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**RESEARCH METHODOLOGY
IN
SOCIAL SCIENCES**

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**V.H.N.SENTHIKUMARA NADAR COLLEGE
VIRUDHUNAGAR**

© V.H.N.Senthikumara Nadar College, Virudhunagar, August, 2010

First Edition : August, 2010

Price : Rs.750/-

Published by : Virudhunagar Hindu Nadars' Senthikumara Nadar College
College Road
VIRUDHUNAGAR - 626 001
Tamil Nadu
INDIA

Website : www.vhnsnc.in, www.vhnsncollege.in

E-mail : support@vhnsnc.in

ISBN : 978-81-910426-1-0

Typesetting and Printed at : Ashwini Printers
21, Madurai Road,
Virudhunagar
Ph : 04562 -266245
e-mail : ashwiniprinters@ymail.com

1.7. Conclusion

Personal Competence is a collection of behaviors including concentration, intensity, persistence, and self-efficacy. Personal competence is the ability to do something well, measured against a standard, especially ability acquired through experience or training relating to a specific person rather than anyone else.

The fact which is known from the study only meager of the respondents is never ready to act on opportunities. There is a close relationship between experience of the respondents and persist in pursuing goals despite obstacles and setbacks. It can be inferred that there is a close relationship between Nature of College and the Performance affected by emotions. The fact which is known from the study is that majority of the respondents manage their disruptive emotions and impulses by stay composed, positive, and unflappable

even in trying moments. In choosing the reason for innovativeness, the important reason is "Entertain original solutions to problems.

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DAY-OF-THE-WEEK EFFECT ON THE INDIAN STOCK MARKET: AN EMPIRICAL ANALYSIS

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Introduction

The Efficient Stock Market ensures rapid information access so that it may instantaneously process the information to reflect the security prices. The information transmission mechanism ensures that the stock returns across all days of the week are equal. No market participant can earn any extra normal returns. Hence, identical mean returns across all days support the proposition of the Efficient Market Hypothesis.

An Efficient Market is one where the large number of rational and informed investors actively competes with one another. The Market Efficiency assumed in spite of the Tax Asymmetries, Information Asymmetries, Difference in Transaction Costs, Trading Restrictions, Week-End-Effects, and Varying Trading Practices etc., cropped up over the years. The Stock Return Behavior has been subjected to extensive research in the past. More specifically, the Researchers found that the returns on Monday were significantly negative and Friday experienced high positive returns. This observation is generally referred to as 'day-of-the-week-effect' or 'the-week-end-effect'.

With the introduction of the Compulsory Rolling Settlement in the Indian Stock Markets in January 2002,

the weekly settlement cycles of Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE) were done away with. Earlier, the NSE had arranged a settlement cycle of Wednesday to Tuesday with Wednesday being the first day of the cycle and Friday the last, and BSE has a trading cycle of Monday to Friday. These different cycles permitted the Speculators to switch their positions from one exchange to another suiting their investment strategy. With the introduction of Rolling Settlement of t+2 days, the earlier speculative practices are just not possible. Now positions are required to be squared on a daily basis and all open positions at the end of the day to must compulsorily be settled after two trading days.

In this completely changed face of the markets, it is useful to re-examine whether a day-of-the-week pattern still exists in the Indian Stock Markets. The pattern, if it still exists, will be an anomaly under the Efficient Market Hypothesis (EMH). The day-of-the-week effect refers to the existence of a pattern on the part of stock returns, according to which these returns would be linked to the particular day of the week. The presence of such an effect would mean that equity returns are not independent of the day-of-the-week evidence against Random Walk Theory.

REVIEW OF LITERATURE

A brief review of select studies has been presented here to identify the research gap and suitability of methodologies to be employed in the area of research. **Selvarani.M and Leena Jenefa (2009)**, analyzed the trends in annual returns and daily returns for the period of 2002-07. A set of parametric and non-parametric tests were employed to test the equality of mean returns and standard deviations of the returns. It was found that in the NSE, there was strong evidence of April and January effect. After the introduction of the Rolling Settlement, Friday had become significant. As far as Day Effect is concerned, Tuesday Effect was more prevalent than Monday Effect. **Ramesh Chander, Kiran Mehta and Renuka Sharma (2008)** tested the pattern in order to find out whether it yields abnormal returns consistently for any specific day of the week. The Study found that there was a lowest return on Friday under the BSE in the Pre-Rolling Settlement Period. After the Compulsory Rolling Settlement Period, the Friday returns were the highest and those on Monday were the lowest. This was credible evidence for the day-of-the-week effect. **Goloka C Nath and Manoj Dalvi(2005)**, used both high frequency and end of day data for the benchmark index (S&P CNX Nifty) during the Study period of 1999 to 2003. It is to be noted that using regression with bi-weights and dummy variables, the Study found that before the introduction of Rolling Settlement in January 2002, Monday and Friday were significant days. However, after the introduction of the Rolling Settlement, Friday alone had become significant. This indicated that Fridays, being the last day of the week were significant after the Rolling Settlement. Mondays were found to have higher standard deviations, followed by Fridays. The existence of market inefficiency was clear. **Amanulla.S And Thiripalraju (2001)**, tested whether the carry - forward transactions in different periods have any impact on week-end effect in Indian Stock Market during the study period (January 1990 to December 1999). This Study further found that there was consistent positive return on Wednesday and negative return on Tuesday due to possible impact of National Stock Exchange(NSE) on the week end effect. **Ravi Anshuman.V and Ranadev Goswami (2000)**, examined the week-end effects by using equally weighted portfolio constructed from 70 stocks listed on the BSE during the study period

(April 1991 - March 1996). The Study evidenced the (heteroskedasticity adjusted) excess positive returns on Friday and excess negative returns on Tuesday. The excess (negative) returns on Tuesdays were largely due to the returns in the Post Rolling Settlement Period. The excess (positive) Friday returns were related to firm size. Interestingly, both Badla and Non-Badla Stocks experienced similar day-of-the-week effects.

The above literature provides an overview of different Valuation Models associated with the valuation of day of the week effects in Indian Stock Markets. An attempt has been made in this Study to analyze "Day of the Week Effects in Indian Stock Market".

STATEMENT OF THE PROBLEM

It is a well proven fact that in India, investments and returns are usually higher on all Fridays. On the other hand, investors begin their response on Mondays with a negative note. Therefore, the investments and returns profiles are very low on Mondays. An Efficient Stock Market ensures rapid information access so that it can instantaneously process the information to reflect on security prices. The returns constitute only one part of the decision making process. Another part that must be taken into account while making investment decision is the calculation of risk or volatility of returns. It is important to know whether there are variations in volatility of stock returns by the day-of-the week and whether high (low) return is associated with a correspondingly high (low) volatility for a given day. If the investors can identify certain pattern in volatility, then it would be easier for the investors to make investment decisions based on both returns and risk. Hence an attempt has been made in the present Study to investigate the day-of-the week effect in Indian Stock Market by using the two major indices namely, S&P CNX 500 and BSE 100 Index.

OBJECTIVES OF THE STUDY

The following are the objectives of the present Study.

- To examine whether the day of the week pattern still exists in the Indian Stock Markets.
- To summarize the findings of the Study.

HYPOTHESES OF THE STUDY

The present study tested the following hypotheses.

- H_0 - There is no significant difference in returns of different trading days of the week.

The alternative hypothesis (H1) can be specified as
 $H_0 = \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5$
 $H_1 = \mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4 \neq \mu_5$

METHODOLOGY OF THE STUDY

a) Sample Selection

BSE 100 Index and S&P CNX 500 Index were considered as Sample Index. The S&P CNX 500 is India's first broad based benchmark of the Indian Capital Market. It represents about 92.57% of total market capitalization and about 91.17% of the total turnover on the NSE as on Sept 30, 2009.

b) Sources of Data

The required information for the present Study were collected from the www.nseindia.com and proweiss; which is a corporate database maintained by CMIE.

c) Period of the Study

The Period of Study covers eight years from 1st January 2002 to 31st December 2009.

TOOLS USED FOR ANALYSIS

In this Study, independence of return series was for Nifty Index and the returns on Bank Nifty Index were calculated as follows.

i) Returns:

$$R_t = \ln(P_t / P_{t-1}) * 100$$

Where,

R_t Returns at the time t.

P_t The Closing Price of the Day.

P_{t-1} The closing price of the day t-1.

ii) Descriptive Statistics

Under descriptive statistics of the Daily Returns, standard deviation, Skewness and Kurtosis were analyzed.

iii) Kruskal-Wallis Test

The Kruskal-Wallis Test is an appropriate one for testing the data typified of non-normality, heteroskedastic variance like security returns (Jason, 1996). The Kruskal-Wallis Test employed for testing the equality of mean returns for different days of the week. The Kruskal-Wallis Test ranks the entire set of observations- higher the value, higher the rank and vice-versa - and then arranges them into $n_j \times 5$ matrix where n_j represent the rank of the return and columns represent the day-of-the-week - Monday through Friday. The formula for calculating the Test Statistic 'H' is as under:

$$H = \frac{12}{N(N+1)} \sum_{j=1}^5 \frac{R2_j}{n_j} - 3(n+1)$$

where: R_j = Sum of the Ranks in the jth Column

n_j = Number of Cases in the jth Column

N = Sum of Observations in all the Columns.

Analysis of the Study

For the purpose of the Study, the analysis was arranged as follows.

1. Analysis of Descriptive Statistics for BSE 100 Based Daily Returns
 2. Analysis of Descriptive Statistics for S&P CNX 500 Based Daily Returns
- 1. Analysis of Descriptive Statistics for BSE 100 Based Daily Returns**

The analysis of BSE 100 Index is given in Table-1. The Table shows that the mean returns of BSE 100 Index earned positive returns for all trading days and they were higher (0.1909) on Friday and lower (.0257) on Monday. The Standard Deviation of Return was the highest (2.1239) on Monday and lowest (1.5588) on Thursday. This indicated that the Scripts in BSE 100 Index were more volatile on Monday and less volatile on Thursday. Thus, an Average Day Trader could benefit from such volatility. The Skewness of Returns Distribution was found to be positive for Tuesday, while it was negative for remaining days. The Peak of the Return Distribution shows that it was leptokurtic for all trading days. The Kruskal-Wallis Statistic of 4.749 was lower than the Table Value of 9.49 at 5% level of significance for 4 degrees of freedom. Thus, there is no evidence to reject the null hypothesis that there is no difference in the mean returns among the trading days of the week. In other words, day of the week effect did not exist for BSE 100 Index during the Study Period. Graph 1 clearly shows that, in respect of BSE 100 Index, the mean returns were positive for all days in the week, highest being on Friday and lowest on Monday.

2. Analysis of Descriptive Statistics for S&P CNX 500 Based Daily Returns

Table-2 describes the results of Descriptive Statistics for S&P CNX 500 based Daily Returns, Standard Deviation, and Skewness and Kurtosis for the Study Period from 2002 to 2009. It is inferred that the S&P CNX 500 Index earned maximum daily mean returns of 0.2062 on Friday, with a Standard Deviation of 1.7688. The highest value of Standard Deviation (2.0989) was recorded on Monday and the least Standard

Deviation of 1.5289 was recorded on Thursday. This clearly indicates that the market was more volatile on Monday and least volatile on Thursday during the Study period. The Kurtosis measure of Return Distribution was Leptokurtic for all days of the week, showing highest value (15.31) on Monday. The Returns Distribution was positively skewed for Monday and Tuesday and negatively skewed for other trading days of the week. The Kruskal-Wallis Statistics of 6.979 was lower than the Table Value of 9.49 at 5% level of significance for 4 degrees of freedom. Hence, the null hypothesis "there is no significant difference in the mean returns among the trading days of the week cannot be rejected". In other words, the day of the week pattern did not appear to exist for S&P CNX 500 Index. Graph 2 also shows that, the mean returns were positive for all days in the week, highest being on Friday and lowest on Tuesday for S&P CNX 500 Index.

SUMMARY OF FINDINGS OF THE STUDY AND SUGGESTIONS

The following are important findings and suggestions of the Study.

1. The Study found that the highest mean returns was earned on Friday for both the Selected Indices and lowest mean returns on Monday & Tuesday for BSE 100 Index and S&P CNX 500 Index respectively, were recorded for the study period. Hence, investors are informed that they could expect high returns on Fridays.
2. Investors are advised to take investment decision on Fridays.
3. The Study also found that the highest value of Standard Deviation was recorded on Monday and least value of Standard Deviation was recorded on Thursday for both the Indices. This indicates that the Indian Stock Market was more volatile on Monday and least volatile on Thursday during the Study Period.
4. During the Study Period, the Kurtosis measure of Returns Distribution was leptokurtic for all days of the week, and it was the highest being on Monday for both the Selected Indices.
5. It is noted that the Returns Distribution was positively skewed for Monday and Tuesday and negatively skewed for the remaining days.
6. The Kruskal-Wallis Test Statistic was lower than the Table Value for both the Selected Indices.

7. The day of the week pattern did not appear to exist for BSE 100 Index and S&P CNX 500 Index.

CONCLUSION

The present Study investigated the day of the week effect on stock returns for BSE 100 Index and S&P CNX 500 Index of NSE. The Study found that there was a maximum returns on Friday. The mean returns of all trading days of the week were positive. This implies that the National Stock Exchange indicates a positive trend during the Study Period. The returns of the Stock Market were not independent across different trading days of the week. Hence, Investors should be cautious enough to exploit the benefit that he/she may earn from the strategy i.e., to buy the securities on the day with the lowest mean returns and sell them on a day with the highest mean returns. The Study also provides evidence that the market was not able to price the risk appropriately as higher returns were possible by taking less risk and this indicates market inefficiency. The Study found out that the day of the week pattern did not appear to exist in Indian Stock Market. The day-of-the-week effect provides an interesting anomaly to the Efficient Market Hypothesis (EMH) after the introduction of Rolling Settlement.

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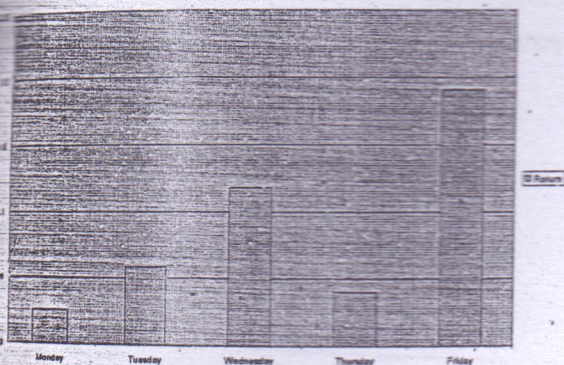
TABLE - 1

DESCRIPTIVE STATISTICS FOR BSE 100 BASED
INDEX RETURNS DURING 2002-2009.

Weekday	Monday	Tuesday	Wednesday	Thursday	Friday	All Days
N	397	398	401	396	394	1987
Mean	0.066004	0.051185	-0.12553	0.067693	0.206176	0.516588
Std. Deviation	2.098908	1.568204	1.574823	1.523946	1.768899	8.53978
Skewness	0.033249	0.159907	-0.10417	-0.48934	-0.99653	-1.39688
Kurtosis	15.31436	6.938541	5.760883	5.833729	9.561831	43.40934
K-Statistic	6.979					

Source: Computed from PROWESS

Graph 1: Average Return of Each Day for BSE 100 Index



Source: Computed from Table-1

IMPACT OF INFORMATION TECHNOLOGY ON BANK EMPLOYEES' ATTITUDE

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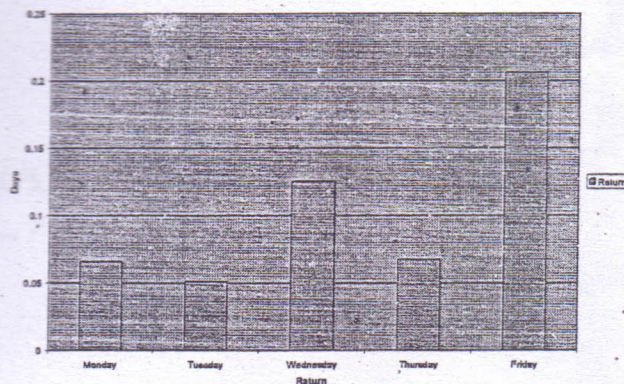
In the ever changing global scenario, banking business proved to be agile in adopting latest technology to improve its services and efficiency. Implementation of technology in banks is to be driven by business compulsions rather than regulatory requirements. Selection for the most appropriate technology for a specific purpose from the lot of options available in the market is the most critical concern. It is essential to

TABLE - 2
DESCRIPTIVE STATISTICS FOR S&P CNX 500
INDEX DURING 2002-2009.

Weekday	Monday	Tuesday	Wednesday	Thursday	Friday	All Days
N	397	398	401	396	393	1985
Mean	0.066004	0.051185	-0.12553	0.067693	0.206176	0.516588
Std. Deviation	2.098908	1.568204	1.574823	1.523946	1.768899	8.53978
Skewness	0.033249	0.159907	-0.10417	-0.48934	-0.99653	-1.39688
Kurtosis	15.31436	6.938541	5.760883	5.833729	9.561831	43.40934
K-Statistic	6.979					

Source: Computed from PROWESS

Graph 2: Average Return of Each day for S&P CNX 500 Index



Source: Computed from Table-2

ensure that the solution in the offing should be scalable to future requirements, secure, user friendly, vendor supported and easy to handle. Absorption and effective utilization of new technologies involve changes in structure, organization, systems as well as "attitude" of the people working in banking industry.

The foremost impact of technology is that the existing manpower in banks is manifested the resistance