sustainable growth of Indian companies. The teachings of Arthashastra are applicable in every walk of our fast life and the competitive world today. Its teachings should be dynamically applied to issues of finance, investment, politics, diplomacy, statecraft, and even business and management. This theory is not just only „India-centric‟ but has universal application.

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Financial Tribulations - A Case for Islamic Finance

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Abstract
Capitalism dominated by profit motive and poor governance has created disturbances in the global economic system from time to time. It has challenged the principles of equity and justice integral to human society. A case in point is the global financial crisis of 2008 wherein the paradigms of conventional financial system were questioned. Muslim scholars present Islamic financial system as a solution to the ills of capitalism. Evidently, the Islamic financial institutions were able to withstand the onslaught of capitalism. This paper uses the instance of global financial crisis to bring out the weaknesses in a capitalist system and presents Islamic principles that can address these issues.

Keywords: Capitalism, Financial Crisis, Islamic Finance.

INTRODUCTION
The prevalent economic system of capitalism has caused many trials and tribulations in the world economic order. Past experiences have indicated that financially sound, stable democratic countries have also been rocked by the onslaught of capitalism. Instances like the Asian Financial Crisis 1998 and Global Financial Crisis 2008 destabilised various economies and had far reaching consequences across the world. Attempts are being made to explore possibilities to mitigate the severity of financial duress. Islamic finance is being presented as an alternative to bring about a more just and equitable global economic system.

In the present paper, the first section revisits the postulates of capitalism and brings out its deficiencies. The subsequent section discusses the main causes and repercussions of a major economic disaster, the Global Financial Crisis 2008. The last section highlights the features of an Islamic financial system that has inbuilt mechanisms to deal with potential crisis in the conventional system. The arguments and discussions presented in the paper are based on secondary data sources, primarily research reports of analytical studies.

CAPITALISM AS AN ECONOMIC SYSTEM
After the collapse of communism, capitalism was adopted by several countries as a steady economic system. But the destabilizing influences of unchecked capitalism have ignited a lot of debates among intellectual circles regarding its legitimacy. Capitalism is a system in which an individual’s right...
to own and use property takes precedence over social good. Markets cause exchange of goods and services according to ‘the invisible hand’ of demand and supply. There is minimal government intervention in a competitive market. Consumers enjoy the sovereignty of selecting best quality goods at lowest available price. Producers compete for business from consumers adopting various techniques. In both these cases, individual’s self-interest is supreme. In the name of higher productivity there is concentration of resources in the hands of a few. Individual self-interest contrasts with social considerations thereby exacerbating poverty and income inequalities. (Iqbal et al, 2012)

Though markets have been a regular feature of economies since ancient times, the ultimate objective of profit maximisation today, coupled with greed and backed by improvements in information and communication technologies, has created a powerful class of entrepreneurs who behave as kingpins. Distribution of equal opportunities that is very essential to growth is questioned. The laissez faire policy has been criticized severely and government intervention is stressed upon. Unfortunately, governmental policies are accused of favouring the rich at the cost of the poor. Financial activities are rife with speculation and capital is getting diverted into the financial sector rather than the real sector of the economy. Pricing of financial instruments do not reflect the values of goods and services in the real sector. This has been one of the most harmful effects of uncontrolled capitalism.

CAUSES AND CONSEQUENCES OF GLOBAL FINANCIAL CRISIS

To elucidate the ills of capitalism, an attempt is made to highlight factors that led to the global financial crisis 2008. The ‘systemic’ crisis that occurred in the September of 2008 caused bankruptcy of major financial institutions and brought the international financial system to the verge of collapse. It has been observed that the main causes of this crisis have been excessive borrowing, excessive lending and excessive investment. (Arner, 2009) These have been aided by liberal regulatory policies. The increase in borrowing and lending occurred initially in the market for subprime residential mortgages in the United States and later spread to markets throughout the world. Loans for housing were extended without evaluating the repayment capacity of the borrowers. The unchecked credit disbursals also affected other assets like commercial property, corporate loans, commodities and equities in the foreign market. The large scale borrowing and lending was stimulated by excessive investment coming from investors world over.

Adding to these excesses were the techniques of securitization, in which loans secured by residential mortgages were further used as collateral for issuing debt securities. Special Purpose Vehicles were created to issue these securities which were purchased by global investors. The involvement of mortgage brokers, investment bankers and other financial institutions made the system vulnerable to abuse and that was one of the main causes of the credit crisis. Massive investments in debt securities were made in the United States and Europe.

In the face of rising demand, real estate prices started increasing. Central banks attempted to curtail inflationary pressures by raising the rates of interest. The financially weak borrowers of housing loans faced difficulties in meeting their debt obligations and defaults began to rise. New buyers got discouraged from entering the real estate market and housing prices began falling. The downturn spread rapidly throughout the global financial system through the structures of securitization.
Gigantic financial institutions like Lehman Brothers and AIG declared bankruptcy and triggered a systemic financial crisis in USA. Advancements in technology, incentivised regulatory framework, falling rates of interest and a huge demand from global investors were responsible for the crisis which spread very rapidly to different countries in the world. To reduce its impact, Governments interfered by pumping liquidity into the system, extending bail outs, lowering rates of interest, providing guarantees and purchasing assets. Yet the erosion of wealth and capital has been unprecedented.

Ahmed (2011) reveals that the International Monetary Fund reported that 3.6 trillion dollars loss was faced by the banking sector alone. 30 trillion dollars’ worth global shares and 11 trillion dollars’ worth of houses in US lost their value. It was estimated that the around 75 per cent of world GDP was lost during the crisis! And the worst sufferers were the households who had taken home loans. Trillions of dollars spent on bailing out ailing financial institutions did not benefit these households at all. Authorities began to devise norms for stricter financial regulation in the economy.

The setbacks in global financial system have urged economists to call for a review of key concepts in economics and search for alternatives within the broader system. Stiglitz (2010) reiterates that economists should be responsive to the needs of the people. He also stresses on the importance of ethics and morality in economics.

**ISLAMIC FINANCIAL SYSTEM - AN ALTERNATIVE**

Majority of economists agree that the current economic system faces deficiency in moral principles. After the global financial disaster Muslim scholars have promoted the Islamic financial system as alternative to the conventional system. Ahmed and Noor (2011) studied the impact of 1998 and 2008 financial crises on the profitability of Islamic Banks and found that the world Islamic banks’ profitability was not impacted during the crises. Islam as a religion is not confined to ritualistic practices but covers economic, social, political, moral, intellectual and cultural well-being. It operationalizes economic and non-economic variables to acquire optimum allocation of resources and wealth.

It has been observed that the Islam financial system that rests strongly on ethical standards has the potential to deal with the varied socio-economic problems posed by capitalism. Islamic finance revolves around the concept of justice. Any transaction that is unfair either to the borrower or the lender must be avoided. Risks must be shared equally in any financial or business undertaking (Power, 2009). Banks are not merely financiers but partners in business. Exploitation in business is discouraged in the system. Islamic banks have modelled a variety of financial instruments for Muslims as an alternate to interest based conventional finance. The right to own private property and free enterprise are enjoyed under Islamic and conventional capitalism. In the former it is not uncontrolled but regulated by divine injunctions (Elshurafa, 2012). The religious norms uphold the concept of social welfare and discourage materialism. Benefit to society has to take precedence over self-interest and profit motive.

Islamic principles aim to restrict activities that may cause exploitation of people and prevent individuals and institutions from using resources in an unproductive manner due to wrong decisions. An important factor responsible for global financial crisis has been unchecked speculative activities. Islamic law prohibits purely speculative forward
contracts, which have easy approval in the conventional system. This is because in such contracts, payments cannot be tendered at the closing of the contract. Islamic rule requires payment to be made for the goods immediately. Further, both the parties involved in the transaction do not have the intention of possessing or delivering the goods. The buyer does not intend to procure the goods and the seller has no intention of delivering the goods. Sale deeds must contain description of goods, delivery details and clause of immediate payment, which are missing in speculative contracts. Though Islam allows forward sale of goods, engaging in activities akin to gambling is condemned. Since speculative derivatives created havoc in the financial system, this principle of Islamic economics can be adopted in the conventional system.

Alienation of capital has been a prominent feature of capitalism in recent times that is responsible for most of the financial tribulations. Speculative financial products alienate capital from production in the real economy. During the subprime mortgage crisis in US, loans were extended to home buyers at high prices without considering the repaying capacity of the borrowers as these loans were resold to large investment banks. The banks repackaged the home loans into debt securities and resold it with the help of rating agencies that gave high ratings to these financial instruments on receiving good payments from the banks (Saye, 2013). These securities were further repackaged and sold as collateralised debt obligations (CDOs) and in the process millions of dollars were made. These transactions did not add any value nor did they create any good. The boom in the housing sector was due to buying and selling of the debt and not of houses. Banks entered into gambling under guarantees provided by the Government. Even today in many financial markets, loans are extended without sufficient collateral and speculative activities are carried out on a large scale.

Interest is also a form of alienation of capital as the money earned through interest is not associated with the production of real value. The risk of profit and loss are not shared and not linked to economic output. Hence the interest income is not a function of productivity. The Holy Quran prohibits usury. Trade causes flow of goods through exchanges in which both the parties benefit but usury increases greed, destroys value and leads to unequal distribution of risk.

Islam encourages business, commerce and investments but prohibits interest-based lending. ‘Collaborative partnerships’ in which lenders and borrowers share the profit and loss are presented as a feasible alternative provided the business is not in areas prohibited in Islam such as pornography, liquor, pork or gambling. Islamic financial system requires that people should sell only what they own. This principle will serve as a protection against speculative activities that consequentially leads to financial collapse. (Scott Bader-Saye, 2013).

Microfinance is being hailed as a means of financial inclusion and social welfare in the conventional system, offering low interest loans to the poor. Private investors are vying to enter microfinance business to make profits at the expense of the poor. As long as lending is interest based, it is difficult to bring justice in the economy. It causes unfair distribution of profits and exploitation of the poor. Interest free lending prevents the alienation of the lender from the borrower and profit from value. Lenders should enter as partners with the borrowers in commercial activity.

One of the five main tenets of Islam is Zakat that is obligatory charity imposed on individuals owning property of certain value. Proceeds of Zakat can be
used to eradicate poverty and income inequality in society. Similarly, voluntary charity through Sadqa and Waqf is also encouraged so that co-operation of every member in society is sought to bring about justice. To reinforce equity, Islamic financial system prohibits interest, uncertainty and speculation. The stringent Islamic prohibitions create an inbuilt resistance in Islamic institutions against financial crisis. Most of the crises under current capitalist system have been due to failure of moral standards. Elshurafa (2012) has maintained that the effect of the financial crisis would have been less serious if financial systems were designed according to Islamic principles.

CONCLUSION

Islamic finance is growing on a massive scale since the past few years and has potential for future growth and development particularly in banking and investment sectors. It is essential for market participants to change their mindset and accept innovative financial products. Muslim scholars have used various interpretative techniques to apply religious norms to the modern advanced financial sector. Collaboration between scholars in religious doctrines and secular financial experts will assist in devising methods to adapt to the evolving financial system. Co-ordinated efforts between private and public sectors, corporates and academicians are required. Governmental support is needed for alternative approaches to develop.

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FINANCIAL TRIBULATIONS- A CASE FOR ISLAMIC FINANCE


Tutte Polynomial for some Family of Double Triangular Snake Graphs

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Abstract
Tutte polynomial is a polynomial in two variables \( x, y \) with remarkable properties and it can be defined for a graph, matrix and more generally for matroids. Tutte polynomial for an undirected graph contains crucial information about the graph and has wide applications in Computer Science, Physics and Biology. Tutte polynomial is closely associated with various graphical invariants and we can derive many polynomials like Chromatic polynomial, Flow polynomial, Reliability and Jones Polynomial for the graph from Tutte polynomial. More information about the graph are also encoded in this polynomial like number of spanning trees, number of cyclic orientations of the edges and so on, making the study of Tutte polynomial of a graph an important one. In this paper we study the recurrence relation satisfied by Tutte polynomial of double triangular snake graph and some family of graphs related to the snake graphs and its applications.

Keywords: Tutte Polynomial, Snake Graphs

AMS Classification: 05C30, 05C31, 05C05, 68R05

1. INTRODUCTION AND DEFINITIONS

Tutte polynomial is a polynomial in two variables \( x, y \) with remarkable properties and it can be defined for a graph, matrix and more generally for matroids. Tutte polynomial for an undirected graph contains crucial information about the graph and has wide applications in Computer Science, Physics and Biology. Tutte polynomial is closely associated with various graphical invariants and we can derive many polynomials like Chromatic polynomial, Flow polynomial, Reliability and Jones Polynomial for the graph from Tutte polynomial. More information about the graph are also encoded in this polynomial like number of spanning trees, number of cyclic orientations of the edges and so on, making the study of Tutte polynomial of a graph an important one.

There are many ways of defining a Tutte polynomial. The simplest method is to define using deletion contraction property as given below.

1.1: Definition: Let \( G = (V, E) \) an undirected...
multi-graph. The Tutte’s polynomial of the graph G denoted by T(G, x, y), or simply T(G), is defined as follows:

\[ T(G) = \begin{cases} 1 & \text{if } E = \emptyset \\ xT(G-e) & \text{if } e \in E \text{ is a cut edge} \\ yT(G.e) & \text{if } e \in E \text{ is a loop} \\ T(G-e) + T(G .e) & \text{if } e \in E \text{ is neither a loop nor a cut edge}. \end{cases} \]

1.2: Definition: The Triangular snake graph is a graph obtained by joining n triangles in succession so that the block cut point graph is a path. If \( D \) denotes the graph obtained by merging two triangles at a common edge which is the graph obtained by deleting one of the diagonal from \( K_4 \), then the Double Triangular Snake Graph is obtained by merging \( n \) copies of \( D \) as below and we will denote it by \( D_n \).

2. Tutte polynomial of family of Double Triangular Snake Graphs

2.1: Theorem: \[ T(C_n) = x + x^2 + \ldots + x^{n-1} + y \]

2.2: Theorem: If \( G \) is a graph obtained by merging \( k \) copies \( n \)-cycle \( C_n \) at a common point in succession then \( T(G) = T(C_n)^k \)

2.3: Theorem: Let \( H_n \) be the graph obtained by merging \( D_n \) with a triangle at the \( n \)th copy of \( D \) with the vertex of degree 3 as below.

Then \( T(H_n) = (x + x^2 + y)T(D_n) \)

2.4: Theorem: \[ T(D_n) = (x+1)^2 + y(x+y+1) \]

Proof: \[ T(D_n) = \begin{pmatrix} 1 & \ldots & 1 \\ \vdots & \ddots & \vdots \\ 1 & \ldots & 1 \end{pmatrix} = (x+1)^2 + y(x+y+1) \]

2.5: Corollary: \[ T(F_n) = ((x+1)^2 + y(x+2x+1))^n \]

2.6: Theorem: Let \( F_n \) denote the graph obtained by joining the degree 3 vertices of \( D_n \) as below: Then \( T(F_n) = (x+1)^2T(D_n)+[(x+1) + (x+y) + (x+y+1)]T(F_n) \)

Proof: \[ T(F_n) = (F_n - e) + (F_n .e). \] Let \( G_1, G_2, G_3, G_4, G_5, G_6, G_7, G_8, G_9, G_{10} \) be defined as below:
\[ T(F_n) = T(G_1) + T(G_2) \]
\[ = [T(G_3) + T(G_4)] + T(G_1) + T(G_0) \]
\[ = xT(G_3) + T(G_0) + (x + y)^2 T(F_{n-1}) \]
\[ = (x+1)[T(G_3) + T(G_0)] + (x+y)T(F_{n-1}) + (x+y)^2T(F_{n-1}) \]
\[ = (x+1)[xT(D_{n-1}) + T(D_n) + T(F_{n-1})] + (x+y) + (x+y)^2T(F_{n-1}) \]
\[ = (x+1)^2T(D_{n-1}) + [(x+1) + (x+y) + (x+y)^2]T(F_{n-1}) \]
\[ = (x+1)^2T(D_{n-1}) + [(x+1) + (x+y)]T(F_{n-1}) \]

2.7: Corollary:
\[ T(F_n) = (x+1)^2[x(x+1)^2 + y(y+2x+1)^2 + (x+1) + (x+y) + (x+y)^2]T(F_{n-1}) \]

In other words \( T(F_n) = (x+1)^2a + bT(F_{n-1}) \)
where \( a = [x(x+1)^2 + (y + 2x + 1)] \) and \( b = [(x+1) + (x+y)]T(F_{n-1}) \)

2.8: Theorem:
\[ T(F_n) = (x + 1)^2 \sum_{k=0}^{n-3} a^{n-k-1} b^k + b^{n-2}[(x^2 + x)(x + x^2 + x^3 + y) + x(1 + x)^3 + (y + y)^4 + y(x + y)^4] \]
**Proof**: Using theorem 2.6, \( T(F_n) = (x + 1)^2 a^{n-1} + bT(F_{n-1}) \)

\[
= (x + 1)^2 a^{n-1} + b[(x + 1)^2 a^{n-2} + bT(F_{n-2})]
\]

\[
= (x + 1)^2 a^{n-1} + b[(x + 1)^2 a^{n-2} + b^2T(F_{n-2})]
\]

\[
= (x + 1)^2 a^n + b[(x + 1)^2 a^{n-2} + b^2(x+1)^2 a^{n-3} + b^3T(F_{n-3})]
\]

\[
\vdots
\]

\[
= (x + 1)^2 [a^{n-2}b + a^{n-3}b^2 + \ldots + a^3b^{n-3}] + b^{n-2}T(F_2)
\]

\[T(F_n) = T(E_1) + T(E_2)\]

\[= [T(E_2) + T(E_1)] + y(x + y)^4\]

\[= [T(E_2) + T(E_1)] + (x + y)^4 + y(x + y)^4\]

\[= xT(E_2) + T(E_1) + (x + y)^4 + y(x + y)^4\]

\[= (x + 1)(xT(C_2) + T(D_2)) + (x + y)^3 + (x + y)^4 + y(x + y)^4\]

\[= (x + 1)(x(x + x^2 + x^3 + y) + (x + 1)T(D_1) + (x + y)^3 + (x + y)^4 + y(x + y)^4\]

\[= (x^2 + x) (x + x^2 + x^3 + y) + (x + 1)a + (x + y)^3 + (x + y)^4 + y(x + y)^4\]

which proves the theorem.
2.9: Corollary: Let \( \tau(G) \) denote the number of spanning trees of the graph \( G \) then

(i) \( \tau(D_n) = T(D_n,1,1) = 8^n \)

(ii) \( \tau(F_n) = T(F_n,1,1) = 4(n - 2)8^{n-1} + 64.8^{n-2} = 4n8^{n-1} + \frac{n}{2}8^n \)

3. Tutte Polynomial of family of Modified Double Triangular Snake graphs

3.1 Theorem: If \( L_{1,k} \) denote the graph obtained by joining two paths of length 2 with a path of length \( k \) as shown below:

\[
\text{then } T(L_{1,k}) = (x + x^2 + x^3 + y) (1 + x^2 + \ldots + x^{k-1}) + (x + y)^2
\]

Proof: \( T(L_{1,k}) = x^{k-1}T(C_4) + T(L_{1,k-2}) \)
\[= x^{k-1}(x + x^2 + x^3 + y) + x^{k-2}(x + x^2 + x^3 + y) + T(L_{1,k-2}) \]
\[= x^{k-1} + x^{k-2})(x + x^2 + x^3 + y) + T(L_{1,k-2}) \]
\[= (x + x^2 + x^3 + y) (x^{k-1} + \ldots + x^3 + y) + T(L_{1,k-2}) \]
\[= (x + x^2 + x^3 + y) (x^{k-1} + x^{k-2} + \ldots + x + y)^2 \]
\[= (x + x^2 + x^3 + y) (x^{k-1} + x^{k-2} + \ldots + x + 1) + (x + y)^2 \]

3.2 Corollary: If \( L_n,k \) denote the graph obtained by merging \( n \) copies of \( L_{1,k} \) as shown below:

\[
\text{then } T(L_n,k) = ((x + x^2 + x^3 + y) (x^{k-1} + x^{k-2} + \ldots + x + y)^2)^n
\]

3.3 Theorem: If \( S_n,k \) denote the graph obtained by merging \( n \) copies of \( L_{1,k} \) in circular form then,

\[
T(S_n,k) = (x + 1)^2(x^{k-1} + x^{k-2} + \ldots + x + 1)T(L_{n-1,k}) +
\[(x + y)^2 + (y + 2x + 1)((x^{k-1} + x^{k-2} + \ldots + x + 1)T(S_{n-1,k}))
\]
Proof:

\[ T(S_{n,k}) = T(G) = T(G_1) + T(G_2) \]
\[ = x^{k-1}T(G_1) + x^{k-2}T(G_2) + \ldots + xT(G_i) + T(G_s) \]
\[ = (x^{k-1} + x^{k-2} + \ldots + x)T(G_1) + T(G_i) + T(G_s) \]
\[ = (x^{k-1} + x^{k-2} + \ldots + x+1)T(G_i) + (x+y)^2T(S_{n-1,k}) \]

We can find \( T(G_i) \) using procedure similar to theorem 2.6 to get

\[ T(G_i) = (x + 1)^2T(L_{n-1,k}) + (y + 2x + 1)T(S_{n-1,k}) \]

Substituting the value of \( T(G_i) \) we get

\[ T(S_{n-1,k}) = (x + 1)^3(x^{k-1} + x^{k-2} + \ldots + x+1)T(L_{n-1,k}) + \]
\[ [(x + y)^2 + (y + 2x + 1)(x^{k-1} + x^{k-2} + \ldots + x+1)]T(S_{n-1,k}) \]

3.4: Theorem: \( T(S_{n,k}) = (x + 1)^2(x^{k-1} + x^{k-2} + \ldots + x+1) \sum_{k=0}^{n-3} c^{n-k-1} d^k + d^{n-2}T(S_{2,k}) \)

where \( c = (x + x^2 + x^3 + y)(x^{k-1} + x^{k-2} + \ldots + x+1) + (x + y)^2 \) and
\( d = (y + 2x + 1) (x^{k-1} + x^{k-2} + \ldots + x+1) + (x + y)^2 \)

Proof By theorem 3.3

\[ T(S_{n,k}) = (x + 1)^2(x^{k-1} + x^{k-2} + \ldots + x+1)T(L_{n-1,k}) + \]
\[ [(x + y)^2 + (y + 2x + 1)(x^{k-1} + x^{k-2} + \ldots + x+1)]T(S_{n-1,k}) \]
\[ = (x + 1)^2(x^{k-1} + x^{k-2} + \ldots + x+1)c^{n-1} + dT(S_{n-1,k}) \]
\[ = (x + 1)^2(x^{k-1} + x^{k-2} + \ldots + x+1)c^{n-1} \]
\[ + d [(x + 1)^2(x^{k-1} + x^{k-2} + \ldots + x+1)c^{n-2} + dT(S_{n-2,k}) \]
\[ = (x + 1)^2(x^{k-1} + x^{k-2} + \ldots + x+1)(c^{n-1} + dc^{n-2}) + d^2T(S_{n-2,k}) \]
\[(x + 1)^2(x^{k-1} + x^{k-2} + \ldots + x + 1)[c^{n-1} + dc^{n-2} + d^2c^{n-3} + \ldots + c^2d^{n-3}] + d^2T(S_{2,k})\]

**3.5: Theorem:**

\[T(S_{2,k}) = (x + 1)^2(x^{k-1} + x^{k-2} + \ldots + x + 1)^2(x + x^2 + x^3 + y)\]

\[+ (x^{k-1} + x^{k-2} + \ldots + x + 1)(x + 1)(x + y)(y + 2x + 1)\]

\[+(x^{k-1} + x^{k-2} + \ldots + x + y)(x + y)^3[x^{k-1} + x^{k-2} + \ldots + x^2 + \ldots + x^2 + 2x + y]\]

**Proof:**

\[G = S_{2,k}\]

\[M_1\]

\[M_2\]

\[M_3\]

\[M_4\]

\[M_5\]

\[M_6\]

\[M_7\]

\[M_8\]

\[M_9\]

\[M_{10}\]

\[M_{11}\]

\[M_{12}\]

\[M_{13}\]

\[T(S_{2,k}) = T(M_1) + T(M_2)\]

\[= x^{k-1}T(M_1) + x^{k-2}T(M_2) + \ldots + xT(M_{12}) + T(M_{13})\]

\[= x^{k-1}T(M_1) + x^{k-2}T(M_2) + \ldots + xT(M_{12}) + T(M_{13}) + T(M_3)\]

\[(x^{k-1} + x^{k-2} + \ldots + x + 1)T(M_3) + (x + y)^4(x^{k-1} + x^{k-2} + \ldots + x + y)\]

\[T(M_4) = T(M_5) + T(M_6)\]

\[(xT(M_5) + T(M_6) + (x + y)^3(x^{k-1} + x^{k-2} + \ldots + x + y)\]

\[= (x + 1)[(xT(M_{12}) + T(M_{11})] + (x + y)^3(x^{k-1} + x^{k-2} + \ldots + x + y)\]

\[= (x + 1)^2T(L_{1,k}) + (x + 1)(x + y)^2(x^{k-1} + x^{k-2} + \ldots + x + y)\]

\[+ (x + y)^3(x^{k-1} + x^{k-2} + \ldots + x + y)\]

Thus, \[T(S_{2,k}) = (x + 1)^2(x^{k-1} + x^{k-2} + \ldots + x + 1)^2(x + x^2 + x^3 + y)\]

\[+ (x + 1)^2(x + y)^2(x^{k-1} + x^{k-2} + \ldots + x + 1)\]

\[+ (x + 1)(x + y)^2(x^{k-1} + x^{k-2} + \ldots + x + 1)(x^{k-1} + x^{k-2} + \ldots + x + y)\]
+ (x + y)^3 (x^{k-1} + x^{k-2} + ... + x + 1) (x^{k-1} + x^{k-2} + ... + x + y)
+ (x + y)^4 (x^{k-1} + x^{k-2} + ... + x + y)

Hence the theorem is proved.

3.6: Corollary: Let τ(G) denote the number of spanning trees of the graph G then
(i) \(τ(L_{n,k}) = T(L_{n,k}, 1, 1) = 4^n (K + 1)^n\)
(ii) \(τ(S_{n,k}) = T(S_{n,k}, 1, 1) = 4^n k(k + 1)^{n-1} + 512k (k + 1)^{n-1}\)

3. CONCLUSION

In this paper, the recurrence relations satisfied by the Tutte polynomial of the double triangular snake graphs and family of related graphs are arrived. These recurrence relations are solved to arrive at a formula for calculating the Tutte polynomial directly. As an application of the derived result, the number of spanning trees of these graphs are calculated and shown. Many other results can also be arrived at like chromatic polynomial, flow polynomial of these graphs.

REFERENCES


Etiology of Burns and Expected Mortality Risk Factors in Paediatric Burn Patients Admitted in Burns Centre of Civil Hospital, Karachi

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Abstract
The subject of pediatric mortality due to burns has been thoroughly investigated in many countries worldwide with Inhalational injury, Total body surface area (TBSA) involved and the degree of burns were strong predictors of mortality amongst pediatric patients. Appropriate and timely First aid at the site of accident significantly contributes in decreasing mortality. Lack of awareness amongst general population regarding injury prevention and control measures and ineffective ambulance system for transportation of burned patients to specialized burn centers are important factors responsible for most of the deaths in cases of critical burns. Studies conducted in Pakistan show that the highest mortality was noted in children more than six year and least in age group between 3-6 years. So the aim of our study was to assess the factors which led to increased mortality amongst paediatric burn patients in Karachi, Pakistan.

Keywords: Pediatrics, Burn, Mortality, Total Body Surface Area Burnt (TBSA)

OBJECTIVE
To assess the etiology of burns and risk factors associated with mortality amongst the pediatric patients in Burns Units of Civil Hospital Karachi.

METHODS
Cross sectional study nonprobability descriptive study of Pediatric Burn Patients admitted in Burns Ward, Civil Hospital Karachi was conducted.
ETIOLOGY OF BURNS AND EXPECTED MORTALITY RISK FACTORS IN PAEDIATRIC BURN PATIENTS ADMITTED IN BURNS CENTRE OF CIVIL HOSPITAL, KARACHI

A sample size of 227 was calculated. Records of patients were obtained after proper consent from the Burns ward of Civil Hospital Karachi. Statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) Version 20.00. Chi square test and descriptive frequencies were used.

RESULTS

The total patients were 227 which included 59.5% (135) males and 40.5% (92) females. Most cases were accidental, and Scald was the most common type of burn. Amongst the total admissions 89% (202) had 10-50% total body surface area burnt. Highest mortality was seen in patients with multiple burns. Significant relationship was analyzed between the nutritional status of patients as assessed by albumin levels and mortality (p=0.004). Total mortality reported was 28.2% (64 patients) with highest mortality in patients aged 1-5 years.

CONCLUSION

Our study suggests that the most important single predictor of mortality in pediatric burn patients is %TBSA. Early access to fluid resuscitation, appropriate management of associated complications and proper nutritional support are needed to improve pediatric burn survival.

INTRODUCTION

The subject of pediatric mortality due to burns has been thoroughly investigated in many countries worldwide. Inhalational injury 1,2,3,4, Total body surface area (TBSA) involved, the degree of burns 5, the age of the patient 7, location of wound 8 were strong predictors of mortality amongst pediatric patients. severe pneumonia and septicemia following burn injury accounted for a major cause of mortality 6.

Appropriate and timely First aid at the site of accident significantly contributes in decreasing mortality. Long distance travel leading to late presentation to health facilities, lack of well-equipped burn centers and trained medical personnel and non-existing early excision and skin grafting contributes significantly to increasing morbidity and mortality 2. Lack of awareness amongst general population regarding injury prevention and control measures and ineffective ambulance system for transportation of burned patients to specialized burn centers are important factors responsible for most of the deaths in cases of critical burns 2. Wound sepsis also contributes significantly to high mortality among burn injury patients 2,3 where multi-drug resistant organisms causing significantly higher mortality 8. Studies conducted in Pakistan show that the highest mortality was noted in children more than six year and least in age group between 3 - 6 years 9.

MATERIALS AND METHODOLOGY

A cross sectional non-probability descriptive study of Pediatric Burn Patients admitted in Burns’ ward, Civil Hospital Karachi was conducted. The sample size was calculated to be 227 using open epi software, taking 95% as confidence interval and 5% as confidence level. Self-Administered Questionnaire including patient’s Age, gender, Cause of injury, Type of injury, Total body surface area (TBSA), Nutritional Status (Total Protein) and other variables have been included in the study.

Records of patients were obtained after taking permission from Burn Centre, Civil Hospital Karachi. Study includes all patients who are eligible.
into the inclusion criteria and were admitted in the Burns Center, Civil Hospital Karachi. Questionnaires were completed by the investigators using the provided records.

Statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) Version 20.00. The data of categorical variables were presented as counts and percentages; the data of continuous variables were presented as the mean and standard deviation. Chi-square test and descriptive frequencies were used for analyzing all categorical data (gender, mortality).

The inclusion criteria included children from birth till 12 years of age, children only from Karachi and children with diseases other than congenital anomalies, Epilepsy, Asthma, Malignancies will be included. patients who left against medical advice were excluded from the study.

RESULTS

The total number of admissions were 227 with 59.5% (135) males and 40.5% (92) males with a mean age of 4.8 (SD 3.3 years) with %of mortality being highest in the age group ranging from 1-5 years. Mean Duration of hospital stay was 10.6 days (SD 1.1 days)

Scald was the most common type of burn occurring in 139 (61.2%) of the patients, followed by fire burns 77 (33.9%), electrical burns 7 (3.1%) while chemical burn was the least common with only 4 (1.8%) patients reported chemical burn injury.

Except for 1 suicidal cause of burn, the rest 226 were accidental in nature. Only 3.1% (7) patients burnt outdoor, 0.4% (1) burnt on a ship whereas 96 % (218) patients were burnt indoors.

Amongst the total admissions 89% (202) had 10-50% total body surface area burnt (being the most common category), whereas 9.7% (22) had <10% TBSA burnt while only 1.3% (3) had >50% TBSA burnt. The percentage of TBSA burnt is significantly associated with mortality (p=0.003), with 92% (59) deaths having TBSA 10-50 %.

The regions of body burnt included the head and neck, trunk, arms, legs, buttocks and genitalia; with multiple burns (“involving more than three region) being the most common category constituting 156 (68.7%) of the patients, and mortality reported in this category was highest, constituting 56 (87.5%) of total deaths reported. Amongst single region burnt, trunk was the most common constituting 20 (8.8%) of the patients and buttocks and genitalia being the least common category, constituting 6 (2.6%) of all patients.

Significant relationship was analyzed between the nutritional status of patients as assessed by albumin levels and mortality (p=0.004). Regarding the length of time to IV access 7.5%(17) patients were resuscitated with IV fluids within the first hour of burn, 21.1% (48) within 1-4 hours and 71.4% (162) presented after 4 hours of injury.

Total mortality among the reported cases was 28.2% (64 patients). Mortality was higher among the 1-5years of age accounting for 60.94% (39) of all deaths reported.

DISCUSSION

According to our study, children between 1-5 years of age most prone burns which is similar to studies conducted elsewhere, our study also confirms that higher percentage of total body Surface Area (TBSA) involved results in higher morbidity and
mortality amongst pediatric patients. According to our study the highest number of deaths were in the burn series from 10 – 50% while none of the patients with more than 50% burns survived. 3% deaths in children with less than 10% burns indicates that minor burns can cause mortality in children if not managed adequately and that there are other factors contributing to mortality.

Nutritional status is an important predictor of mortality amongst burn patients especially children, the reason being that a poor nutritional status leads to decreased immunity and slow healing of tissues therefore leading to a higher risk for sepsis and hypovolemic shock after burn injury. According to our study respiratory failure was also an important cause of mortality along with wound infection and sepsis.

According to our study scald burns were the most common type of burns, this is similar to studies conducted by Magshoudi et al. who reported that most of fatal injuries result from flame burns of the skin and associated inhalation injury but our study reports more deaths due to scald burns than flame burns making it the most frequent type of burn causing pediatric mortality.

According to our study, the frequency of scald burns decrease as the child’s age increases. While scald burns are most commonly encountered in children less than 5 years, but flame burns are the most common type in children up to 12 years of age. Though electrical and chemical burns are rare in children less than 1 year of it, the frequency is highest in children 5-12 years of age.

Table 1: Table Showing the Region of Burns and Mortality associated with the Region of Burn

<table>
<thead>
<tr>
<th>Region of Burns</th>
<th>Frequency of Admissions</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N (%) Total =227</td>
<td>N (%) Total =64</td>
</tr>
<tr>
<td>Head and Neck</td>
<td>11 (4.8)</td>
<td>1 (1.5)</td>
</tr>
<tr>
<td>Trunk</td>
<td>20 (8.8)</td>
<td>3 (4.6)</td>
</tr>
<tr>
<td>Upper Limbs</td>
<td>15 (6.6)</td>
<td>2 (3.1)</td>
</tr>
<tr>
<td>Lower Limbs</td>
<td>19 (8.4)</td>
<td>2 (3.1)</td>
</tr>
<tr>
<td>Buttocks and Genitalia</td>
<td>6 (2.6)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Multiple</td>
<td>156 (68.7)</td>
<td>56 (87.5)</td>
</tr>
</tbody>
</table>

Table 2: Table showing the % of Total Body Surface Area Burnt and Mortality Associated with Severity of Burns

<table>
<thead>
<tr>
<th>% of Total Body Surface Area Burnt</th>
<th>Frequency of Admissions</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N (%) Total =227</td>
<td>N (%) Total =64</td>
</tr>
<tr>
<td>1-10</td>
<td>22 (9.7)</td>
<td>2 (3)</td>
</tr>
<tr>
<td>11-50</td>
<td>202 (89)</td>
<td>59 (92.1)</td>
</tr>
<tr>
<td>51-100</td>
<td>3 (1.3)</td>
<td>3 (4.6)</td>
</tr>
</tbody>
</table>
The higher scalds and electrical burns in our population owes due to smaller housing facilities, overcrowded residential areas, improper construction and insulation, improper electrical wiring, frequent power breakdowns, easy access to inflammables, improper disposal of inflammables. Boys sustain more injuries than girls in all age groups. The increased number of male patients compared with female patients is common in studies from Iran. Another major predictor in mortality was the length of time to intravenous access. Burns that received resuscitation fluids within the first hour had a significantly higher chance of survival. Our study was conducted in the only Burns Unit present in Karachi which facilitates patients from not only Karachi but also the urban and rural areas of Sindh and Balochistan province so longer distance to hospital access, lack of awareness in rural areas, lack of First Aid facilities is a major factor contributing to significant morbidity and mortality.

CONCLUSION

Our study suggest that although length of time to IV access and development of respiratory failure are associated with increasing mortality, the most important single predictor of mortality, in pediatric burn patients is % Total body surface area burnt in which most of the cases were found to have TBSA burnt between 11-50%. Early access to fluid resuscitation, appropriate management of associated complications and proper nutritional support are important measures that are needed to be taken to improve pediatric burn survival.

REFERENCES


ETIOLOGY OF BURNS AND EXPECTED MORTALITY RISK FACTORS IN PAEDIATRIC BURN PATIENTS ADMITTED IN BURNS CENTRE OF CIVIL HOSPITAL, KARACHI


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The Rizvi Education Society was established by Dr. AKHTAR HASAN RIZVI in the year 1982 with a vision to make education available to all sections of society. The first successful endeavor, towards, realizing this goal is the establishment of Rizvi College of Arts, Science & Commerce in the academic Year 1985-86 and a line of successful ventures followed, to include twenty two institutes in all, not only in Mumbai but in Jaunpur, Allahabad (Kaushambi, Karari) as well.

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