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About the Journal

The Educator – the FIMT Journal having (ISSN No. 2277-9736) is a *peer-reviewed* and Bi-annual journal. It welcomes original papers from both academicians and Professionals on management, business, economics and related issues. Papers, based on theoretical or empirical research or experience, should illustrate the practical applicability and/or policy implications of work described.

The Journal has the following features:

- ***Perspectives*** presented on emerging issues and ideas that call for action or rethinking by managers, administrators, and policy makers in organizations. Recommended length of the article is 12,000 to 15000 words.
- ***Research*** includes research articles that focus on the analysis and resolution of managerial and academic issues based on analytical and empirical or case research. Recommended length of the research paper is about 20,000 words.
- ***Management Case*** describes a real-life situation faced, a decision or action taken by an individual manager or by an organization at the strategic, functional or operational levels.

Review Process: Two or more referees will review all contributions by following the 'double blind' system. **The Educator –the FIMT Journal** reserves the right of making editorial amendments in the final draft of the manuscript to suit the journal's requirements.

Editorial Policy

Journals focused towards the publication of current research and review work carried out globally. All contributions to the journal are rigorously refereed and are selected on the basis of quality and originality of the work. The journal publishes the most significant new research and review work in all areas pertaining to its scope and research being done in the world, thus ensuring its scientific priority and significance.

Research Communication

These embody important findings that are novel and by coverage are of reasonably wide interest. Communications should contain a brief abstract and an introductory paragraph. It is important to note that text should not be divided under subheads. Journal adheres to a stringent review/ screening process for considering a manuscript for publication in it. If a manuscript withstands an initial pre-screening test based on the aforesaid guidelines, it is forwarded to a detailed main-screening by competent reviewers/editors and referees. Here a manuscript is further grilled by another subject expert separately. If consensus in the prescreening and main screening is not arrived- at, on acceptance or rejection of, an opinion from third expert is sought for.

Chairman Message

It is a matter of great pleasure and responsibility for the FIMT family in bringing out the second issue of its Bi-annual Educator –the FIMT Journal Volume II No. I January – June, is a testimony of our dedication and vision. This step is towards enhancing the capabilities and enhancing the skills of the upcoming talent in the field of research.

The FIMT is known for best infrastructure for student and faculty. It provides open, healthy, academic environment, innovative thinking, and student's oriented approach with global perspectives, where students are "Most Important Person – MIPs and all resources of our institute are used to build a new cadre of global professionals.

In such a short span of time, it has established the tradition of being innovative and open and this is why I am so profoundly proud to be part of this institute with its short but proud history. I am confident that the FIMT "educator" is planned to provide a platform to the teachers and academicians to be creative and share their knowledge and learning with other resources from the industry at large.

One of the most significant gaps in our professional education in the country is its weak linkage with the industry and professionals. Until and unless we take creative steps to strengthen this linkage, Professional education will not receive the respect it deserves. I trust that "educator- the FIMT Journal develops into a comprehensive document to divulge the knowledge on socially, culturally and scientifically relevant subjects and does the yeoman services for the larger interest of humanity.

The editorial team deserves appreciation of their sincere efforts to being forth the diverse achievements of the institute. I congratulate the Director, Faculty, and the managing editor of the Educator for successfully bringing out their purposeful Journal. I am sure this positive work will continue in future also and will be able to achieve the objectives of this journal.

I invite all the persons who are engaged in research to participate in the process of knowledge creation and its disbursement to concern stakeholders.

(Chairman)

From The Editorial Board

"The mind is not a vessel to befilled, but afire to be kindled." — Plutarch

It gives me immense pleasure to bring to you the Second issue of educator 2012. Conceived, initiated, and contributed by faculty members from various universities, the journal is a pioneering Endeavour of a college. It is a small step to bring together the minds of academia, researchers, and readers in one bind.

We believe that learning is a never-ending process and one continues to discover oneself in this journey. However, this process is not an isolated and individual venture. It requires an impetus and environment to thrive and flourish in. Keeping this aim in mind, the journal seeks to facilitate this learning environment. It is a concerted effort to give academic researchers a platform to present their ideas in front of an erudite community. The journal is a collection of the best papers contributed by academics that have spent years specializing in the field of commerce, accounting, business management and law.

Given the dynamic nature of commerce and business world, the best ideas are those that can stay abreast of changes in business and technology. The journal has therefore chosen papers that display this foresight and can stand the test of debate and discussion. It is a two-way process that benefits the consumer of this journal and the authors by opening up new questions, study, and investigation. It aids teachers to introduce this newfound learning into their classroom instruction.

This issue includes papers on various facets of management. The journal has been designed to cover the research papers, and articles.

During the process of editing, I learnt lot of practical things — how to Select, proofread, process of publishing, technology involved and post publication issues. I am thankful to the patron, Ms. Nalini's, the secretary of society who provided his able guidance while giving the team a free hand in the whole process. The elite Editorial Board and the members of team deserve a vote of appreciation and thanks for giving a fine shape to the present issue. We hope you enjoy reading our articles as much as we enjoyed writing them. This Journal will ensure to explore the new researches from the industry and academia in future.

Editorial Board

Contents

A Study on the Awareness among Elementary School Teachers in the National Capital Region on "The Right of Children to Free and Compulsory Education Act, 2009" (Right to Education Act)

Dr Saroj Vyas*

ABSTRACT : The study was conducted to explore the awareness on RTE (Right to Education) Act, 2009 among elementary school teachers in the National Capital region. The sample of 160 elementary school teachers was drawn from Delhi and NCR. A self made questionnaire comprising 20 multiple choice items was used by the investigator. The study has brought out that the level of awareness among teachers included in this study is not up to mark, even after more than one year of implementation of this Act. Major finding of the study reveals that Government teachers are comparatively more aware as compared to Non-Government teachers.

INTRODUCTION

For the development of any country education for all is a necessary pre-requisite. To make this a reality, a positive beginning was made by the government in India and the Right to Education Act was passed by the Indian Parliament on 4th August, 2009. The Act describes the modalities having the provision for free and compulsory education for children between 6 to 14 years under Article 21A of the Indian constitution. This Act makes education as fundamental right of every child enforceable by law. The basic theme of free education implies that the children of prescribed age group shall be exempted from any fees, charges or expenses for pursuing elementary education. However, this free and compulsory elementary education is restricted to education from class first to eighth only. The Act is having thirty seven sections which are part of seven chapters and one schedule.

The disheartening fact is however, that today more than eight million children, who should be in schools are still out of schools and are sweating in and out in farms and factories as child labourers, despite the enactment of much-hyped RTE Act. India has the second largest education system in the world after China. Indeed, over a third of population below 18 years constituting 19 percent of the worlds' children resides in India. Every third illiterate person in the world is an Indian. The number of girls not attending schools in the 6-11 age group in 1995 was about 42 million; of every 10 illiterates, seven are women; 91 of every 100 women among the 70 million tribal cannot read or write. The situation has not improved much since then. There are problems relating to drop - out rate, low levels of learning

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achievement and low participation of girls, tribal's and other disadvantaged groups. This Act provdes 25% reservation of seats in all for, the poor children of disadvantaged economically weaker sections of the society in the schools, including in the private unaided schools in the neighborhood.

The experience however, shows that the RTE Act is not being implemented in all seriousness in letter and spirit. It is true that passage of this Act has been hailed as a historical moment in the crusade of universal literacy. The Act was also called "Harbinger of new era" by the Human Resource Development Minister, Shri Kapil Sibal and was welcomed by child rights organizations. RTE Act puts emphasis on quality education which has been considered as an integral part of right to education. Chapter V of the RTE Act enumerates some terms and norms under which the quality of elementary education is to be ensured, i.e. adequate teacher-student ratio (the 1:30 ratio specified in the Act) and further that mother tongue should be the medium of instruction as far as possible, development of various skills in child, good & effective infrastructure, qualified and competent teachers, and advanced evaluation methods etc. These can be achieved only when there is qualified and competent teaching staff always ready to accept challenges and ensure the quality education. The Indian experience with the right to education illustrates both the central issues that emerge in relation to resource constraints and the role played by the key stakeholders including the teachers.

The success of any legislation or Act lies in implementation. India is ranked at 108 as per literacy rate of the countries at the global level in 2010 and concerted efforts including creating awareness among teachers is required to make the RTE Act a reality. It is to be borne in mind that the government is required to spend an amount of Rs 2,04,000 crore over the next five years for implementation of this Act and if our teachers are not well informed on the basic provisions of this Act, it will remain a piece of paper. The Act has been put in to implementation with effect from 01.04.2010 and in order to find out the level of awareness among the teachers after more than one year of it being in operation, an attempt has been made through this research to find out the ground realities close to the national capital.

OBJECTIVES OF THE STUDY

The objectives of the present study are as follows:

1. To find the difference in RTE awareness among male and female elementary teachers.
2. To compare the RTE awareness among the elementary teachers belonging to urban and rural areas.
3. To compare the RTE awareness among the elementary teachers belonging to Govt. and Non-Govt. Schools.

HYPOTHESIS

In the light of the objectives, the following Hypothesis was formulated.

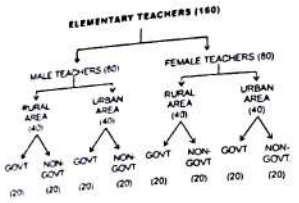
1. There is no significant difference in RTE awareness among Male and Female Elementary Teachers.
2. There is no significant difference in RTE awareness among Elementary Teachers belonging to urban and rural areas.
3. There is no significant difference in RTE awareness among Elementary Teachers belonging to Govt. and Non- Govt. Schools.

METHODOLOGY

In the present study descriptive Survey Method was employed. It was designed to explore the RTE awareness among Elementary Teachers.

SAMPLE

The questionnaire was used on 160 Elementary School Teachers in NCR region who were selected by random sampling method. Among these Elementary Teachers, 80 were male and rests 80 were female. 80 elementary Teachers belongs to rural areas and other 80 Elementary Teachers belongs to the urban areas. 80 Elementary Teachers belongs to the Govt. Schools and other 80 Elementary Teachers belongs to the Non-Govt Schools.



TOOLS

The tool for this study was a self- made questionnaire it contained 20 multiple choice items related to RTE Awareness. The test was administered and the responses made by Elementary Teachers to test the RTE awareness were scored, tabulated and analyzed using appropriate statistical techniques.

ANALYSIS, RESULT AND DISCUSSION

Hypothesis 1: There is no significant difference in RTE awareness among Male and Female Elementary Teachers. Observation of Table 1 reveals that the 't' Ratio is 1.88 which is not significant at 0.05 level. It means that Male and Female Elementary Teachers have equal awareness. Hence Null Hypothesis is accepted. It is therefore, concluded that there is no significant difference in RTE awareness among Male and Female Elementary Teachers.

Table 1 : Mean, S.D. and 't'- Ratio showing difference in RTE awareness among male and female Elementary Teachers.

Group	N	Mean	S.D.	Mean-Difference	't'-Ratio
Male	80	10.34	2.93	0.79	1.88
Female	80	9.55	2.41		

Hypothesis 2: There is no significant difference in RTE awareness among Elementary Teachers belonging to Urban and Rural areas. Observation of Table 2 reveals that the 't' Ratio is 1.16 which is not significant at 0.05 level. It means that Elementary Teachers belonging to Urban and Rural areas have equal awareness. Hence Null Hypothesis is accepted. It is thus concluded that there is no significant difference in RTE awareness among Elementary Teachers belonging to Urban and Rural areas.

Table 2 : Mean, S.D. and 't'- Ratio showing difference in RTE awareness among Elementary Teachers belonging to Urban and Rural areas

Group	N	Mean	S.D.	Mean-Difference	't'-Ratio
Urban	80	10.19	2.59	0.49	1.16
Rural	80	9.70	2.83		

Hypothesis 3: There is no significant difference in RTE awareness among Elementary Teachers belonging to Govt. and Non-Govt. Schools. Observation of Table 3 reveals that the 't' Ratio is 4.9 which is significant at 0.05 level. It means that the null hypothesis "there exist a significant difference in RTE awareness among Elementary Teachers belonging to Govt. and Non-Govt. Schools was rejected. Hence, it is concluded that the teachers belonging to Govt. Schools are more aware about the RTE in comparison with Non-Govt. Schools Teachers.

Table 3 : Mean, S.D. and t'- Ratio showing difference in RTE awareness among Elementary Teachers belonging to Govt. and Non-Govt. Schools.

Group	N	Mean	S.D.	Mean-Difference	't'-Ratio
Govt. Schools	80	10.92	2.99	1.96	4.9
Non-Govt. Schools	80	8.96	1.99		

The total means score '9.94' (49.7 %) shows that the overall RTE awareness is less than 50%. That means the teachers included in this study are less aware about the RTE (Right to Education). From above analysis we conclude that male awareness is 51.7 % and female Awareness is 47.75 %, the difference between them is not significant there for we can say that they are equally aware. Awareness among Teachers belonging to Urban Areas is 50.95 % and Rural Area is 48.5 % and the difference between this score is not significant therefore we can say that they are equally aware. But the awareness among Govt. School Teachers is 54.6 % and Non-Govt School Teachers is 44.8 %, the difference among them is significant which reveals that the Elementary Teachers from Govt. schools are much more aware about the RTE as compared to Elementary Teachers from Non-Govt. schools.

CONCLUSION AND SUGGESTIONS

To sum up, it can be stated that out of three hypotheses, the outcome of the last one is shocking. It is true that there is no significant difference on awareness between the teachers in urban and rural areas and in between the male and female teachers in Delhi and NCR region. However, while juxtaposing the same between the government school teachers and the teachers working in private/public schools, there is marked difference in awareness on the Right of Children to Free and Compulsory Education Act, 2009. The teachers working in the government schools are therefore, better informed but then the question is will it serve the mandate of the Act? It's a cause of big anxiety and poses a challenge before the policy makers. The findings of this research reveal that about forty five percent of the teachers working in the private schools are not at all aware about the basic provisions of this Act including the age group and level/ classes covered therein of the students. Though the level of awareness in the teachers' of government schools is comparatively more (54.6 %) but it is also not up to the mark. This is the situation in and around Delhi, even after more than one year of implementation of this Act. The possible reasons could be that the entire awareness campaigns (short term courses, seminars, workshops) launched by the government centered on the government schools and its teachers. It seems that no efforts whatsoever have been made by the government to create awareness among the teachers working in private schools. If the ground situation is such then the accountability of the same needs to be fixed. The owners of such schools should also be made responsible and accountable. The government needs to plan and organize one week/three days short term course/seminars/ workshops together with sufficient resource material for the Elementary Teachers primarily serving in the private schools also together with their counter parts working in government schools across the country followed by the refresher courses/training programs. Such initiatives to create awareness among all elementary teachers will help in making the teachers informed, who will be able to give their best to achieve the goals of RTE to make it attainable and successful. In order to achieve the main objectives of the Act, this is very much required so that the problem could be nipped in the bud, otherwise despite spending the huge amount of money, the ground realities would remain the same.

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Lead Lag Relationship of Futures and Spot Market: Evidence from Indian Stock Market

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Mrs. Geetanjali Batra***

ABSTRACT : This paper examines the relationship between the futures market and spot market of S&P CNX Nifty during the sample period January 2003 to march 2011 and enumerate the price discovery function of futures prices in relation to spot prices of the sample series. The Cointegration tests and Vector Error Correction Model's (VECM), and Granger causality is employed to ascertain the long and short term dynamics of the selected spot market and the futures market. From the results of the study it was also found the price discovery was achieved first in the spot market. These findings may provide insights on the information transaction and index arbitrage between the CNX Nifty and futures markets.

Keywords: Cointegration, Price Discovery, Granger causality, Vector Error Correction Models.

SECTION I

INTRODUCTION

The need of derivatives was felt in India post liberalization because derivative trading provides various benefits Such as risk management, Price discovery, operational advantage, Market efficiency and opportunity to speculate. The opening of Indian economy has precipitated the process of integration of India's financial markets with the international financial markets. Introduction of risk management instruments in India has gained momentum in last few years thanks to Reserve Bank of India's efforts in allowing forward contracts, cross currency options etc. which have developed into a very large market. Until the advent of NSE, the Indian capital market had no access to the latest trading methods and was using traditional out-dated methods of trading. There was a huge gap between the investors' aspirations of the markets and the available means of trading.

NSE gauging the market requirements initiated the process of setting up derivative markets in India. In July 1999, derivatives trading commenced in India. The introduction of derivatives segment from the early 2000s onwards has led both to interactions between the spot and futures markets, and to an interest by regulators in controlling any possible harmful influences of this new trading segment. The index futures are popular among the investors and this is the most actively trading instrument in the derivatives products. Second important product is stock futures that were introduced after the introduction of index futures.

In perfectly efficient financial markets, new information should be impounded simultaneously into the spot and futures markets. Real world institutional factors, however, often create an empirical lead–lag relationship between alternative securities price changes. The market that provides the greater liquidity, the lower transaction costs, and the less restriction is likely to play a more important role in price discovery. Futures markets, accordingly, are more likely to incorporate information more efficiently than spot markets due to their inherent leverage, low transaction costs, and lack of short sell restrictions. An overwhelming number of studies have examined, both theoretically and empirically, the relationships between futures and spot markets. Johansen (1988, 1991), Johansen and Juselius (1990) have derived statistical procedures for testing cointegration between futures and spot using the maximum likelihood method. These procedures are based on a vector autoregressive (VAR) model that allows for possible interactions in the determination of spot prices and futures prices. The Johansen's approach has been widely applied since then (Fortenbery and Zapata, 1993; McKenzie and Holt, 1998; and Keller, et al., 1999). Prior studies such as Garbade and Silber (1983), Hill, Schneeweis and Yau (1990), Fung and Lo (1995), Lihara, Kato, and Tokunaga (1996) also have investigated the relationship between futures and spot prices. The findings of Fleming, Ostdiek, and Whaley's (1996) and De Jong (2002) show that index options contribute to the price discovery process involving index securities. This is accomplished by investigating the pricing relationships among the German DAX and its futures and options contracts using a multivariate Vector Error Correction Model (VECM). This econometric scheme which presupposes cointegration permits exploration of both short- & long-run price discovery Relationship.

The studies relating to lead lag and price discovery are important from both government and regulators point of view. From the government policy point of view, knowing the relationships between futures and spot clearly means a better alternative to market interventions such as imposing price stabilization policies. For processors/marketers, it provides a reliable forecast of spot prices in the future to allow them to effectively manage their risks. Therefore, the article will examine the price discovery process or lead-lag relationship in Indian stock market. Only with such a close examination, can we understand the ability of price discovery, the information transmission and the efficiency in spot-futures markets. The paper is divided into five sections Section 1 i.e. the present section gives the basic insights of Indian derivative market. Section 2 gives the extensive review of literature. Section gives describes the data and methodology used followed by summary & conclusions entailed in section IV & the last section contains the references used in the study.

SECTION II

REVIEW OF LITERATURE

Yusuf and Liuren (2008) studied the price discovery in the United States stock options market and found that the electronic marketplace performs very well relative to the more traditional trading floors on all of these dimensions. On the other hand, a number of authors study price discovery in Asian option markets. Bhyan and Yan, 2012, Kakar and Mishra (2007) studied informational role of the options market in predicting the future price index in the underlying cash market in India and observed that the open-interest-based predictors for both the periods are found to be significant in predicting the future price in the underlying cash market. Wen-Liang, Chin-Wen, and Shu-Ling (2008), investigate the relative rate of price discovery in Taiwan between index futures and index options, proposing a put-call parity (PCP) approach to recover the spot index embedded in the options premiums. Consistent with the trading-post hypothesis, a dominant tendency is found for futures and a subordinate but non-trivial price discovery from options. More recently, Chang, Hsieh, and Lai (2009), investigate the information content of options trading using a unique dataset to examine the predictive power of the put and call positions of different types of traders in the Taiwan option market and found that options volume, as a whole, carries no information on Taiwan spot index changes. Kofman and Moser (1997) find that price changes on the DTB lead price changes on LIFFE. However, both studies employ a very short time period.Martens (1998) and Frenke and Hess (2000) provide empirical evidence that LIFFE bund futures made a larger contribution to price discovery during periods of high volatility and DTB German bund futures made a larger contribution to price discovery during periods of low volatility.

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However, these studies suffer from home country bias Gilbert and Rieken (2003) examine the bid-ask spread of the FTSE 100 before and after the LIFFE moved from a floor trading to an electronic trading system. They found that the bid-ask spread of the FTSE the Indian capital market has witnessed many changes in the past decade. A major reform undertaken by SEBI was the introduction of derivatives products. Index futures, index options, stock options and stock futures, in a phased manner starting from June 2000. It has been about two and half years since the introduction of index futures in India mainly as a risk management tool for institutional and for other investors. The two main functions of futures market are price discovery and hedging. Futures markets are also known to have a stabilizing effect on the underlying spot market. Price discovery is expected to first take place in the futures market and then it is transmitted to underlying cash market (Pizzi et al, 1998). Since futures market is different from cash market in terms of capital required, cost of transactions and other aspects, it would be a forerunner of the cash market as far as the information discounting is concerned. Thus many small and risk averse investors can trade in the cash market without taking the risk of bouts of volatility. Therefore, this paper makes an attempt to measure price discovery whether actually taking place first in the futures market or not. 100 is smaller after the move from a floor trading to an electronic trading system. Kawaller et al. (1987) examined the intra day price relationship between S&P 500 Index and the S&P 500 index futures. Their results show that both S&P 500 spot and futures markets are simultaneously related on a minute to minute basis throughout the trading day, and that a lead lag relationship also exists. The lead from futures to cash appears to be more pronounced relative to cash to futures markets. Stoll and Whaley (1990) investigated causal relationships between spot and futures markets using intra day data for both S&P 500 and the Major Market Index (MMI). Feedback was detected, but the futures lead was stronger than the cash index lead. Chan et al. (1991) examined the inter dependence in price change and found much stronger bidirectional dependence between stock index and stock index futures price changes. Wahab and Lashgari (1993) used daily data and cointegration analysis to examine the temporal causal linkage between index and stock index futures prices and observed that the spot to futures lead appears to be more pronounced across days relative to the futures to spot lead. Pizzi et.al. (1999) examined price discovery in the S&P 500 spot index and its three and six month stock index futures using intra day minute by minute data. Cointegration analysis is used. The results show that both the three and six months futures markets lead the spot market by at least twenty minutes. There is bidirectional causality but the futures market does tend to have a stronger lead effect. Booth et.al. (1999) study intra day price discovery process among stock index, index futures and index options in Germany using DAX index securities and intra day transactions data and found that spot index and index futures have substantially larger information shares than index options. Having an analysis of studies done across the globe the results obtained are conflicting so a modest attempt is made to revisit this issue of price discovery (lead lag) relationships in Indian stock market (NSE).

SECTION III

DATA AND METHODOLOGY

The data for present study will be collected from NSE of India website. The main data for the study will be returns of the S&P CNX Nifty and Nifty index futures. Nifty comprises of the 50 liquid stocks, each stock being awarded a weight in proposition to its relative market capitalization. The constituent stock represents wide range of industries and their total market capitalization accounts for the 60 percent of the market capitalization of the equity market In order to estimate the impact of the introduction of index futures trading on the volatility of the NIFTY, daily closing prices returns of the NSE 50 index will be collected during the period 1 April 2004 to 31st may, 2011. The study used the daily closing prices of In order to examine whether world market factors are affecting spot market volatility or not. The study calculated daily returns using the equation R t = log (Pt/Pt − 1) × 100 where, R t is the daily returns, Pt is the value of the security at time t, Pt − 1 is the value of the security at time t −1.

Modeling and Data analysis

The data which was collected is processed and analyzed with the help of statistical tools and various models. The results found with the help of software was analyzed in the light of problem and earlier studies. The main aim was to find out whether futures help in price discovery or not.

Unit Root Test

The stationarity of data is tested first on price series and then on return series data. Using ADF and Philip Perron Test a formal test model to solve the problem of stationary was firstly proposed by Dickey and Fuller that is known as Dickey – Fuller Test (DF Test). The model or procedure tests for the presence of a 'unit root' in the time series. The DF test starts with the assumption that a series y_t is following an Auto Regressive (1) process of this form: $y_t = a_1 y_{t-1} + e_t$ And then testing for the case that if the coefficient a_1 is equal to one (unity), hence "unit root" or Yt series is non stationary. In case of $a_1 = 1$ then the above equation can be expressed as: $\Delta y_t = e_t$ And the y_t series is said to be integrated of order one (I(1)) or non-stationary; while the Δy_t is integrated of order zero (I(0)) or stationary. In fact instead of testing for $a_1 = 1$ we can test an alternative version of the same thing using this equation: $\Delta y_t = \gamma y_{t-1} + e_t$ And now testing whether $\gamma = 0$, which is clearly equivalent to the above mentioned case. Dickey and Fuller (1979) actually consider three different regression equations that can be used to test for the presence of a unit root:

$$\Delta y_t = \gamma y_{t-1} + e_t \quad \ldots(1)$$

$$\Delta y_t = a + \gamma y_{t-1} + e_t \quad \ldots(2)$$

$$\Delta y_t = a + \gamma y_{t-1} + a_2 t + e_t \quad \ldots(3)$$

The difference between the three regressions concerns the presence of the deterministic elements a and a_2. The parameter of interest in all the regression equations is γ; if $\gamma = 0$, the series contains a unit root. The test involves estimating one (or more) of the equations above using OLS In order to obtain the estimated value of γ & associated standard error.

Comparing the resulting t-statistic with the appropriate value reported in the Dickey-Fuller tables allows the researcher to determine whether to accept or reject the null hypothesis $\gamma = 0$. The most frequently used test for unit roots is the **augmented Dickey-Fuller test**, an advanced form of DF Test. The ADF test simple includes AR(p) terms of the Δy_t term in the three alternative models. Therefore we have:

$$\Delta y_t = \gamma Y_{t-1} + \sum_{i=1}^{n} \beta_i \Delta y_{t-i} + e_t \quad \ldots(1)$$

$$\Delta y_t = a + \gamma y_{t-1} + \sum_{i=1}^{n} \beta_i \Delta y_{t-i} + e_t$$

$$\Delta y_t = a + \gamma y_{t-1} + a_2 t + \sum_{i=1}^{n} \beta_i \Delta y_{t-i} + e_t \quad \ldots(3)$$

The difference between the three regressions again concerns the presence of the deterministic elements a and a_2. The lag length n should be determined according the AIC and SBC criteria. Also, note that in the ADF tests note that we use different statistical tables with critical values in each case. The t-test for β_1 is called the (TAU) τ_1 – statistic for which Dickey and Fuller have computed the relevant critical values.

Phillips-Perron (PP) Test

The distribution theory supporting the Dickey-Fuller tests is based on the assumption that the error terms are statistically independent and have a constant variance. So when using the ADF methodology, we have to make sure that the error terms are uncorrelated and have constant variance. Phillips and Perron (1988) developed a generalization of ADF test that allows for mild assumptions concerning the distribution of errors. The test regression for PP test is the AR (1) process:

$$\Delta Y_{t-1} = \alpha_0 + \beta Y_{t-1} + \epsilon_t \quad \ldots(3)$$

While ADF test corrects for higher or serial correlation by adding lagged differenced termed on the right hand side, the PP test makes correction to the t statistic of the coefficient from AR (1) regression to account for the serial correlation in ϵ_t

$H_0: \beta = 0$ $\qquad$ $H_1: \beta > 0$

The time series model requires to determine the optimal lag length. Akaike Information Criterion (AIC) and Schwarz Information Criterion (SIC) are

used in order to determine the optimal lag length. AIC method imposes penalty for adding large number of regresses to model. It is defined as:

$$AIC = e^{2k/n}\Sigma^2/n = e^{2k/n} RSS/n \quad ...(4)$$

where k is the number of regressors including the intercept and n is the number of observations. It is written for mathematical convenience as follow:

$$Ln\ AIC = (2k/n) + ln\ (RSS/n) \quad ...(5)$$

where, ln AIC is the natural log of AIC and 2k/n is penalty factor, N is number of observation, RSS is residual sum square. The SIC criteria is employed as under:

$$Ln(SIC) = (k/n)Ln(n) + Ln\ (RSS/n) \quad ... (6)$$

The optimum lag length is determined where the AIC/SIC bear lowest values.

Co integration and Vector Error Correction Model

In a two variable model, there can be only one co-integrating vector. Since we have five variables in our model, Johansen approach for multiple equations in adopted here. Considering n variables, all of which can be endogenous, a Vector Auto Regressive model with higher order. Autoregressive process can be written as:

$$X_t = A_1X_{t-1} + A_2X_{t-2} + \ldots\ldots\ldots\ldots + A_pX_{t-p} + e_t \quad ...(7)$$

Where

X_t = (n1) vector $(X_{1t}, X_{2t}, \ldots\ldots\ldots X_{nt})$

e_t = an independently and identically distributed n dimensional vector with zero mean and variance matrix Φ_t. Equation (1) can be reformulated in a vector error correlation model (VECM) as follows:

$$\Delta X_t = \Pi X_{t-1} + \sum_{i=1}^{p-1}\Pi_i\Delta X_{t-1} + \varepsilon_t \quad ...(8)$$

where, $\Pi = -\left(I - \sum_{i=1}^{p-1} A_i\right)$

and $\Pi_i = -\sum_{j=i+1}^{p-1} A_j$

The important point to note in equation (2) is the rank of the matrix Π, the rank of Π is equal to the number of independent co-integrating vectors. Clearly, if rank of $(\Pi) = 0$, the matrix is null and equation (2) is the usual VAR model in first differences. If Π is of rank n, the vector process is stationary. Intermediate cases, if rank $(\Pi) = 1$, there is a single co-integration vector and the expression ΠX_{t-1} is the error correction term. For other cases in which 1 rank (Π) n, there are multiple co-integrating vectors.

Cointegrating Tests

Johansen (1988) and Johansen and Juselius (1990) suggest two tests for determining the number co-integrating vectors. In practice, only estimates of Π and its characteristics roots can be obtained. The tests for the number of characteristic roots that are insignificantly different from unity can be conducted using following two test statistics:

$$\lambda_{trace}(r) = -T\sum_{i=r+1}^{n1} ln\,(1-\lambda_i) \quad ...(9)$$

$$\lambda_{max}(r, r+1) = -T\ln(1-\lambda_{r+1}) \quad ...(10)$$

Where, λ_i= the estimated values of the characteristic roots (Eigen values) obtained from the estimated Π matrix.

T = the number of observations

The first statistic tests the null hypothesis that the number of distinct co-integrating vectors is less than or equal to r against the alternative hypothesis that co-integrating vectors is greater than r. The second statistic tests the null hypothesis that the number of co-integrating vectors is r against the alternative of r+1 co-integrating vectors.

Estimation of Co-Integrating Vector and Coefficients of Error Correction

In order to test other restrictions on the co-integrating vector, Johansen defines the two matrices α and β both of dimension (nr) where r is the rank of Π. The properties of $\hat{\alpha}$ and $\hat{\beta}$ are such that: $\Pi = \alpha\beta'$. It may be noted that β is the matrix of co-integrating parameters and α is the matrix of the speed of adjustment parameters. Due to cross equation restrictions, it is not possible to estimate α and β using ordinary least squares. However, maximum likelihood method, it is possible to (a) estimate VECM model as given in equation (2). (b) Determine the rank of Π, (c) use the most significant co-integrating vectors to form β, and (d) select such that $\Pi = \alpha\beta'$.

SECTION IV : ANANYSIS AND INTERPRETATIONS OF THE RESULTS

Unit root test was applied to know the stationarity of data using Augmented dickey fuller test. It was first applied on future closing prices of nifty and was found to be non stationary as is exhibited in Table 1. Then was done on first difference and found to be I (1) as shown in Table 1. Further As shown in the table no. 4 the test rests are same as was shown in ADF test of stationarity and shown the non stationarity at 5 % level of significance, hence the test was repeated after first difference. This test was repeated after taking the first difference and found to be I (i). i.e. stationarity at first difference as shown in Table 4. Further the table 5 shows the stationarity test at first difference this states that data is I (1). Hence we say that the test of stationarity says that data is non –stationary and is stationary at first difference.

TABLE I : RESULTS OF UNIT ROOT TEST

Name	Panel-A (Price-Series) (ADF) Test	Phillips-Perron Test	Panel-B Inference On (Return Series) Integr-ation I (i) (ADF) Test	Phillips-Perron Test
Commo-dity-Indexes	t-statistics	t-statistics	t-statistics**	t-stat**
(A) NIFTY FUTURE PRICE	–1.09	–0.51	–41.98 **	–41.98 **
(B) NIFTY SPOT PRICES	1.12	–1.38	–41.35 **	–41.32 **

NOTE: The table describes the sample price series that have been tested using Augmented Dickey Fuller (ADF) 1981. The ADF test uses the existence of a unit root as the null hypothesis. To double check the robustness of the results, Phillips and Perron (1988) test of stationarity has also been performed for the price series and then both the test are performed on return series also as shown in Panel-A (price series) and Panel B (Return series) are integrated to I(1). All tests are performed using 5%level of significance (**).

JOHANSON TEST FOR COINTEGRATION

Johansen's cointegration test is more sensitive to the lag length employed. Besides, inappropriate lag length may give rise to problems of either over parameterization or underparametrisation. The objective of the estimation is to ensure that there is no serial correlation in the residuals. Here, Akaike information criterion (SC) is used to select the optimal lag length and all related calculations have been done embedding that lag length. The results of Table 8 shows that the lag length criterion shows that the appropriate lag length is coming to be as per Schwarz information criterion (SC): is 2 lags. The cointegration test will use this lag length to check the cointegration model the price series. After testing the price series for unit root, and calculating the appropriate lag length on which the results will be optimized, it was confirmed that the series are coinetgrated and the condition that they have to be non stationary is also met. The results of cointegration are contained in Table 2. The table reveals that one cointegration relationship exists between spot and futures prices. Thus, spot and futures prices of these commodities and indices share common long-run information. Our cointegration result confirm that in general there is a price *discovery process* in the spot and future commodity markets. Despite determining a co integrating vector for each commodity /index, it is customary to produce the diagnostic checking criterions before estimating the ECM model. Diagnostic tests are performed only for sample series for which long run relationship between spot and future prices is confirmed based on Johnson cointegration test. Vector Auto Regression (VAR) estimated with various lags selected by AIC is used to check whether the model satisfies the stability, normality test as well as no serial correlation criterion among the variables in the VAR Adequacy model. Testing the VAR adequacy of the sample series as shown in Table 9, it was revealed that all the sample series are satisfying the stability test. In normality

test all the sample commodities are found to be normal. In verifying the VAR Residual Serial Correlation LM Tests it was found that all sample series have no serial correlation. Therefore, it leads us to take the position that our model fulfils the adequacy criterion for sample series which exhibited a long run relationship between spot and futures prices as shown by Johansson Cointegration Test see table II

TABLE II RESULTS OF COINTEGRATION

NAME	Hypothesis		Lag Length		Trace	Critical Value**	Re0, Accept Re1 Reject
	Null	Alternate	Criterion (Sc)	Max Eigen value	Statistic	5% Sig Level	
NIFTY FUTURE PRICES & SPOT PRICES			-13.03				
	r=0	r≥1	2 lags*	37.78	39.53	15.49	Reject
	r≤0	r≥1		1.75	1.75	3.84	

NOTE: The table provides the Johansen's co-integration test, maximal Eigen value and Trace test statistics are used to interprot whether null hypothesis of r=0 is rejected at 5 % level and not rejected where r≤1. Rejection of null hypothesis implies that there exists at least one co-integrating vector which confirms a long run equilibrium relationship between the two variables, spot and future prices in our case.

After confirming the long term relationship let us test which market makes adjustment in the short period to reach the equilibrium the results of error correction are entailed in Table III

VECTOR ERROR CORRECTION MODEL

The above test clearly gives the empirical evidence of cointegration of the series which proves that they are cointegrated in the long run or have some long term relationship. To understand which in which series there are more fluctuations and to understand the short term dynamics of the series we use Vector Error Correction Model (VECM) .the error correction equations will tell which series move more to achieve the equilibrium. The drifts will decide the lead lag relationships of the series, i.e. whether spot will move more or future prices will move more to achieve the equilibrium. The error correction model takes into account the lag terms in the technical equation that invites the short run adjustment towards the long run. This is the advantage of the error correction model in evaluating price discovery. The presence of error correction dynamics in a particular system confirms the price discovery process that enables the market to converge towards equilibrium. In addition, the model shows not only the degree of disequilibrium from one period that is corrected in the next, but also the relative magnitude of adjustment that occurs in both markets in achieving equilibrium. Moreover, cointegration analysis delivers the message saying how two markets (such as futures and spot commodity markets) reveal pricing information that are identified through the price difference between the respective markets. The implication of cointegration is that the commodities in two separate markets respond disproportionately to the pricing information in the short run, but they converge to equilibrium in the long run under the condition that both markets are innovative and efficient. In other words, the root cause of disproportionate response to the market information is that a particular market is not dynamic in terms of accessing the new flow of information and adopting better technology. Therefore, there is a consensus that price change in one market (futures or spot commodity market) generates price change in the other market (spot or commodity futures) with a view to bring a long run equilibrium relation is :

$$F_t = \alpha + \beta S_t + \epsilon_t \quad \ldots(1)$$

Equation (1) can be expressed as in the residual form as: ô

$$F_t - \alpha - \beta S_t = \epsilon_t \quad \ldots(2)$$

In the above equations *F t* and *S t* are futures and spot prices of a commodity in the respective market at time t. Both α and β are intercept and coefficient terms, where as $\hat{\epsilon}_t$ is estimated white noise disturbance term. The main advantage of co integration is that each series can be represented by an error correction model which includes last period's equilibrium error with adding intercept term as well as lagged values of first difference of each variable. Therefore, casual relationship can be

gauged by examining the statistical significance and relative magnitude of the error correction coefficient and coefficient on lagged variable. Hence, the error correction model is:

$$\Delta F_t = \delta_1 + \alpha_1 \hat{e}_{t-1} + \beta_1 \Delta F_{t-1} + Y_1 \Delta S_{t-1} + \epsilon_{1t} \quad \ldots(3)$$

$$\Delta S_t = \delta_2 + \alpha_2 \hat{e}_{t-1} + \beta_2 \Delta S_{t-1} + Y_2 \Delta F_{t-1} + \epsilon_{2t} \quad \ldots(4)$$

In the above two equations, the first part $\hat{e}_{t-1}$ is the equilibrium error which measures how the dependent variable in one equation adjusts to the previous period's deviation that arises from long run equilibrium. The remaining part of the equation is lagged first difference which represents the short run effect of previous period's change in price on current period's deviation. The coefficients of the equilibrium error, α_1 and α_2 signify the speed of adjustment coefficients in future and spot commodity markets that claim significant implication in an error correction model. At least one coefficient must be non zero for the model to be an error correction model (ECM). The coefficient acts as an evidence of direction of casual relation and reveals the speed at which disrepancy from equilibrium is corrected or minimized. If, α_1 is statistically insignificant, the current period's change in future prices does not respond to last period's deviation from long run equilibrium. If both, α_1 and β_1 are statistically insignificant, the spot price does not Granger cause futures price. The justification of estimating ECM is to know which sample markets play a crucial role in price discovery process.

The VECM results are reported in Table 4.10 which shows short run dynamics in the price series and price movements in the two markets. The lag length of the series is selected in Vector Error Correction Model (VECM) on the basis of Akaike's Information Criteria. The residual diagnostics tests: indicate existence of Heteroscedasticity, in most of the sample commodities and indices which exhibit cointegration. Thus, we adjust the t –statistics, as well as the Wald test statistics which are employed to test for Granger causality, by the White (1980) heteroscedasticity correction. After correction we reestimate VECM and from empirical results, it was noticed that in the VECM model, error correction coefficients is significant in both the markets futures market and spot market with T-Statistics [– 3.26] and [1.98] i.e. significant Error Correction Terms (ECTS). Error Correction Terms (ECTS) also known as mean- reverting price process, provide some insights into the adjustment process of spot and future prices towards long run equilibrium. For the entire period, coefficients of the ECTs are statistically significant between one to two lags, in both equations of spot and future markets as suggested by Akaike Information Criterion (AIC). This implies that once the price relationship of spot and futures market deviates away from the long-run cointegrated equilibrium, future market will make adjustments to re-establish the equilibrium condition. The Results reveal that error correction term of future market is greater in magnitude than that of spot market which implies that future price makes greater adjustment in order to re-establish the equilibrium. In other words, spot leads the future market in price discovery mechanism. To reconfirm the causality test VAR Granger Causality/Block Exogeneity Wald Tests is also performed and the results confirm that there is a price discovery in spot market or spot market is leading and futures market is lagging. Unidirectional causality is observed in spot market causing changing in futures market.

TABLE III: RESULTS OF ERROR COERRECTION

Panel (1)		
NDEXES	Nifty future	Nifty spot
Error Correction:	ΔFT	ΔST
	–0.42**	–0.24**
CointEq1	(–0.13)	(–0.12)
	[–3.23]	[– 1.98]
D(FUTURES_CLOSING_ PRICE_L(–1))	–0.12**	0.24
	(0.19)	(0.18)
	[– 0.63]	[1.3]
D(FUTURES_CLOSING_ PRICE_L(-2))	0.24	0.3
	(0.17)	(–0.17)
	[1.3]	[1.8]
D(SPOT_PRICES_LN_(– 1))	0.17**	–0.17**
	(0.20)	(0.19)
	[0.8]	[–0.9]
D(SPOT_PRICES_LN_(– 2))	–0.24**	–0.3**
	(0.18)	(0.17)
	[–1.9]	[–1.8]
C	2.3	2.3
	(1.5)	(1.5)
	[1.3]	[1.4]

Panel (I a) : Variance decomposition analysis

NAME	NIFTY FUTURE	NIFTY SPOT
Variance decomposition analysis	0.63%	99.8%

This table, Panel (1) exhibits short run dynamics using VECM MODEL using Akaike's Information Criteria. The error correction coefficients are significant suggesting a bidirectional error correction and spot price leads the future price at 5% (**)level of significance. Panel (II) shows Variance Decomposition Analysis showing dominant information share of Spot Market.

Hence the results are clear that future market makes greater adjustments and the price discovery is established in spot market. To understand the direction of causality we employ Granger causality test the results are shown in Table 4 which confirms that spot market leads the futures market.

TABLE 4: RESULTS OF GRANGER CAUSALITY

NULL	OBSERVATION	F-STATISTICS	P(VAL)
HYPOTHESIS			
Spot close does not granger cause future closing close	1743	8.90907	0.00014*
Future closing price does not granger cause spot close		1.32517	0.26603

CONCLUSION

From the models and analysis given above it was found that there is a close relationship between the futures price and the spot market price. Therefore, spot market leads futures market. The results show clearly that it is important to take into account the long-run relationship between the futures and the spot prices in forecasting future spot prices. In conclusion, the Nifty spot is more informationally efficient than the futures market. The results have practical implications for investors who wish to improve portfolio performance. Investors may use the spot market to discover the new equilibrium price, where the mean of this equilibrium price may be transmitted to the futures market.

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Mobile Banking : A Tool of Financial Inclusion

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ABSTRACT : Financial inclusion denotes delivery of financial services at an affordable cost to the vast sections of the disadvantaged and low-income groups. People in developing countries have less options for transferring money and accessing banking services, because there is low deployment of formal banking structure, fewer branches and ATMs generally co-located to relieve branches, low internet penetration and easy access to fast and immediate sources of loans but at high cost. So a branchless banking channel using mobile phones could be far more preferable to poor people than the available options like travelling to and queuing at distant branches, forgoing their daily wages. Only about one-third of people living in developing countries have any form of financial savings with formal institutions. It is proven fact that it lowers the cost of delivery to banks in building and maintaining a delivery channel and availability of funds to customers of accessing services. Hence, the developing countries around the world concentrate more on implementing the mobile banking access to the unbanked mobile users, as a tool of financial inclusion, which is known as Transformational mobile banking. Hence the success of mobile banking in micro finance depends upon the mass customer adoption, utility of mobile service for cash-in and cash-out transactions, interoperability of providers, a country's defined proportionate regulation and the ability of service providers to meet the regulatory challenges.

INTRODUCTION

Access to finance by the poor and vulnerable groups is a tool for poverty reduction and social cohesion. This has become an integral part of India's efforts to promote inclusive growth[1]. Financial inclusion denotes delivery of financial services at an affordable cost to the vast sections of the disadvantaged and low-income groups. The various financial services include credit, savings, insurance and payments and remittance facilities. The objective of financial inclusion is to extend the scope of the financial services of the organized financial system to include within its ambit people with low incomes. In India, through graduated credit with the advancement of technology, the attempt is being made to lift the poor from one level to another so that they come out of poverty. One such technology used prevalently all over the world especially the most appropriate one for the developing countries for the alleviation of poverty, as financial inclusion project, which formulate the strategies for low transaction cost is mobile banking. The mobile banking services like M-Pesa of Kenya, G-Cash of Philpinnes and Easy Paise of Pakistan provide a greater learning in the adoption of mobile banking as a tool of poverty alleviation. In India, as a tool of financial inclusion, few pilot projects on mobile banking services are being carried out in Andhra Pradesh, New Delhi and Karnataka. Hence, mobile Banking, a symbiosis of

1. Special address by Ms.Shyamala Gopinath at BANCON-2006 at Hyderabad on November 4, 2006

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technology and financial services, is the hottest area of development in order to reduce poverty around world by reaching out to the unbanked[2] very specifically, the developing countries.

LITERATURE REVIEW

Helms and Reille (2004) argued that interest rate ceilings are not likely to be a solution to the concerns of the policy makers. This is because they will retard the long term growth of availability of credit for the target set of borrowers as if formal financial institutions are not able to cover their costs, they would tend to exit the market. This in turn would result in increase in dependence of the poor on informal sources of finance. It, therefore follows that microcredit providers need to look at innovative ways to reduce costs, which would result in interest rates coming down in a sustainable manner. Hence, MFIs face the challenge of finding ways to reduce lending costs.

Department For International Development's (DFID) Focus Note 43, (2008) says that in a fast increasing number, policy makers and regulators in developing and transition countries are embracing "Transformational branchless banking", the use of Information and Communication Technologies (ICTs) and non-bank retail channels to reduce costs of delivering financial services to clients beyond the reach of traditional banking. The research by DFID was conducted on seven countries where policy makers and regulators find themselves on the frontlines of policy making about regulation of branchless banking targeted at the unbanked poor in Africa, South Africa and Kenya, in Asia, the Philippines, India and Pakistan, in Europe/Central Asia, Russia and in Latin America, Brazil. Despite the many dissimilarities among these countries, policy makers and regulators in the countries studied a common challenge, how to formulate proportionate regulatory policy that gives space for innovation and permits branchless banking to scale up safely.

Ivatury, Gautum and Mas, Ignacio[4] (2008) focused on smaller banks and Micro Finance Institutions (MFIs) that face a much higher cost-of-delivery because of the smaller transaction values they handle and the likely more remote and dispersed location of at least some of their customers. Their discussion highlights that the banks and MFIs have adequate back office and transaction switching capability and sufficient internal controls, whether managed in-house or outsourced. Without that, mobile banking is not possible because it is fundamentally a front end to a financial institution's information technology system.

Mas, Ignacia[4] (2008), has developed a broad vision for financial inclusion, where payments can be easily made through an electronic network. What makes visioning such a payments utility possible is the technology we have today, which can be used to bridge distances, close information gaps, contain settlement risks, and generally reduce transaction costs. The paper outlines the main challenges for the mass deployment of branchless banking.

Mas, Ignacio[3] (2008) highlights that even where there is agency network with third parties to serve as their retails channels, banking regulations require banks to retain legal and financial responsibility for the actions of all its retailers. Banks can outsource its operations, but cannot delegate responsibilities. This naturally diminishes the banks' appetite for entering into such arrangements and fragments the universe of retailers into exclusive retail bank franchises. Banks may achieve lower costs, but these retail arrangements do not transform the nature of the problem. It remains difficulty and cost for banks to go after business where the volume of deposits is relatively low, either because of low population density or low income levels.

Morawczynski, Olga and Mark Pickens (2009), conducted ethnographic research on M-Pesa studying how people belonging to two places Kibera and Bukura support the mobile banking services. The research offers insight into how poor people use M-Pesa, its impact on their lives, and some unexpected consequences. Rapid adoption and frequent use of M-Pesa engendered a variety of positive outcomes, as well as unintended consequences. By partnering with financial service providers and mobile operators banks can play a significant role in mobilizing savings using mobiles as a tool of financial inclusion.

Puhazhendi(1995) studied the microcredit programme of the nationalized commercial banks in India and concluded that the intermediation of Non-Governmental Organizations (NGOs) and Self-Help Groups (SHGs) in the credit delivery system reduced the transaction costs of both banks and borrowers.

Tankha (2002) concluded that group formation costs are impacted by the number of groups handled by one field worker, transport costs, training costs and regional differences in average staff salaries due to differentials in local wage structure.

Sarah and Mas, Ignacio (2008) reviewed some of the bigger failures and some of the more promising experiences in the use of smartcards and mobile phones as payment platforms in developed countries. Their objective of the study was to extract some lessons behind the failures and the successes, although these developed country experiences may not directly translate into lessons that can be used in developing countries. Their study informs about what may or may not be possible and may or may not be different in the developing world context.

RESEARCH METHODOLOGY

The paper employed the archival method of reviewing literatures available -theoretical, applied and empirical to provide an overview of mobile banking in microfinance.

Discussion

In India, about 20 percent of the unbanked borrow, but in that market moneylenders are the primary source (60 percent of those loans). Family and friends account for about 12 percent. Few banks can meet these needs, because typically outlets are centered in urban areas and the unbanked mostly live in the countryside. Although more than 50 percent of the unbanked in India have considered using banks, only about half have done so (Peshouris P. Christopher and Gravrak, Jon 2010). This lack of access to even the most basic banking service has serious economic consequences, like there is high proportion of small businesses have to borrow informally. The costs of supplying financial services by a bank or a MFI are high in rural areas. Often, these costs cannot be adequately covered through interest charges because usury laws or traditions prevent charging high rate of interest to clients. Therefore, banks and MFIs tend to reduce the quality and quantity of their services, which increases transaction costs for the clients. People in developing countries have less options for transferring money and accessing banking services, because there is less deployed formal banking structure: fewer branches and low internet penetration, fantastic. So a branchless banking channel using mobile phones could be far more preferable to poor people than the available options: travelling to and queuing at distant branches or saving in cash or physical assets. (Mas, Ignacio and Kumar,2008). Only about one-third of people living in developing countries have any form of financial savings with formal institutions. In many countries, this statistics remain stuck at a level that is far below that of other indicators of socioeconomic development access to education, vaccination programmes, sewerage, clean water system and so forth. (Mas, Ignacio 2008). The mobile banking using technology is one of the modes of Branchless Banking and it has to enable the branch to go where the customer is present, instead of the other way around. Branchless banking, whatever be the mode, entails substantially the following two elements:

1. Use of technology, such as payment cards or mobile phones, to identify customers and record transactions electronically and, in some cases, to allow customers to initiate transactions remotely.
2. Use of third part outlets, such post officers and small retailers, that act as agents for financial services providers and that enable customers to perform functions that require their physical presence, such as cash handling and customer due diligence for account opening.

The mobile banking is one of the approaches to the provision of financial services through information communication technology (ICT), made

2. The unbanked are people without formal bank accounts who operate in a cash economy; they are limited in their ability to take out loans, maintain savings, or make remote payments, and these constraints can inhibit their economic opportunities.

possible by the widespread adoption of mobile phones even in developing countries like Kenya Philippines and India, and under developed country like South Africa.

Mobile Banking and Transaction Costs

Mobile Banking has the great potential to extend the distribution of financial services to poor people who are not reached by traditional bank branch networks as it lowers the cost of delivery, including costs both to banks of building and maintaining a delivery channel and to customers of accessing services (Ivatury, Gautum 2006). One indicator of the extent to which credit markets are constrained is provided by the gap between interest rates on formal bank loans and informal loans. In many developing countries, the cost of borrowing informally is extremely high which includes the cost of the funds; the cost of providing for loan defaults; and the cost of transaction (the costs of identifying and screening the client, processing the loan application, completing the documentation, disbursing the loan, collecting repayments and following up on non-payment).

The transaction cost is defined in economic terms as comprising or costs of search, information, bargaining, decision making, policy and enforcement. Transaction cost comprises costs of group formation, training, loan administration and monitoring and transport cost to include intangibles such as risk and trust, he provides an example on the savings side; the risk of not being sure to get money back from informal institutions is a transaction cost; and on the lending side, the asymmetric information and the lack of trust of being repaid. If such cost is directly attributed to the particular transaction and hence is defined as "direct transaction cost". In addition, there are set-up costs of the branches and allocated costs of regional and head offices that need to be taken into account as they indirectly contribute to the administration of the loan. These costs are clubbed together under the head "indirect transaction cost".

Hence, in the indirect transaction costs, mobile banking reduces the costs of recording transaction information since this is done by the clients. It also reduces the cost of travelling since the client and bankers do not need to meet each other. In the indirect transaction costs, set up costs of the branches and regional officers can be avoided, if mobile is used instead of a branch.

If we look into the components of cost of a mobile banking service, basically there are two types of cost capital cost and registration cost. It is impossible to offer mobile banking service without investing on sophisticated systems, infrastructure and equipment. This is the cost element that is most vigorously attack the service providers.

Registration costs include cost of preparing registration material, cost of the people required in support of the process and the marketing cost. This cost may be borne by a subscriber. The cost of a call center, support center, people that reset errors and technical support become the support cost. This is often under-estimated and sometimes escalate if the system selected is not meeting the need. This cost is always found the biggest cost. This cost is a recurring cost and should be balanced with capital cost. If the right investment is made in the beginning, operational support will be much less. Cost elements that are often not catered for, include the cost of compliance, the cost of fraud and theft, the cost of lost opportunities etc. System that does not work or allows loop-holes for fraudulent attacks etc. will ultimately be more expensive than others.

Hence the adoption of mobile banking service by banks, reduces their operating costs, by eliminating the need for costly call centres and customer service help. Using a mobile platform such as SMS text messaging for simple and repetitive tasks such as reminders about payments due or balance requests can reduce the burden on IT and personnel resources. Using secure and integrated messaging platforms means reducing the costs and errors associated with paper-based payments. The saving in the costs of microfinance loans to rural poor can be observed from the experiences of the mobile banking services- M-Pesa of Kenya, G-Cash of Phillipines, Wizzit of South Africa.

M-PESA of Kenya : There is no registration charges for M-Pesa and there is are no hidden charges or monthly fee. SMS is free to other M-Pesa account holders. To withdraw 100 ksh to 2500 ksh, (US$1.30073 to US$ 32.5182) [3] the charge is 25 ksh, (US$.3251) which is supposed to be lower than the cost of travelling to get the money from a bank's branch. No minimum balance needs to be maintained.

G-Cash of Philippines: In the Philippines, a typical transaction through a bank branch costs the

bank US$2.50; this would cost only US$0.50, if it were automated by using a mobile phone. G-Cash requires only a mobile phone and a one-time SMS-based registration, with a minimal charge of US0.02 (P1.00) per transaction. Subscribers can do their transactions at home instead of traveling several kilometers to rural banks to pay or do their banking transactions.[3]

Wizzit of South Africa: Wizzit does not have a minimum balance requirement and does not charge fixed monthly fee. It uses a pay-as-you-go pricing model, with charges ranging from USD 0.13 to USD 0.66 per transaction depending upon type. Customers are charged USD 5.26 to sign up.[4] Evidence suggest that total expenditure on banking charges by Wizzit customers is lower than for conventional bank customers; average expenditure in fees was typically about 20% less for Wizzit customers than for traditional banking customers on a like-for like basis. (Vodafone plc 2007)

India: In India, the State Bank of India, ICICI Bank Ltd, HDFC Bank Ltd and Corporation Bank have launched a series of mobile commerce initiatives such as buying air, rail and movie tickets, recharging mobile phone subscriptions, and making other utility payments in association with mobile commerce provider mChek India Payment Systems Pvt. Ltd, telecom service provider Bharti Airtel Ltd and Visa. The RBI-promoted Institute for Development and Research in Banking Technology in Hyderabad, in association with Rural Technology and Business Incubator (RTBI), a registered society of Indian Institute of Technology (IIT) Madras, have also joined hands to set up a Mobile Payments Forum. According to the forum, those banks who opt for the Obopay[5] service should settle fund transfers among themselves and at a later stage, if too many banks sign up for this service, RBI can designate one bank for a centralized payment system.

In India, while the government incurs a transaction cost of Rs.12-13 for every Rs 100 of loan disbursement, mobile banking helps it reduce the cost to a mere Rs.2.[6] SKS Microfinance has developed a mobile banking imitative in partnership with Andhra Bank, in which customers use designated SKS banking agents to deposit money into Andhra Bank accounts and use a mobile phone to repay SKS microloans. As part of offering this channel for customers, SKS sells low-cost mobile phones to its customers and provides them a loan to finance the purchase. (Ivatury 2008). Apart from the reduction of cost, the mobile banking service helps to address two biggest problems of access to finance: the cost of roll-out (physical presence) and the cost of handling low-value transactions. A solution based on mobile phones can therefore substantially reduce the cost of spreading financial services over many retail environments, at least in areas with relatively high mobile phone penetration.

Hence, we can say that in a fast increasing number, policy makers and regulators in developing and ransition countries are embracing "Transformational Mobile Banking"(reaching out to unbanked mobile users), the use of information and communication technologies (ICTs) and nonbank retail channels to reduce costs of delivering financial services to clients beyond the reach of traditional banking.

Transformational Mobile Banking for scalability

Only about one-third in developing countries have any form of financial savings with formal banking institutions: 10 per cent in Kenya, 20 per cent in Macedonia, 25 per cent in Mexico, 32 per cent in Bangladesh. Yet access to financial services, whether in the form of savings, payments, credit or insurance is a fundamental tool for managing a family's well-

3. www.centralbank.go.ke
4. www.technology.cgap.org
5. www.obapay.com
6. Pest Analysis, http://www.microfinancefocus.com/blog/2009/08/24/pest-analysis-of-mobile-banking.

being and productive capacity. To achieve universal access, banks will not only need to adapt their systems to a low-value, but also high volume transactional environment and to build more flexible, scalable retail networks of points at which people can conveniently pay into or cash out from their transactional accounts.

The developing countries around the world, concentrate more on implementing the mobile banking access to the people who are unbanked mobile users known as Transformational Banking. Hence, transformational mobile banking is the provision of banking services using a mobile phone in such a way that currently unbanked people are targeted. The term was first coined to differentiate this type of offering from additive mobile banking options, where the mobile phone is simply another channel. If mobile banking extends financial access at sufficient scale to unbanked people then the retail financial sector of a country is likely to be transformed. (Porteous 2007)

One way to achieve transformational mobile banking is to use the Access Frontier Approach methodology. This approach seeks to distinguish use of a product or service from access to it, and seeks to understand the impediments which may prevent everyone from accessing that product or service. The approach segments a market into different zones. A key feature of the access frontier approach is understanding the reasons for non-use, so as to be able to distinguish unbanked categories. A survey called FinScope was conducted by FinMark Trust on the unbanked people of South Africa in 2007.

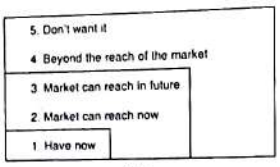

Figure 1: Market Map using Access Frontier Approach

The frontier methodology used by FinScope on South Africa's mobile banking service revealed a fact that most unbanked people are unbanked primary for economic reasons which relate in part to their work status, inability for an account holding and, perceptions and choice of access to mobile banking. The conclusion drawn on this survey was that having a bank account relates to the value proposition of the mobile banking and that the propositions of convenience and safety are less appealing to the unbanked and mobile banking customers are much more driven than banked people in general by convenience, both in terms of deposits and withdrawals and in terms of making payments.

There are also few other studies made such as a study on South African mobile banking services and another on Canadian contactless cards, and both the studies concluded that "Relative Advantage" (value preposition) is crucial for consumers. Therefore it is evident that when payments or savings are to be made through electronic models, customers need to understand how they benefit by switching the positives and the negatives of the new system versus the old. This specific requirement on the part of customers can be taken as an area of focus by the banks/service providers. However, a question arises as to the meeting of regulatory challenges which of the parties involved in the service provision would yield results depend upon the regulations of that particular countries which allow the smooth interoperability of a bank or MFI, mobile network operator and a technology.

Regulatory Challenges

From Afghanistan to Zambia, policy makers and regulators find themselves facing the question of how to approach regulating technological financial service using mobiles. The mobile service value chain is a complex one incorporating wholesale arrangements between mobile operators and financial service providers on one side and the retail distribution network which serves customers on other. Be it wholesale arrangements or retail arrangements, the innovations are emerging outside the scope of financial market regulators. Hence in this area of regulatory agenda, there is high degree of urgency. The importance lies in the fact that right regulations

during the early stages would capture the full benefits arising out of mobile banking services. (Vodafone group Plc. 2007).

Regulations in India: Mobile banking in India, viewed by the government as a potent tool for financial inclusion, is yet to clear many hurdles before it can fulfill its objective of reaching the unbanked masses. banks have been exploring the feasibility of using mobile phones as an alternative channel of delivery of banking services. Analysts say that the mobile density in tier II and III cities, is 11 percent and 10 percent respectively. With many banks offering mobile banking service, facilitate balance enquiry, stop payment instruction of cheques, record of last five transactions, location of nearest ATM/branch etc., the technology is relatively new to India and it is felt that due care needs to be taken on security of financial transactions and there has been an urgent need for a set of operating guidelines that can be adopted by banks.

The Reserve Bank of India (RBI) in 2006 announced that it would develop a regulatory and oversight framework for mobile banking, and made clear its concern over the safety of transactions through mobile phones. "The large scale spread of mobile telephony has opened up new vistas for banking in the form of mobile banking and the potential in this new sphere is enormous; adequate steps to ensure safety and security in a mobile based computing/communicating environment have to, however, be made." This statement was included in RBI's Financial Sector Technology Vision: 2008-2010. RBI expects mobile-based services to assume an ever greater portion of banking transactions in general and payment services in particular. Left unclear is whether such regulations would be developed in tandem with any changes to the use of business correspondents, or third parties doing cash-in and cash-out that provide the connection to the cash economy in which poor people live. At present, a limited set of entities can act as business correspondents, including section 25 companies, cooperatives and the post office, but not any for-profit outfits. RBI wants to ensure agents will not take advantage of low-income clients. And the latest guidelines were issued by RBI on 29th September 2008.

A study was conducted by Department for International Development (DFID) in 2008 over seven countries such as Africa: South Africa and Kenya; in Asia: the Philippines, India and Pakistan; in Europe/Central Asia: Russia; in Latin America: Brazil with respect to the regulation of branchless banking. The research found that despite many dissimilarities among the countries and their situations, policy makers and regulators in the countries share a common challenge how to formulate proportionate regulatory policy that gives space for innovation and permits branchless banking to scale for innovation and permits branchless banking to scale up safely. Apart from this, there are other common challenges for any developing country like India, and the following issues can be added with the primary issue for proportionate regulation for Indian mobile banking financial market:

1. Eligibility: The banks are responsible for ensuring Know Your Customer norms(KYC), and must have Core banking systems in place. The services shall be restricted only to customers of banks and holders of debit/credit cards issued as per the extant RBI guidelines. Hence, combatable and a challenging core banking system and KYC norms are necessary to create a positive impact in the country.

2. Model driven Regulation: Mobile banking can be led by two different models, one is Bank led model and the other model is Non-Bank model. The regulatory significance of the distinction between the bank-based and non-bank based model lies in the fact that behind every transaction under the bank-based model, there stands fully prudential licensed and supervised financial institutions. However, in India, RBI focuses on bank-model where prudentially norms are necessary.

3. Proportionate Regulation: The risks vary as the mobile banking extends its service from payment to deposit taking. The proportionate regulation for each type of service may be necessary as it appears to happen in the G-Cash of Philippines and M-Pesa of Kenya. A complementary lens for looking at proportionality in regulation of branchless banking, one that factors is the possibility of competing regulatory objectives, that appears in the "General Principles for International Remittance Services" jointly developed by the World Bank and

the Committee on Payment and Settlement Systems of the Bank for International Settlements in Basel which is focus of institutions offering mobile banking services

4. High Cost Technology: Developing a solid management information system still remains one of the most important tasks facing Banks and MFIs, particularly those scaling up, because of the high cost and limited availability of existing technological solutions, lack of widely available local technical support to support MIS software, consumer adoption rates of technology, lack of basic communications infrasiructure

5. Trust through technology: Trust is one thing which is questioned in mobile technology and the technology-assisted processes is which comes to rescue for the banks to ensure confidence in the transaction carried out by a non-bank agent. But the trust through technology can be ensured by i. authentication of customers ii. A requirement that all customer transactions are immediately offset against the store's own transactional bank account and are subject to availability of funds by the store, so that no credit risk is involved at the point of transaction. (Mas, Ignacio and Siedek 2008)

6. Validation of customers: The RBI's guidelines call for a two-factor authentication for validation of a customer. The industry has reacted to this by interpreting that two-factor authentication can be supported only by GPRS and not through SMS. The two factor authentication does not facilitate financial inclusion since basic mobile phones owned by majority of people in rural India do not support GPRS. Due to lack of GPRS connectivity, Smart Trust applications, secure SMS based applications will be the prominent at least in the initial years of mobile banking [9]

7. Collective Security Concerns: Security of financial transactions, being executed from some remote location and transmission of financial information over the air, are the most complicated challenges that need to be addressed jointly by mobile application developers, wireless network service providers and the banks' IT departments. Security applications will gain a lot of ground during the period 2009-12. These applications will include anti-theft and device recovery features via GPS.

8. One Comprehensive Application for All Mobile Handsets: A major challenge for mobile application development is the great variety of different target devices with different capabilities, features and restrictions. There are a large number of different mobile phone devices and it is a big challenge for application providers to offer mobile banking solution on any type of device. Some of these devices support J2ME and others support WAP browser or only SMS.

9. Narrow range of Agents: India permits only a narrow range of agents such as co-operatives, non-profit entities and the postal system to be used by banks as agents. In other countries like Kenya, Philipinnes, agents are free to innovate in agent selection and management. It results in customer adoption and increases scalability. At the same time MNOs do not stand responsible for negligence on the part of agents.

10. International Standard: The Financial Action Task Force(FATF) sets international Anti-money laundering (AML) and Combating Financial Terrorism (CFT) and oversees compliance monitoring. It calls for national-level regulatory regimes to adopt adequate Customer Due Diligence (CDD) rules. However, the experience of South Africa and the Philippines offers some encouragement to policy makers and regulators in other countries who want both a FATF compliant AML/CFT regulatory regime and branchless banking.

CONCLUSION

Mobile banking service is an important tool for a country's financial inclusion policy, as it reaches a country's rural poor faster than any other mode of transfer of funds by distributing the financial services to the unbanked rural poor who use mobile services as can be observed from the experiences of Kenya, Philippines and South Africa. The complexities involved in the growth of mobile-based banking services are the interoperability of players such as banks/MFIs, Mobile Network Operators (MNOs) and mobile-application providers, sophisticated technology and requirement of various regulations from different perspectives in the mobile banking system. The transaction cost involved in the mobile banking financial services is the main focus for banks and MFIs to render mobile banking service to the rural poor, and for the lower transaction cost, scalability is another factor to be focused which is the result of faster customer adoption, without which the mobile banking cannot be a tool of poverty elimination.

At present, mobile banking is the most needed one and most spoken about factors in the area of development in the banking sector as a whole and is expected by industry experts to replace the credit/debit card system in future. Hence the success factors for mobile banking depends upon the nationwide set of standard, education the poor and utilization of common platform for advertising interoperable services. In markets like India and Indonesia, where regulations prohibit mobile operators from entering the financial services space, banks have greater autonomy with regards to developing their own banking mobile platforms. India stands 29 in a list of 55 countries based on the country's performance in banking penetration, availability of the banking services, and the usage of the banking system. This shows that banks can use this platform to reach the unbanked through mobiles through, would be an appropriate tool for India's Financial Inclusion Plan.

FURTHER RESEARCH DIRECTION

- Interoperability of Service Providers in Mobile Banking
- Customer adoption and Scalability in Mobile Banking
- Technology in Mobile Banking -Trust and Security
- Collective Security Concerns of the Providers
- Development of Proportionate Regulation

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Role and Impact of Internet on Indian Tourism Industry

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Keywords: *Tourism Industry, Information Technology, Marketing Information, E-Commerce*

The tourism industry has been among the first to capitalize on new technology because it is an information-rich industry, it depends on finding and developing new means to distribute travel and hospitality products and services, marketing information to consumers, and providing comfort and convenience to travelers. Also, consumers are constantly seeking new sources of information to help them make decisions before purchasing travel services to make their trips more satisfying. Many more travelers use the Internet to plan and book their trips in the recent years. It is not surprising that travel and hospitality e-commerce is among the top four growth categories, second only to finance and insurance services.

Today most people have realized that information and time is wealth, and that mastering information promptly is important. People are attempting to adopt advanced technology to keep pace with social development. The Internet especially, being one of the advanced technologies used to convey information, has spread everywhere and has impacted many fields in the past few years. One now talks of living in the information age.

In brief, the Internet travel industry is approaching a crossroads. Until some form of standardization occurs, whether by regulation, market maturity, or both, shopping for the best travel deal online will continue to be confusing.

The objective of the research paper is to find out:

- How much use do tourism providers and tourists make of the Internet, and what do they do with it?
- Is the use of the Internet by tourism providers and tourists increasing, and by how much?
- What are the benefits of the Internet, as seen by both parties?

INTRODUCTION

In this information age, the Internet has found a role in various industries such as transportation, advertising, and so on. Companies worldwide have been involved over the last year in planning and experimenting aimed at leveraging this new technological infrastructure for business purposes.

The travel industry, in which communication between travelers and travel service providers is a very important component, has as much potential as any other industry to make full use of this new medium. Already, most travel agencies and travel

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service providers promote their products and services
using web sites. Searching for information online is
now seen by many people as a way to save time and
cost, especially in their travel activities.

In order to fully deploy the Internet within the
travel industry, understanding the use of the Internet
in tourism is critical. This research sets out initially to
examine the role and the impact of the Internet in the
whole of the travel industry.

Every second in the United States, $18,500 is
spent by domestic and international tourists on travel
and tourism. The third-largest retail sales industry in
America, travel and tourism generated over $580
billion in total expenditures in 2001. The enormity of
this figure parallels the scope of changes that have
occurred in this industry over the past few years -
ever since the Internet expanded from an institutional
and educational network to a consumer network,
driven primarily by the development of the World Wide
Web.

Why did the Internet so dramatically affect the
travel industry? What impact do the changes have
on travelers? What does online booking mean to
anyone who wants to take a trip? To answer these
questions, this report looks at the development of
the travel industry since airline deregulation in the
1970s, and how the industry developed into one ripe
for change when Internet technology arrived some
20 years later. The report explores developments in
the 1980s and early 1990s, when computer
reservation companies established highly profitable
technology networks that supported industry sales
and efficient distribution; when thousands of
independent travel agents flourished and prospered;
when credit card companies enjoyed revenue and
profit growth commensurate with increased U.S.
airline passenger traffic; and when the number of
airlines decreased or consolidated and often earned
the lowest margins of anyone in the travel business.

The report then looks at what happened when
the Internet offered commercial opportunities for
online travel in the mid-1990s and how the race
among old and new participants became frantic.
Finally, the report discusses which companies have
emerged as today's top online travel companies and
what they offer consumers.

Major Components in the Travel Industry

As the travel industry took off in the late 1970s and early 1980s, five major components came to comprise what this report will call the travel supply chain: Providers, Distributors, Travel Agents, Charge Card companies, and Travelers.

These major components can be described as under:

- Providers - Airlines, hotels and transportation companies; these entities invested in products (planes, properties, vehicles) and services for travelers.
- Distributors - Computer Reservations Systems (CRSs); technology companies that consolidated supplier information, inventory and pricing data, and provided a way to electronically search, book and issue tickets and documents.
- Travel Agents - Using CRSs, provided leisure and business travelers with one-stop shopping guidance and pricing and schedule advice to make reservations, issue tickets and provide ancillary services such as passport processing or currency conversion. They operated in a variety of market segments, such as wholesale, retail, business, leisure and specialty packages.
- Charge Card companies - Played a role by making purchasing more convenient and secure for consumers, and by providing corporate buyers consolidated transaction data about their company's activities, which helped them with purchasing decisions and policy tracking.
- Travelers - The end-user or customer, who may be leisure and/or a corporate traveler, or a travel planner; who books trips for an employee to take.

A GDS (Global Distribution System) is basically a globalized CRS, which grew out of an ARS (Airline Reservations System). The travel industry supply chain is shown in the figure below

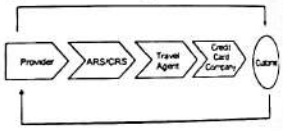

Figure: Travel Industry Supply Chain

Computer Reservations Systems (CRSs) and Travel Technology

Deregulation meant that airlines that had previously operated under government-set fares which ensured they at least broke even now needed to improve operational efficiency to compete in a free market.

While there were many aspects to this, one of the earliest changes was the development of the Airline Reservations System (ARS), its evolution into and proliferation of the Computer Reservations System (CRS), and then into Global Distribution System (GDS).

The history of Airline reservations systems began in the late 1950s when American Airlines began to try to create a system that would allow real-time access to flight details in all of its offices, to integrate and automate its booking and ticketing processes.

As a result, SABRE (Semi-Automated Business Research Environment) was developed and launched in 1964. Its key breakthrough was its ability to keep inventory correct in real time, accessible to agents around the world. Prior to this, manual systems required centralized reservation centers, groups of human beings in a room with the physical "cards" that represented inventory (seats on airplanes).

Simplifying the Potential Complexities in Tourism

There are many potential complexities in the tourism industry. For instance, there are various people involved: different kinds of tourists (for example, business, education, recreation, touring), and different kinds of service provider (for example, travel agency, tour operator, accommodation, foreign exchange, catering, and shops). In addition, there are many matters involved in the selection and organization of a holiday: gathering tour information, preparing the holiday package, confirming holiday information, actually having the holiday (including shopping for things and paying for them – not always easy in a foreign country), and sharing the holiday experience with other people during the holiday and once arriving back home. Thus, it might be very difficult to manage all the people and matters precisely, and much of this potential complexity is about Interaction Information Management in the Travel Industry: the Role and Impact of the Internet through or using *Information*. Information management becomes an important consideration.

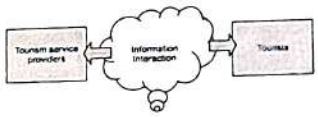

Figure: A Simple View of Information in Tourism

There are two major components (as identified in Figure) in the tourism industry: tourism service providers and tourists. They share information and interact with each other using information, as shown in the middle of the figure. One can deduce that Information management will be important in the tourism industry, especially when one anticipates the consequences of the Internet – the most recent innovation in conveying information and sharing information between different parties.

Figure gives a simple view of the way that tourists and tourism service providers interact, and this simple view will be developed later. The combination of two models might help to determine the real issues in understanding the impact and role of the Internet in tourism.

Allen Lee (1999) has opined that there are two worlds: the world of information technology and the world of society at large. This idea can be extended to propose three critical areas of concern: information technology (the base components with which one builds systems, from the world of technology), information systems (the resultant systems that serve the needs of business, in society at large) and information management (an all-embracing concern that deals with all aspects of delivering the benefits of Information technology investments, at the interface of the two worlds).

The Figure illustrates how, in his view, these two worlds intersect in a way that makes clear the joint area that is so difficult (but so important) to manage.

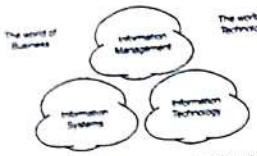

Figure: Two worlds and three areas of concern

Especially in the tourism industry, it is essential to focus on that difficult area (information management). For the moment, Figure gives a simple overview of how information management can be seen, as the intersection of two diverse worlds.

REVIEW OF LITERATURE

Studies have been conducted on the role and impact of the Internet in the travel industry. Such studies include the study conducted by Ma, Buhalis and Song (2003) where they identified the adoption of the Internet in the tourism industry in Europe and America. They claimed that the use of the new technologies was as old as 30 years. Internet brought the revolutionary changes to the structure of the tourism industry by providing tourism principals, airlines and hoteliers and opportunity to sell directly. The development of electronic commerce enables consumers to communicate directly with tourism organizations in order to request information and purchase products as well as to interact with principals. Other researches have also identified the role played by Internet in the tourism industry.

For instance, Doolin et al (2002) believed that the Internet is an important means of promoting and distributing tourism services. The Internet is fully seen as a communication tool that blurs the traditional boundaries between distribution and information (Swarbrooke, 1998). Rayman-Bacchus et al (2001) maintain that telecommunication developments seem to have sharpened the traveler's appetite for travel information. They contend that Internet technologies are complementing rather that undermining the role of traveling. Perhaps another way of looking at the role of the Internet in the travel industry is looking at Doolin et al's (2002) contention that the Web is becoming a collective "travel square" because more and more travelers are turning to online travel to fulfil their travel related tasks such seeking information, making travel transactions, finding travel companies, and so on.

The tourism industry is a consumer of a diverse range of information and a main user of these technologies. Technology in the tourism industry is undoubtedly having an impact on tourism operations. The use of the Internet plays an important role in the development and use of Information and Communication Technologies. There is a growing availability of Internet resources in travel and tourism for a diversity of users. Therefore, literatures on the tourism industry will re-focus on the impact of the Internet in the industry with the framework of information management and tourism.

Previous Work of Information Management

Most reported research focuses on the contribution of information technology and information systems to organizations. For instance, Ahituv, Zif, and Machlin determined the degree of use of information systems by CEOs in their strategic decision making and to seek a link with the firm's success in introducing new products. Their study also indicated significant differences in the level of environmental scanning and in the use of information systems between firms that were more successful in introducing new products into the market and firms that were less successful. There is much similar work, but none of it is focused on the Internet and its impact on the tourism industry and it is only indirectly helpful.

Even Lee's "two worlds" framework (1999) is too simple to interpret every activity in the business process of the tourism industry; it merely identifies the area of difficulty as the junction of the world of technology and the world of business (and society at large).

The roots of modern information management thinking lie in business. Progressive businesses developed simple models to assist managers in managing the junction of technology and business. The model was known as "Jacob's Ladder".

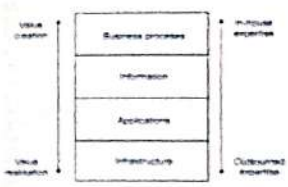

Figure: "Jacob's Ladder"

Jacob's ladder is interesting because it is very real and assisted in radically redefining the role of the IT function. It brought the focus to the value and led to a successful approach to outsourcing. The relationship between the typical IT department and the rest of the business continues to be a troubled one for many organizations. Efforts to understand the relationship and deal with it more effectively continue, but at one level (technology) the issues being faced by IT managers change continuously and at another (strategy) the IT manager is often simply not heard. The sum of this difficulty continues to frustrate our efforts to provide business with the information system services that it needs.

The domain between organizational needs and IT capability was divided into four parts.

- Business processes: deliver business outcomes. This is the level at which one should measure business performance.
- Information: those business processes need in order to function. *consider that every decision at every point in every business process needs information. If it is to be an informed decision.*
- Applications: choose to call them "information systems") that store, process, move and deliver information to the places where it is needed. *If there is an application that is delivering information that is not used, then it should be closed down.*
- IT infrastructure: is the foundation for the information systems to run upon. *This is what one can easily measure - server availability, is a classic example - money might be another. One can easily work out what the information technology infrastructure actually costs, but does one know the cost of developing applications and garnering information?*

This model shows that any advantage that might arise from new technologies would not be enduring, but only short lived; the real value comes from improved business processes - not the same thing at all as simply introducing new information technology. It brought focus to the value in the upper part of the model, and led to a successful approach to outsourcing.

Previous work on Tourism

For the previous research work on tourism, only a few authoritative sources were found that dealt with the role of the Internet in the tourism industry, which is a limitation of this research work. There might be more literature that could be found - "the impact of the Internet" is such a popular topic that much research is certainly being done that might be relevant, perhaps this new work is only represented in conference proceedings. Specifically, three relevant research papers have been found besides "MBOK" and "Somjit", these papers are therefore of some importance in order to determine the role and impact of the Internet in the tourism industry.

- In the first study, Pithers (2001) focuses on the use of South Africa's nature areas in the promotion of tourism and economic development. This is a very specific example that shows the importance of nature reserves in the promotion of rural and urban areas in South Africa. In the study, the researcher indicates the important position that the travel industry is taking in the region and what the government should does in the promotion of the rural and urban nature reserves. Although the study makes reference to promotion, it fails to fully explain the relationship between the tourism provider and promotion, or the tourist and promotion, even though it is clear that specific use can be made of the Internet in these situations.

What is evident from the study, however, is that promotion can be regarded as a significant component to the entire travel industry. It is a pity that this study did not follow through or look at things from the tourist perspective, but then that was not its intention. Although nothing is said about whether they use the web to promote tourism, or about how much they use information technology, the paper still states that promotion should be the first activity within the travel lifecycle in the travel industry due to its significance.

- In the second research paper, Shepherd (1999) notes that Internet users worldwide can and do search the Internet for information. Potential tourists can use the net to search destinations – this is appealing for both independent travelers and those wishing to travel with an organized tour.

Operators can advertise their products on the Internet and take bookings directly from customers in distant places. Hotels and airlines can use sophisticated databases to allow customers to make bookings directly online, and take payments by credit card. A few aspects of Internet use became apparent through the study. The tourism industry can benefit greatly from the various services the Internet provides. The Internet can be a valuable promotion tool for this industry. At the same time tourists and travel agencies can make use of the Internet search engines to locate, learn more and to discover what a destination has to offer in terms of tourist's activities. Operators are involved in one step of the travel lifecycle, but as soon as the problem of connection is resolved, they will benefit from this high technology.

- The third study research paper also relates to tourism promotion using the Web, based on tourism in New Zealand (Lennon, 1995). It found that there is still a barrier (costs) to overcome before tourist organizations are willing to use the World Wide Web (WWW) to promote their regions and tourist attractions. However, the paper indicates that the goal of tourism operators using the WWW is to increase the number of visitors to the area, the time spent at the destination and their spending – if these measures could be related to use of the web then that would be the evidence that is needed. Ideally, the WWW user should be able to make a travel booking. WWW pages, that simply provide factual information together with some market promotion, are of interest to potential travelers but these page counts will not be reliable. The value of pages and the accuracy of usage measures can be increased rapidly by involving the user, measured by the times of clicking on the web pages. Bookings may be one feature that engages the user but another useful service dialogue with the tourism agency so that further information requests can be made - either answers to specific questions or a request to receive brochures. The ultimate goal is actually to let the potential tourist make his or her own travel bookings.

Since Lennon's study, things have changed of course. Today most web sites are free to the public (apart from subscription and connection costs where applicable) and the cost of web hosting has reduced dramatically. There are some web service providers that offer free space and some cooperatives that enable a tourism provider to market them on the web at no cost. Tourists can just pay for access to the Internet and then browse free sites to gain the travel information and make enquiries of the tourism provider or travel agency. The cost-benefit equation is increasingly in favor of using the web for promotion, from the point of view of both parties.

Through these three published studies, it is evident that there are strong arguments to develop the promotional use of the web for tourism, and that it will have benefits for both providers and tourists. Nevertheless, promotion is only a part of what could be done – booking tours, support for activities during a tour (such as support for incidental transactions) and exchange of post-tour experiences are also important activities in the travel lifecycle. The evidence suggests that there is far more potential for Internet usage than just for promotion. The Internet has opened up opportunities for commercial organizations to promote and sell their products and

services – the question arises as to whether the Internet is *fully* utilized in tourism.

Combination of Information management, tourism, and Internet

Both tourism providers and tourists share the **same domain of interest: promotion, booking, tour, transaction, and post-tour experience.** Once a potential tourist decides to have a holiday, they could not exclude any of these steps (except perhaps the last, if they choose not to share their experiences with anyone). The service provider will have to keep pace with tourism activities if they are to sell their products and services to potential tourists. Certainly, each is exchanging information with the other. Traditionally agents have been very involved at all stages of the travel lifecycle, principally travel agents at the start but others as a holiday proceeds. Today all of these agents are threatened by the Internet because of its information handling potential. The tourism provider can promote their products and services on the Internet instead of going to the trouble of printing and distributing leaflets, brochures or magazines; they can then receive bookings by email in a short time rather than by conventional mail that will take so much longer, or fax which is not so reliable and much more expensive. They can issue electronic tickets to their clients for the flight or hotel. During the tour, a provider can still contact tourists through the Internet to keep in touch and learn of any other requirements that might improve the quality of service and get certainty of payment. Afterwards, if tourists were pleased, they could just email their experiences and suggestions to providers, which is much easier and more economical than conventional mail.

Again, as it is mentioned early on because of the re-work of this research, there arose many relevant studies about the tourism and Internet. However, few authors and researchers (if any) seem to be concerned about the entire travel lifecycle in the business process of information management. As has been established, this lifecycle includes promotion of travel opportunities, booking of a special holiday, the tour itself, transactions whilst on holiday, and the post-tour period when tourists are sharing their experiences with their family and friends. This lifecycle view is not evident in the literature that was reviewed, and it is taken as one of the key ideas for this research. This lifecycle is the area of shared interest between the tourism provider and the tourist. None of the lifecycle activities should be neglected for both tourism provider and tourist.

Therefore, one finds from the review of the literature and information exchange between tourism providers and tourists that there are two useful models that provide a foundation for this work, and relatively little reported work that expressly deals with the Internet and tourism. Where there is work, it tends to focus heavily on the early stages of promotion and booking, and the role of the travel agent. If the Internet could be employed more consistently from the beginning to the end, it might give the tourism industry and related businesses new opportunities. This is the aim of this study to determine the role and impact of the Internet in the travel industry in the information age, and to understand some of the opportunities that arise.

Therefore, the focus is turning to the technology (Internet) and business (tourism) to investigate the role and impact of the Internet within the entire tourism process activity (promotion, booking, tour, transaction and post-tour experience).

Research Methodology

The test used for analysis is ***CHI-SQUARE TEST.***

HYPOTHESIS STATED : "There is a great future for Internet in the Tourism Industry. This statement is expected to be believed by 90% tourists in the year 2009-10", and observed as 86.36%."

Null Hypothesis: The difference observed is insignificant. And, the difference is due to the sampling.

Alternate Hypothesis: The difference observed is significant. So, the Observed percentage should be the actual value for the future Internet usage among the tourists.

The set of formulae consist of:

CHI-SQUARE, $\chi^2 = \Sigma$ **(Observed Value – Expected Value)²** $\rightarrow$ **[CALCULATED VALUE]**

Expected Value

DEGREES OF FREEDOM, df = (n – 1)

where, n = number of columns.

CHI-SQUARE VALUE (From the table acc to df) → [CRITICAL VALUE]

When the

CRITICAL VALUE > CALCULATED VALUE, ACCEPT THE NULL HYPOTHESIS AND REJECT THE ALTERNATIVE HYPOTHESIS.

CALCULATED VALUE > CRITICAL VALUE, REJECT THE NULL HYPOTHESIS AND ACCEPT THE ALTERNATIVE HYPOTHESIS

Limitations of the Study

1. On the basis of the data collected the research was carried out. A certain limitation always exist in considering the Sample Size of the research, as it may not involve all the sectors of the economy and also may not generate the accurate results, one wants. This limitation hence comes into picture due to the project limitation.
2. Although CHI-SQUARE is a valuable tool for determining the existence of a statistically significant relationship, it is not without its problems. There are at least three limitations that must be considered using Chi-Square as a matter of existence:
   - This can determine if two variables are significantly related, but it does not address whether the relationship is meaningful or what the nature of relationship might be.
   - Chi-Square simply uses the values to place them into categories. This means, Chi-Square can only determine that a significant difference exists between the two variables. It does not say how the variables differ and how much they differ.
   - The final limitation of the Chi-Square is that the alternative hypothesis is not supported by the rejection of the null hypothesis. Just because we can reject the null hypothesis that there is no relationship between the variables does not support the contention that a relationship definitely exists. Additional statistical analyses are required to further examine the relationship between the variables.

3. Certain biases too exist in individuals mind towards a particular aspect of an industry or a company based on his past experience with it. Due to such limitations, the results may be slightly different than what it should have been. The understanding of the researcher in Tourism Providers might be different as from those who are Tourists.

Hypothesis Testing

A basic fact about testing hypotheses is that a hypothesis may be rejected but that the hypothesis never can be unconditionally accepted until all possible evidence is evaluated. In the case of sampled data, the information set cannot be complete. So if a test using such data does not reject a hypothesis, the conclusion is not necessarily that the hypothesis should be accepted.

The null hypothesis in an experiment is the hypothesis that the independent variable has no effect on the dependent variable. The null hypothesis is expressed as H0. This hypothesis is assumed to be true unless proven otherwise. The alternative to the null hypothesis is the hypothesis that the independent variable does have an effect on the dependent variable. This hypothesis is known as the alternative, research, or experimental hypothesis and is expressed as H1. This alternative hypothesis states that the relationship observed between the variables cannot be explained by chance alone.

There are two types of errors in evaluating hypotheses:

- **Type I error**: occurs when one rejects the null hypothesis and accepts the alternative, when in fact the null hypothesis is true.
- **Type II error**: occurs when one accepts the null hypothesis when in fact the null hypothesis is false.

Because their names are not very descriptive, these types of errors sometimes are confused. Some people jokingly define a Type III error to occur when one confuses Type I and Type II. To illustrate the difference, it is useful to consider a trial by jury in which the null hypothesis is that the defendant is innocent. If the jury convicts a truly innocent defendant, a Type I error has occurred. If, on the other hand, the jury declares a truly guilty defendant to be innocent, a Type II error has occurred.

Hypothesis testing involves the following steps:

- Formulate the null & alternative hypotheses.
- Choose the appropriate test.
- Choose a level of significance (alpha) – determine the rejection region.
- Gather the data and calculate the test statistic.
- Determine the probability of the observed value of the test statistic under the null hypothesis given the sampling distribution that applies to the chosen test.
- Compare the value of the test statistic to the rejection threshold.
- Based on the comparison, reject or do not reject the null hypothesis.
- Make the marketing research conclusion.

In order to analyze whether research results are statistically significant or simply by chance, a test of statistical significance can be run.

Tests of Statistical Significance

The chi-square (χ^2) goodness-of-fit test is used to determine whether a set of proportions have specified numerical values. It often is used to analyze bivariate cross-tabulated data. Some examples of situations that are well-suited for this test are:

- A manufacturer of packaged products test markets a new product and wants to know if sales of the new product will be in the same relative proportion of package sizes as sales of existing products.
- A company's sales revenue comes from Product A (50%), Product B (30%), and Product C (20%). The firm wants to know whether recent fluctuations in these proportions are random or whether they represent a real shift in sales.

The chi-square test is performed by defining k categories and observing the number of cases falling into each category. Knowing the expected number of cases falling in each category, one can define chi-squared as:

$$\chi^2 = \Sigma (O_i - E_i)^2 / E_i$$

where

O_i = the number of observed cases in category i,

E_i = the number of expected cases in category i,

k = the number of categories, the summation runs from $i = 1$ to $i = k$.

Before calculating the chi-square value, one needs to determine the expected frequency for each cell. This is done by dividing the number of samples by the number of cells in the table.

To use the output of the chi-square function, one uses a chi-square table. To do so, one needs to know the number of degrees of freedom (df). For chi-square applied to cross-tabulated data, the number of degrees of freedom is equal to

(number of columns – 1) (number of rows – 1)

This is equal to the number of categories minus one. The conventional critical level of 0.05 normally is used. If the calculated output value from the function is greater than the chi-square look-up table value, the null hypothesis is rejected.

CHI – SQUARE TEST

HYPOTHESIS STATED:

"There is a great future for Internet in the Tourism Industry. This statement is expected to be believed by 90% tourists in the year 2009-10", and observed as 86.36%."

Null Hypothesis: The difference observed is insignificant. And, the difference is due to the Sampling.

Alternate Hypothesis: The difference observed is significant. So, the Observed percentage should be the actual value for the future Internet usage among the tourists.

CHI-SQUARE TEST

FUTURE FOR THE INTERNET IN THE TOURISM INDUSTRY (%age)

(Expected)	(Observed)	[(O-E)^2]/E
90	86.36	0.147218

DEGREE OF FREEDOM, df = (n – 1) = 1

CRITICAL VALUE = 3.84

Here,

CRITICAL VALUE IS GREATER THAN THE CALCULATED VALUE

So, the difference observed is insignificant.

ACCEPT THE NULL HYPOTHESIS, i.e.

There is a great future for Internet in the Tourism Industry. This statement is expected to be believed by 90% tourists in the year 2009-10", and observed as 86.36%. And the difference observed is insignificant, due to the Sampling.

FINDINGS

A. Beginners and some experts are not making full use of the Internet, or choose not to do so. Only 4 experts out of 7 think that the Internet is the easier way to make a booking, and one expert believes that he does not need the Internet access at all during the holiday.

B. Of those who would like to have Internet services whilst on holiday, 20 respondents are not satisfied with the services they receive, & 29 reported that they were unable to access the Internet at all while on holiday therefore, service providers offering promotional information on the Internet are unlikely to satisfy tounsts' requirements whilst they are travelling. As Internet usage increases this is a real danger for the popularity of various countries' tourism.

C. Age is a factor when using the Internet. Out of 13 older people in the survey, 8 have never booked a holiday online, and only 2 would like to share their holiday experiences by using email. This is quite different to the younger age groups that make fuller use of the Internet.

D. Most respondents consider that there is a great future for the Internet in the tourism industry as the technology progresses and as adoption increases. As seen from tourism service providers' side, the Internet will take the jobs of travel agents as most things are now possible to book on line.

This means the client will lose the personal touch, but it seems to be the future; perhaps there will be a small residual market for travel agent services, but it is very important for tourism service providers to find their markets with the best possible websites and they will need Internet (and information management) competencies.

CONCLUSIONS

- It was found that the expert could do almost nothing without the Internet, but unfortunately he was disappointed with the level and capability of Internet services, which also coincided with the result from the questionnaire (that some experts would choose not to use the Internet while traveling). For instance, he could not get a wireless-modem Internet connection in India and had to abandon some use of the Internet.
- Expectation of the Internet use coincided with those 29 tourists who are anxious to have the Internet access while away. One has 25 bank accounts and has to check them regularly even away from home. As an expert, he is certainly exploring more usages and willing to have Internet access all the time. In the cycling group (familiar with the usefulness of Internet), **people did not utilize the Internet to organize the tour except for email**, but they could have avoided that inconvenience. For instance, the leader had to fly here ahead of the holiday in order to ensure the correct route condition and other information, but in this group there was an awareness of the wider use of the Internet.
- Some older people are also making use of the Internet, especially those who are experts with computers. Even in the cycling group those who did not know about the general use of the Internet were still using email, which seems to be the first stage in adopting Internet technologies.
- Tourism providers have built a web site, it should be checked to make sure that it is effective in providing people with the information that they need. **Providers need to be able to attract people** and then **convert them from "lookers" to "bookers".** Otherwise, the investment in the web site is a waste of time and money. This reinforces the result from the questionnaire, that increasing the availability of the Internet will reduce travel agency and other traditional businesses that are founded on information exchange and information services.

Managerial Usefulness of the Paper

The study done thereby is very useful to the managers, and finally to all the tourism service providers, and tourists across the world. It enables them to view the complete plan of action along with the short comings, in various fields and types, and to correct them.

This also helps in taking corrective predictions for the future.

Many travel agencies have developed an Internet presence by posting a website, with detailed travel information. Full travel booking sites are often complex, and require the assistance of outside travel technology solutions providers such as Travelocity. More and more tourists use the Internet websites to book and/or get useful information.

These companies use travel service distribution companies who operate Global Distribution Systems (GDS), to provide up to the minute, detailed information on tens of thousands of flight, hotel, and car rental vacancies. Some online travel sites allow visitors to compare hotel and flight rates with multiple companies for free. They often allow visitors to sort the travel packages by amenities, price, and or proximity to a city or landmark.

Travel agents have applied dynamic packaging tools to provide fully financial protection travel at prices equal to or lower than a member of the public, online.

All travel sites that sell hotels online work together with numerous outside travel agents. Once the travel site sells a hotel, one of the supplying travel agents is contacted and will try to get a confirmation for this hotel. Once confirmed or not, the customer is contacted with the result. This means, that booking a hotel on a travel website will not get you an instant answer. Only some of the hotels on a travel website can be confirmed instantly (which is normally marked as such on each site). As different travel websites work with different suppliers together, each site has different hotels that it can confirm instantly.

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FIIs Investments and Movement of NIFTY Index before and after Recession

Dr. Renu Choudhary

Abstract : The impact of foreign investments in India is significant. The increasing role of institutional investors led to both qualitative and quantitative developments in Indian Stock Markets. FIIs also had started to withdraw money as they were also facing recession in their own country. This study includes the monthly data from 2007 to 2011 and Karl Pearson's Correlation is used to calculate the correlation. But there may be some other factors also like government policy, bullion market, budgets, inflation, economical and political condition, etc which could have effect on NIFTY Index movement.

Indian economy is growing at a very fast pace. Most of the FIIs are investing in India due to its significant growth. These FIIs though they are investing in the country, they not only invest for profit but are also affecting the movement in stock market. Hence they are impacting the stock market in a large way which is an important parameter of the Indian economy as it contributes to the growth process of Indian Economy.

Foreign Institutions have played a major role in foreign investments in India which resulted in changing the face of Indian Stock Market. According to M Puri, ICICI Securities Chief, (2009) India has been looked upon as the safest destination for foreign investors. Foreign Institutional Investors are the companies which are registered outside India. They are registered with Securities and Exchange Board of India and they are guided by SEBI in participating in stock market through limits placed by it. India has witnessed over a decade of FIIs portfolio flows and these flows have gained significance and have played a key role in the overall Indian Economy.

The impact of foreign investments in India is significant. The increasing role of institutional investors led to both qualitative and quantitative developments in Indian Stock Markets. The Foreign institutional investors has also impacted the domestic investors to a large extent in the sense that if FIIs sell the stocks then there is a situation of panic created among the domestic investors and they tend to sell as well. Hence there is a need to study its impact on Indian companies and economy in general taking into consideration all the factors affecting movement of stocks on Indian Stock Market.

Objective of the Study

Indian economy has faced the recession in the year 2008. As a result we have seen that it has impacted on Indian stock market as well. We have experience the financial turmoil in Indian stock market as the stock prices were crashed out. FIIs also had started to withdraw money as they were also facing recession in their own country.

The objective of this paper is to study the impact of FIIs invest on NIFTY Index movement and co-relation between FIIs investment and movement of NIFTY Index. This study includes the monthly data from 2007 to 2011 and Karl Pearson's Correlation is used to calculate the correlation.

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INTRODUCTION

Indian economy is growing at a very fast pace. Most of the FIIs are investing in India due to its significant growth. These FIIs though they are investing in the country, they not only invest for profit they also are affecting the movement in stock market. Hence they are impacting the stock market in a large way which is an important parameter of the Indian economy as it contributes to the growth process of Indian Economy.

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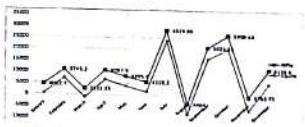
The impact of foreign investments in India is significant. The increasing role of institutional investors led to both qualitative and quantitative developments in Indian Stock Markets. The Foreign institutional investors has also impacted the domestic investors to a large extent in the sense that if FIIs sell the stocks then there is a situation of panic created among the domestic investors and they tend to sell as well. Hence there is a need to study its impact on Indian companies and economy in general taking into consideration all the factors affecting movement of stocks on Indian Stock Market.

Table 1: Net FIIs Investments and NIFTY Index - 2007

Month	FIIs Investment (In INR Crores)	Nifty Index
January	492.1	4082.7
February	7,239.60	3745.3
March	– 1,082.00	3821.55
April	6,679.20	4087.9
May	3,959.70	4295.8
June	1,643.10	4318.3
July	23,872.40	4528.85
August	– 7,770.50	4464
September	16,132.60	5021.35
October	20,590.90	5900.65
November	– 5,849.90	5762.75
December	5,579.10	6138.6
Total FIIs Investment	71,486.30	

Chart 1: Net FIIs Investments and NIFTY Index - 2007

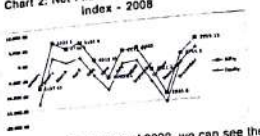


In January we can see that FIIs net investment was 492.1 crores and at the same month Nifty was 4082.7 after that in February month, FIIs increases its net investment but Nifty reacted negative. It came down sharply to 3745.3. The same relation we can see in the very next month i.e. in March when FIIs withdraw their investments, Nifty increases. But after that month we can see the positive correlation between FIIs investment and Nifty in each and every month till December so as a result Nifty reached to 6138.6 from 3821.55 with the result of FIIs increased investment.

Table 2: Net FIIs Investments and NIFTY Index - 2008

Month	FIIs Investment (in INR Crores)	Nifty Index
January	-13,035.70	5137.45
February	1,733.30	5223.5
March	-130.4	4734.5
April	1,074.80	5165.9
May	-5,011.50	4918.35
June	-10,095.80	4040.55
July	-1,836.80	4332.95
August	-1,211.70	4360
September	-8,278.10	3921.2
October	-15,347.30	2885.6
November	-2,598.30	2755.1
December	1,750.10	2959.15
Total FIIs Investment	-52,987.40	

Chart 2: Net FIIs Investments and NIFTY Index - 2008



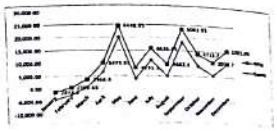
In the very first month of 2008, we can see the bulk selling by the FIIs so as a result Nifty declined sharply to 5100 range. In the next month i.e. in February we can see slight increase in FIIs investment and as a result Nifty also increased. But in the month of March we can see again little bit of selling came so Nifty again decreases. In the month of April FIIs again invest 1074.8 croress so as a result Nifty increases more than 400 points. But then after we can see the bulk selling by FII in each and every month till the month of November so the Nifty remained in constant pressure and as a result it came down to 2755 points. So in the year 2008 we can see the positive correlation between FIIs Investment and Nifty. In this year whenever FIIs has done bulk selling, Nifty came under pressure.

In the above chart we can see the correlation between FIIs Investment and Nifty and we can analyse that whenever the FIIs Investments has decreased, Nifty has performed accordingly. So we can see the positive correlation between FIIs Investment and Nifty.

Table 3: Net FIIs Investments and NIFTY Index - 2009

Month	FIIs Investment (in INR Crores)	Nifty Index
January	-4,245.30	2874.8
February	-2,436.60	2763.65
March	530.3	2966.4
April	6,508.20	3473.95
May	20,117.20	4448.95
June	3,830.00	4291.1
July	11,066.30	4636.45
August	4,902.70	4662.1
September	18,344.30	5083.95
October	9,077.00	4711.7
November	5,497.00	5032.7
December	10,233.10	5201.05
Total FIIs Investment	83,424.20	

Chart 3: Net FIIs Investments and NIFTY Index - 2009



Here, in the year of 2009 we can see that in the first two months pressure on Nifty of heavy selling by FIIs continued but after that FIIs has started buying on a large scale so that we can see the performance of Nifty also improved in almost every month. We can also see that there is a sharp increase in the month of May. It is just because of FIIs invested a huge amount of money in the Indian Stock Market. Nifty has increased almost 1000 points in the month of May by the Rs 20000 croress invested.

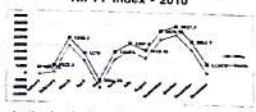
So we can say that there is a positive correlation between them but the most important thing which we can see in the year of 2009 that whenever FIIs has reduced its investment Nifty went down slightly but FIIs has never sold more than they bought after first two months of this year.

We can also see the hike which Nifty has taken from the start of the year to the end of the year. There is an overall increase in Nifty index inspite of increase and decrease in investment pattern from FIIs

Table 4: Net FIIs Investments and NIFTY Index - 2010

Month	FIIs Investment (in INR Crores)	Nifty Index
January	-500.3	4882.05
February	1,216.90	4922.3
March	19,928.00	5249.1
April	9,361.30	5278
May	-9,436.70	5066.55
June	10,508.40	5312.5
July	16,617.40	5367.6
August	11,687.20	5415.45
September	24,978.50	6029.95
October	28,562.90	6017.7
November	18,293.10	5862.7
December	2,049.60	6134.5
Total FIIs Investment	133,266.30	

Chart 4: Net FIIs Investments and NIFTY Index - 2010



In the beginning of the year we can see that FIIs has withdrawn the money from the stock market so Nifty came under pressure and it went down by almost 400 points. But in the next three months we can see that FIIs has again started investing in Indian stock market and as a result Nifty index shoot up by 400 points again. So the loss which occurred in the month of January was recovered in these three months i.e. February, March and April.

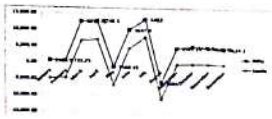
Soon after the Nifty reached to 5200 level we can see the pressure comes on it and FIIs started to book profit everytime so Nifty went down again in the month of May and it tasted the 5050 points.

After the month of May FIIs has increased its investment in Indian stock market constantly and a result we can see that Nifty climbed up to 6100 points. In short we can say that it has broken all the levels and was trying to build a new record again after 2008. Continuously till 5 months Nifty went up and up without any kind of barrier. Finally, at the end of the year Nifty closed at 6134.5 points.

Table 5: Net FIIs Investments and NIFTY Index - 2011

Month	FIIs Investment (in INR Crores)	Nifty Index
January	-4,813.20	5505.9
February	-4,585.50	5333.25
March	6,897.80	5833.75
April	7,213.30	5749.5
May	-6,614.40	5560.15
June	4,572.20	5647.4
July	8,030.10	5482
August	-10,833.60	5001
September	-158.3	4943.25
October	1,677.4	5326.6
November	-4,197.9	4832.05
December	-128.5	4624.3
Total FIIs Investment	-2812.1	

Chart 5



In the first two months of the year we can see that FIIs has withdrawn almost about Rs 9000 crores and as a result we can see Nifty also went down to 5300 points. In the next two months i.e. March and April FIIs again invested almost about Rs14000 crores and a result Nifty shoot up to 5750 points. But after that there was a mix response from FIIs. We can see no continuity in trend from FIIs. Sometimes they are buying and sometimes they are selling so the level of fluctuation is very much in this year. Nifty index has tasted the 5800 level at the upper side and 4600 level at the lower side.

So Nifty began from 5500 level in the year 2011 and ended at 4600 level. Between this Nifty has faced so much of upward and downward movements

Table 6: Correlation between FIIs Investment and Nifty Index:

Year	FIIs net Investment	Average Nifty Index for the year
2007	71486.3	4680.64
2008	-52987.4	4202.85
2009	83424.2	4178.9
2010	133266.3	5461.53
2011	-2812.1	5319.92

The correlation between FIIs net Investment and average Nifty index is 0.365, which is moderate correlation not much significant.

CONCLUSION

Before the financial turmoil FIIs used to invest money in the Indian stock market. We can see in Table 6 that in 2007 FIIs have invested Rs 71486 crores. In the financial turmoil year they have withdrawn on an average Rs 52987 crores. After that in 2009 and 2010 we can see the continuous inflows from FIIs. They invested Rs 83424 crores and Rs 133266 crores respectively. So we can see that FIIs are very much interested in Indian stock market.

In 2007, NIFTY index was at 4,680.64 points but in 2008 and 2009 it went down to 4202.85 points but after that it has been continuously increasing.

There is positive correlation between FII net Investment and average Nifty index. It means that there is impact of FIIs Investment on nifty index. Whenever FII invest the money, Nifty index goes up and whenever FII withdraw the money Nifty goes down. But there may be some other factors also like government policy, bullion market, budgets, inflation, economical and political condition, etc which could have effect on NIFTY index movement.

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Pension Sector Reforms and Economic Growth with Special Reference to India

Preeti Gupta

Abstract : Pension funds control relatively large amounts of capital and represent the largest institutional investors in many nations. The economic role of pension funds is considerable and well acknowledged. They cover half of the labour force and represent majority of the financial assets of the entire household sector. Pension funds may enhance economic growth by increasing the aggregate level of savings available for investment. The economic impact of pension funds are most noticeable in the channeling of funds to capital markets and the re-distribution of income. Considering the importance of saving on capital formation and economic stability the impact on saving becomes particularly significant. A saving level change resulting from pension contributions, could have far reaching implications in terms of national stability. Pension reforms in India have generated widespread interest internationally. In the past few years there has been tremendous changes in pension funds in India. The paper highlights the major concerns of pension sector and their overall impact on Indian economy.

Key Words : Pension reforms, pension funds, economic growth, saving

JEL Classification : C23, J26, O16, J23

INTRODUCTION

PENSION Fund growth over the past 10 years has been extraordinary. Pension funds have played a critical role in the evolution of the markets for debt and equity securities. Over the last decades, pension systems have been reformed in most developed countries. Further reforms are under way or are being discussed. Changes are prompted by the need to adjust pension arrangements to the new demographic, economic and social conditions, while trying to safeguard the essential achievements of social protection schemes: the possibility to transfer resources to the after-retirement part of life, the reduction of the risk of outliving one's resources, and the decline of poverty among the elderly. A growing challenge for many nations is *population ageing*. As birth rates drop and life expectancy increases an ever-larger portion of the population is elderly. This leaves fewer workers for each retired person. In almost all developed countries this means that government and public sector pensions could collapse their economies unless pension systems are reformed or taxes are increased. One method of reforming the pension system is to increase the retirement age. Pension reforms are mostly driven by the need to control outlays. Most developed countries are ageing: the ratio of the elderly-to-working age population has already reached historically unprecedented levels and is projected to increase further. The ageing process is driven by progress in life expectancy and low fertility rates. Demographic changes increase the demand for transfers and services for the elderly. Public pension schemes bear much of this pressure. Reforms may also try to counter the adverse effects of the pension

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system on the labour market and to improve the distributive effects related to the composition of public spending. Over recent decades, while life expectancy increased, the participation rates of the elderly fell significantly in most industrialised countries. The surge in pension spending has contributed to improve the economic conditions of elderly citizens. Poverty rates for older citizens have dropped and are now similar to the population average. In some European countries they are actually lower than for younger people. This has led to the question whether more public resources should be channeled to welfare programs targeting the needs of other social groups. The rise in the ratio of pensioners to the active population could lead to an increase in contribution rates and compress the resources available for other potentially problematic groups of citizens. All pension reforms basically tackle one issue: how to grant adequate living standards to an increasing number of elderly citizens without imposing an excessive burden on the public finances.

Pension plans in the private and public sectors have become a key institution in the functioning of financial markets. These plans provide a mechanism for consumers to save and can influence the retirement incentives of labour. Given the size of pension assets, it is not surprising that pension funds as a class are the dominant institutional investors in capital markets: a significant percentage of equities and fixed income securities are held by pension funds.

That the introduction of pension systems may decrease, increase or be neutral on savings has several potential explanations. Under defined benefits, if pension wealth can be seen as a substitute for private accumulation and therefore there could be a decrease of the household saving when a pension system is introduced. Moreover, pensions are usually paid in the form of annuities. Without pension annuities, the employee would be forced to accumulate more to finance their retirement period.

Thus, by offering annuities, pension plans could reduce savings. Another explanation is related to earlier retirement decision, as individuals who retire earlier are forced to save more in order to finance a longer period of retirement. Imperfect capital markets can also prevent households from borrowing freely, thereby forcing them to save more than they otherwise would. In this case, insofar as mandatory private pension funds may increase financial deepening and reduce borrowing constraints they would decrease household savings. The structural reforms of the 1980s and 1990s sought to improve the long-term fiscal sustainability of the pension systems and their institutional design, while transferring part of the economic and social risks from the government to participants.

Need for Reforms

While the need for changes in pension rules is often widely recognised, the introduction of reforms is usually politically difficult. This reflects the importance of pension systems in all developed countries. Pension systems absorb sizeable public resources, influence the labour and capital markets, and affect income distribution both within and across generations. These features make reforms an extremely complex task. All reforms are likely to hurt some catogories of citizens or some generations, in terms of cuts to their social security wealth or a higher tax burden. Reforms can however improve the incentive structure of the pension system. The removal of distortions, such as the incentive to retire early, can have positive effects on economic growth.

Reforms should both ensure the macro-economic sustainability of pension systems and improve their microeconomic features. Pension reforms represent an interesting test to evaluate the ability of each country to adjust its institutions to the new developments, manage complex long-term problems and reconcile multiple objectives. Aging is one of the main motives to reform pension systems. Funding of pensions might increase economic growth rates by increasing the aggregate saving rate, by the development of capital markets, by reducing labor market distortions, and by improving corporate governance. Last seven years, from 2000 to 2007, have seen a marked shift in pension policy in India through introduction of a new pension system.

Reform is important not only to achieve social objectives, but also to reduce the government's contingent liabilities. Reform will have limited effect in short term, but is critical to protect government

finances in the medium to long term. There was a need for reforms for many reasons. Firstly, India has a large population of young people – the average age being 25 – but this is changing very fast due to the rapid growth rate of the elderly population segment of 3.5%, as against the general population growth rate of 1.5%. Secondly, the rate of pension coverage is very low. Only 11% of workers are covered by a formal pension system. The remaining 89% stay uncovered. Studies have shown that there is no formal pension system in place for informal sector workers which means about 370 million workers are uncovered. Thirdly, the current system has become financially unviable for the Central and State Governments. According to some estimates, pension payments by the Central and State Governments in India made up only 1.8% and 2.53%, respectively, of the gross domestic product (GDP) in 2004-2005. In view of these pressing problems, it is only natural that we move towards a new pension regime which will provide wider coverage, reduce the burden on the Government, and also provide better returns and sufficient retirement wealth through a funded system.

The existing system of pensions which leaves more than 85 percent of Indian workforce uncovered is unlikely to act as a social security umbrella for the aging Indians. The new pension system, based on defined contribution and funded liability is a significant step in the direction of addressing this problem. Spread of NPS as seen by many as the direction in which the pension reforms need to move to find a viable and sustainable solution to the problem of old-age income security because they feel that neither the existing system nor any anti poverty drive by the Government is likely to solve the problem. Designing an effective, efficient and accessible system, which caters to the requirement of a heterogeneous work force, nearly 88 percent of which is not covered by any pension or old age security scheme, is the immediate priority of those concerned with pension reform process in India. The challenges of translating the design into reality will arise thereafter and, will take a while to be overcome.

Review of Literature

The literature has established a clear positive link between funding of pensions and financial development (Catalan et al., 2000, Impavido et al. 2003, Hu, 2005). Furthermore, financial development is positively associated with economic growth (Levine and Zervos, 1998; Beck and Levine, 2004). So, funding might lead to better developed capital markets which in turn are growth enhancing. On the other hand, Barr and Diamond (2006) argue that capital market development can hardly be a relevant argument for advanced countries as their capital markets are usually very well-developed already. Banks, Blundell and Tanner (1998) suggest that unanticipated shocks that occur around the time of retirement could explain the fall in spending within the context of the life-cycle model. Bernheim, Skinner and Weinberg (2001) suggested that workers do not adequately foresee the decline in income associated with the retirement. Hurd and Rohwedder (2003) argue that the drop in spending can still be explained by an extended version of the life-cycle model, where certain work related consumption expenditures stop at retirement and market purchased goods and services are substituted by household home production. The latter could be the case of long-term care services, which often are provided informally within families. Hurd and Rohwedder (2006) argue, like others, that the reduction in consumption cannot be explained by the simple one-good life cycle model with forward looking consumers. Many factors such as leisure or poor health could also explain the decline in spending. Along these lines, Smith (2007) argues that retirement is involuntary, largely reflecting ill health status and redundancy, and likely to be associated with a negative wealth shock.

Bloom *et al.* (2003) and Sheshinski (2004) suggest that higher life expectancy may increase the need for additional precautionary savings, despite the effect of improved health care on the length of desired working life. Moore and Mitchell (1998) also conclude that Americans are not preparing adequately for retirement as a couple would need to save 20 per cent of annual earnings between 1992 and the time of retirement (at 62) to have a replacement rate of 61 per cent. A single woman would need to save around 32 per cent of her income to have a replacement ratio of 54 per cent at age of 62. They conclude, despite seemingly large accumulations of total retirement wealth, the majority of older households will not be able to

maintain current levels of consumption into retirement without additional saving. Bernheim *et al.* (2001) argue their results are difficult to reconcile with the life-cycle model and that they are more likely to be the result of household behaviour not governed by rational, farsighted optimization. Khitatrakun and Scholz (2004) note that tax incentives, like IRAs and 401(k) are not needed and may lead to excess savings. Finally, a largely evoked, but not well documented, reason for saving at older ages is the existence of bequest motives.

Feldstein (1974) highlighted a negative link between PAYG pension systems and household savings. But, subsequent empirical tests on the impact of pension systems on household saving have produced mixed results (e.g., Edwards, 1996; Callen-Thimann, 1997; Corsetti, Schmidt- Hebbel, 1995) and Murphy and Musalem, 2004). Confirming earlier Feldstein's results, Edwards (1996) found that the social security system has a negative impact on private saving using a sample of 32 countries (developed and developing countries). Bailliu and Reisen (1997) also found a positive and statistically significant impact of pension funds on savings using a panel of 11 countries for the period 1982-93. In more recent study, Bosworth and Burtless (2004) did not find an econometrically significant impact on private saving for a set of 11 countries during the period 1971-2000. Murphy and Musalem (2004) considered 43 countries for the period 1960-2002 and found that mandatory contribution to funded pension systems increase national saving. It could be noted that it is quite difficult to compare these studies due to the heterogeneity of samples and estimation methods.

Lopez-Murphy and Musalem (2004) test whether the accumulation of pension funds' financial assets has an effect on national saving. The main conclusion is that it increases national saving when these funds are the result of a mandatory pension program and it decreases national saving when pension funds are the result of a public program to foster voluntary pension saving.Moreno and Santos argue that demographic changes and the degree of funding of the pension system can influence savings rates, the current account and financial development in emerging market economies (EMEs) in several ways. Funding of pensions could increase growth by improving corporate governance (Barr and Diamond,2006; Davis and Hu, 2008). This might be through the demand of pension funds for more transparency and accountability at the firm level and the pressure on pension funds to undertake socially responsible investments (Clark and Hebb, 2003). Although there is clear evidence of a positive impact at the firm level in the U.S. (Woidtke, 2002; Coronado et al., 2003), only Davis (2002) argues that these effects may be economy-wide. Holzmann (1997) finds a positive relationship between pension reform and total factor productivity for Chile. Davis (2002, 2004) examines the link between institutionalization, which is the proportion of equity held by institutional investors, and GDP growth but finds no effect. Borsch-Supan et al. (2005) argue that a beneficial side effect of pension reform is that it will lead to higher economic growth, by increased saving rates and more efficient capital markets, which could partly compensate for the transition burden. Besides that, higher growth would alleviate problems associated with population aging as well.

Pension Sector: Highlights

Pension-sector reforms were initiated in India to establish a robust and sustainable social security arrangement in the country seeing that only about 12-13 per cent of the total workforce was covered by any formal social security system. The New Pension System (NPS) was introduced by the Government from January 1, 2004 for new entrants to the Central Government service. The features of the NPS design are self-sustainability, portability and scalability. Based on individual choice, it is envisaged as a low-cost and efficient pension system backed by sound regulation. As a pure "defined contribution" product with no defined benefit element, returns would be totally market related. The NPS provides various investment options and choices to individuals to switch over from one option to another or from one fund manager to another, subject to certain regulatory restrictions. Participation in this scheme is mandatory for all new employees of the Central Government (excluding armed forces). This scheme will be offered to other employers and workers including State Governments and informal sector workers after a few months.

The Pension Fund Regulatory & Development Authority (PFRDA), set up as a regulatory body for

the pension sector, is engaged in consolidating the initiatives taken so far regarding the full NPS architecture and expanding the reach of the NPS distribution network. The full NPS architecture comprising a Central Recordkeeping Agency (CRA), pension fund managers (PFMs), trustee bank, custodian and NPS Trust has been put in place and is fully operational. The National Securities Depository Limited (NSDL) has been selected as the CRA. The NPS has also been well received by the State Governments and 23 State Governments/ Union Territories have notified similar schemes for their new recruits under the ambit of the NPS. More than 250 Central autonomous bodies have evinced interest in joining the NPS. The PFRDA has also launched a scheme for management of the pension corpus of various corporates under the NPS architecture. The PFRDA has also enhanced the maximum entry age into the NPS from 55 years to 60 years. These initiatives are expected to help realize the full potential of the NPS in terms of economies of scale and benefit the subscribers in terms of lower fees and charges and higher returns.

The pension fund managers manage three separate schemes consisting of three asset classes, namely (i) equity, (ii) Government securities and (iii) credit risk-bearing fixed income instruments, with the investment in equity subject to a cap of 50 per cent. The fund managers will invest only in index funds that replicate either the BSE Sensex 30 index or NSE Nifty 50 index. The subscriber will have the option to decide the investment mix of his pension wealth. In case the subscriber is unable/ unwilling to exercise any choice regarding asset allocation, his contribution will be invested in accordance with the "auto choice" option with a predefined portfolio. In parallel, almost all State Governments are becoming increasingly conscious about questions of design and fiscal sustainability of the retirement benefits for their own employees and pensioners. 16 Indian states have already decided to adopt the NPS for their own new employees while several other States are actively considering this option.

Pension reforms in India have made substantial progress. With the extension of the NPS to all citizens from May 1, 2009, every citizen in the country now has the opportunity to participate in a regulated pension market. This will contribute significantly to old age income security in the country. A number of State Governments are also considering wider

reforms and improvements to retirement provisions for their existing employees. However, a majority of States are waiting for the regulatory and institutional capacity of the new Central Government pension system to be in place before they formally announce a strategy for their own civil servants.

Aggregate Saving Rate

The contribution of workers to a PAYG system should be viewed as a pure tax, because these contributions are immediately used to pay pension benefits to retirees. In contrast, the pension premiums in a funded system are part of saving as these are invested in the capital market. Therefore, a shift towards more funding could increase the aggregate saving rate and as such economic growth. For this effect to be operative in practice, three conditions have to be fulfilled (Barr, 2000). Funding must lead to a higher rate of saving than PAYG, these additional savings have to be translated into more investment and finally, additional investments must lead to a higher economic growth rate. Although the effect of funding on saving could be permanently, it might be highest during the transition from the PAYG system to the funded system. During the transition the build-up of funds takes place, which is reflected in a net increase in pension fund assets. At some point in time, the pension fund is matured and the net inflow of funds will be much lower or even negative, as the outflow of funds to pension beneficiaries leads to dissaving. Besides this, a few other issues play a role as well here. Also, as Blanchard and Fischer (1989) have pointed out, a funded pension system will only increase the aggregate saving rate if the pension fund forces people to save more than they used to save voluntarily beforehand. If saving is already high, people will simply replace part of their voluntary saving by mandatory pension saving and the aggregate saving rate might stay the same. Reisen and Bailliu (1997) perform a comprehensive international study to the link between pension fund assets and saving rates. They use data from 11 countries that include OECD as well as non-OECD countries. Their conclusion is that the accumulation of pension fund assets has a positive and significant impact on private saving, although the effect is 8 times larger for non-OECD countries than for OECD countries Bosworth and Burtless (2004) provide

evidence that pension saving substitutes for other forms of private saving in OECD countries.

Why are Pension funds important to the bond market?

International experience shows that pension funds have indeed provided the much-needed boost to the development of corporate debt markets both in terms of demand for corporate bonds as also liquidity apart from improving the market microstructure. Pension funds have also been major stimulators of financial innovation as they have directly or indirectly supported product innovation by supporting the development of asset backed securities, structured finance, derivative products and so on. Pension fund presence in the bond market is likely to increase the availability of long term funds in the market, which in turn will improve the asset liability mismatch that often arises in projects with long gestation periods. As a matter of fact, globally the pension industry has been a key component of the financial infrastructure of an economy. It is one of the few sources of long term funds, which have null or least risk associated with maturity of assets and liabilities. Thus, its viability and strengths have far-reaching consequences for not only the money and capital markets but also for each and every facet of the economy. Funds raised from pension fund place-ments can specifically help infrastructure financing.

Why is Pension Fund investment in corporate bonds so low?

The above discussion illustrates that the bulk of pension fund investment in capital markets is dominated by bonds. Further, within bonds, Government securities form the major proportion of bond investments. Pension funds hesitate to invest in corporate bonds for fear of exposing their portfolio to unnecessary risk. However, they fail to maximize returns in the process of giving primacy to risk mitigation. Financial repression during the period of administered interest rates caused returns on Government bonds to be significantly lower than the returns on safe investments in informal markets. Although, deregulation has improved the situation, returns on Government bonds are still significantly lower than returns on other assets with close to or zero default risk.

Provident funds are required to invest in accordance with prescribed guidelines that are orientated towards safety of the funds. As a result, the preference has been for Government securities and PSU Bonds. A very small proportion (10% of accruals to the fund in a year) is available on a voluntary basis for investment in private sector bonds. Of the total corpus of statutory provident funds (including the Employees Provident Fund) amounting to Rs 1,750 billion as on 31 March 2004, only Rs 490 billion was invested in corporate bonds (mostly those issued by public sector entities). It is because of the current pension fund norms that returns on pension funds are so low. Perhaps it is time now that prudential norms governing pension funds should change. Consequently, the return-risk maximization paradigm should also be given due consideration as compared to only risk minimization.

Thus, the dominance of Government bonds in the pension fund portfolio leads to thinking whether one should be looking at a quantitative increase in bond exposure or one should be looking at a qualitative increase by way of increasing pension fund holdings of bonds with higher return-risk ratios like corporate bonds. Corporate bonds may be preferred over equity investments because investors may neither be willing to accept the low returns which gilt-edged bonds provide, nor accept the high risk that comes along with equity investment. The aim therefore is to attain the most optimum debt-equity mix and with in debt exposure the most optimum balance between safety and return.

What is the potential of the pension market in India?

There is a huge potential in emerging pension and retirement markets in India. However, at present, the market is very small. The Organisation for Economic Co-operation and Development (OECD) data indicated that in 2005, pension fund assets in India made up only 5.3% of the GDP, compared with 64.9% in Chile, 62.6% in Singapore, 56.7% in Malaysia and 33.9% in South Africa. This indicates the tremendous room for growth for the pension fund industry in India, as borne out by a study on the potential pension market under the NPS, conducted by the Asian Development Bank (ADB) in 2004. The study indicated that only 52 million workers were covered under the formal pension system, while 310 million were uncovered. According to another study conducted by FICCI-

KPMG, the post-reform pension market in India will grow to Rs4 064 billion (US$90 billion) in 2025.

How will the capital market in India benefit from the pension industry?

In recent years, the Indian capital market has witnessed tremendous transformation in trade, technology and infrastructure. Due to strong economic fundamentals since 2003, the stock market has risen sharply accounting for about 40% of the Indian GDP. Development of the pension industry will further increase institutional participation in capital markets which will provide strong support to enhance depth in the market. Further, it will also support the mutual funds industry, which is a fast-growing industry in India. Though recent reforms in Indian financial markets have brought transparency, promoted the fund management industry, induced competitive asset allocation and investors' protection mechanism, the market still lacks depth and suffers from a shortage of adequate financial instruments, particularly in the debt segments. Pension reform will provide impetus to these areas, while the presence of the Pension Fund Regulatory and Development Authority (PFRDA) will also strengthen the existing regulatory mechanism to support the healthy growth of the pension industry.

Recent developments in India's pension sector

2004

- The Central Government cleared the *Pension Fund Regulatory and Development Authority Ordinance*, 2004. This Ordinance paves the way for the establishment of an Authority to promote old age income security by establishing, developing and regulating pension funds, to protect the interests of subscribers to schemes of pension funds.
- The Ministry of Finance revised the investment guidelines for Provident Funds in India. The PFs are now allowed to invest upto 5% in equity.
- The Government announced a hike of one percent in the Employees Provident Fund (*EPF*) interest rate to 9.5% for 2004-05. However, in January 2006 the interest rate was reduced to 8.5%.

2005

- The decision to table the new pensions legislation was announced in the Budget Speech, 2005-06. This bill got referred to the Parliamentary Standing Committee on Finance.
- The day after these events, Dhirendra Swarup was appointed as the head of PFRDA for a term of five years.

2007

- **NSDL selected as NPS Central Recordkeeping Agency (CRA)**
- The Pension Fund Regulatory and Development Authority (PFRDA) and National Securities Depository Limited (NSDL) entered into a formal agreement relating to the setting up of a CRA for the NPS.
- NSDL's appointment as CRA is for ten years.
- Selection of Fund Managers under NPS.
- PFRDA has selected Wipro Technologies as Project Management Consultants.
- PFRDA website was created.

2009

- NPS has been extended to all citizens of India with effect from 1st May 2009.
- NPS –Lite has been introduced by PFRDA to extend the coverage of NPS to the weaker and economically disadvantaged sections of the society.

2011

- The Pension Fund Regulatory and Development Authority (PFRDA) Bill was introduced in Lok Sabha.

Major Highlights of the Bill

- PFRDA Bill, 2011 seeks to give statutory powers to the interim authority set up in 2003. It also alters the name of the New Pension System to National Pension System (NPS).
- Under the NPS, every subscriber will have an individual pension account, which will be portable across job changes. The subscribers will choose fund managers and schemes to manage their pension wealth. They will also have the option of switching schemes and fund managers.
- The Bill provides a structure (NPS) to plan for old age income security. However, it is optional for those in the unorganised sector.

2012

- Pension Fund Regulatory and Development Authority (PFRDA) has announced changes in the charge structure for the Points of Presence (POP) for Private Sector subscribers under National Pension System (NPS).

CHALLENGES AND OUTLOOKS

Nearly one eighth of world's elderly population lives in India. The vast majority of this population is not covered by any formal pension scheme. Instead, they are dependent on their own earning and transfer from their children. These informal systems of old age income security are imperfect and are becoming increasingly strained. Only about 12 per cent of the working population in India is covered by some form of retirement benefit scheme. Besides the problem of limited coverage, the existing mandatory and voluntary private pension system is characterized by limitations like fragmented regulatory framework, lack of individual choice and portability and lack of uniform standards. High incidence of administrative cost and low real rate of returns characterize the existing system, which has become unsustainable. Pension reforms in India have generated widespread interest internationally. The PFRDA faces the challenge of expanding the distribution network of the NPS to cover the entire unorganized sector in the country, educate citizens to take appropriate investment decisions, based on their risk and return profile, and contribute to improved financial literacy levels.

There are challenges on the ground and have to be met with some innovative approaches. The challenge is to convince those who need insurance against the hazard of living too long. They have to be persuaded to sacrifice some part of current needs for a secured living tomorrow. The road ahead has many challenges, which need to be tackled effectively for the system to spread wide enough to cover the unorganized sector, agriculture workers, temporary and casual workers and self-employed persons. Designing an effective, efficient and accessible system, which caters to the requirement of a heterogeneous work force, nearly 68 percent of which is not covered by any pension or old age security scheme, is the immediate priority of those concerned with pension reform process in India. The challenges of translating the design into reality will arise thereafter and, will take a while to be overcome. It is essential that policymakers correctly anticipate the course of the transition so that adequate counter measures are in place at the appropriate time. A major challenge of the New Pension System is to provide the individual subscriber with an adequate retirement income. Traditionally, coverage in India has been obtained by mandating participation and contributions coupled with tax incentives and guaranteed returns on retirement savings. The voluntary nature of the proposed NPS along-with poor financial literacy and the attitude of the households towards financial savings, risk and retirement planning, also pose a challenge to achieving optimum coverage of NPS. Creating awareness about these reforms and gaining the confidence of the people to encourage them to be a part of this movement is the single most important challenge faced by policymakers today.

CONCLUSION

There are two ways of looking at the potential indirect impact of the pension system on the economy. The first involves a scenario in which the current situation is allowed to continue indefinitely. In this 'no reform' case, the main indirect impact is through fiscal policy. Pension liabilities grow, raising deficits or diverting funds from other programs. The fiscal problem is due to burgeoning civil service pensions as well as current and future subsidies to the EPS. In addition, there is an opportunity cost to the extent that positive indirect impact of pension reform on labour and capital markets are foregone. On the other hand, reforms that combined cost reduction with the introduction of well-designed funded schemes would reduce the fiscal burden, reduce or eliminate certain labour market distortions

and possibly contribute to the development of capital markets. These gains could generate higher economic growth rates raising living standards for those not participating directly in the pension system.

Fundamental pension reform is a complex undertaking. It requires a sound technical plan of action that ideally harmonizes provisions across the country and across sectors. Such a plan must take into account fiscal and financial sector constraints. It must also include a transition strategy for phasing out existing provisions while respecting commitments already made. Finally, the system must be designed in such a way as to be able to adapt to economic and social changes for decades to come. While the task is difficult, the impact of pension reform (or the lack thereof) can be far-reaching. The stakes are high not only for the relatively small fraction of the labour force directly affected, but also for the rest of the population through a series of indirect economic effects more difficult to quantify. A growing body of research is showing that a vital pension system can boost stock market liquidity, extend the yield curve, lower borrowing costs and improves corporate governance and reducing pension liabilities in the public sector reduces future budgetary pressures, allowing more spending in other needed social areas.

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A Study on Employees' Perception Regarding Absenteeism Management Practices in MNC's

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Abstract : Absenteeism in Indian industries is not a new phenomenon. It is the manifestation of a decision by employees not to present themselves at their place of work, at a time when it is planned by the management that they should be in attendance. It is a habitual *pattern* of absence from a *duty* or obligation. For most companies, the responsibility for managing absenteeism has fallen primarily on immediate supervisors. These supervisors are often the only people who are aware that a certain employee is absent. High rate of absenteeism is neither desirable for employers nor good for the employees. In a majority of organizations, high rate of absenteeism has an adverse effect on quality and quantity of production, efficiency of workers and organization, organizational discipline and more importantly on the organization's intention to fulfil the new market demands.

INTRODUCTION

In this study absenteeism is defined as: temporary, extended or permanent incapacity for work as a result of sickness or infirmity. Temporary work incapacity refers to the first period of absenteeism, in most countries limited to the first 52 weeks of disability. Absenteeism according to Grifin, O' leary- Kelly and Collins (1998) is any failure to report for, or remain at work as scheduled, regardless of reasons. To Schappi (1988) and Sikorki (2001) define it as not being present or attending, missing, lacking in an organization, while Yende (2005) believes that absenteeism does not include annual leave, maternity leave. What Jones means here is that absenteeism simplify refers to the period the employee is not in workplace whether authorized or not. Vander and Miller (1988) in Josias (2005) & Mikovich and Boudreau (1994) defined absenteeism as "an unplanned, incident and can be seen as non-attendance when employees do not come to work". Casico (2003) & Josias (2005) define absenteeism as "any failure or an employee to report for or to remain at work as schedule, regardless of the reason". According to Yende (2005), it has been indicated that a surprising number of large public organizations have no idea as to the cost or cause of absenteeism in their organization. Plimmer (2003), sees any absenteeism rate over 5% an indication of dissatisfaction among the workforce, poor labour relations, and a lack of management leadership. The most comprehensive study on absence rates shows the average absence rate in the US. For the period 1980 to 1985 at about 4.7% (Klein, 1986: 26-30; Rhodes & Steers, 1990: 2. The cost of employee absenteeism has been estimated a t between $26 and $46 billion and a loss of 400 million workdays a year in the United states alone (Steers & Rhodes, 1978: 391; Rhodes & Steers, 1990:6). The major focus of the research has been on the relationship between absenteeism and employee attitudes. Such studies have generally

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investigated the proposition that workers who are less satisfied with their jobs will be absent more than those who experience job satisfaction (Hackett & Guion, 1985:340; Hackett, 1989:235; Ilgen & Hollenbeck, 1977.148). Most absence research has concentrated on two main themes: (1) the association of personal charact-eristics with absence and (2) the association of job satisfaction with absence (Johns,1978: 431). There are various ways to measure absenteeism, the most commonly used are the "lost time rate" formula and the "individual frequency" formula.

Lost Time Rate= (Number of Working Days Lost /Total Number of Working Days) × 100

Individual Frequency= (Number of Absent Employees/Average Number of Employees) × 100

Objectives of the Study

- To Study the Awareness level of the employees about absenteeism policies and practices in Indian and Multinational Organizations
- To Study the employees opinion regarding discipline factors of absenteeism policies and practices in Indian and Multinational Organizations
- To Study the employees opinion regarding motivational and satisfaction factors of absenteeism policies and practices in Indian and Multinational Organizations
- To Study the employees opinion regarding accuracy of absenteeism policies and practices in Indian and Multinational Organizations

Methodology

The study covers both primary and secondary data. The primary data was collected by distributing questionnaire to the employees of Indian and multinational organizations in NCR region. Secondary data was collected from various journals, magazines, research papers and articles related to the relevant matter of the subject under study.

The center of attention of this paper is absenteeism management practices in Indian and Multinational organizations. For the data collection, the questionnaire was distributed to 242 employees but only 182 returned it after filling and out of the 27 questionnaires were discarded due to non fulfillment of the questionnaire appropriately. The final sample size of the paper was 155. The statistical tools like descriptive statistics and Friedman's test were applied for the analysis purpose.

Analysis and Interpretation

For analysis, questionnaire was divided in to four factors i.e. awareness factors, discipline factors, motivational and satisfaction factors and accuracy related factors. Then for each factor, one table was designed for descriptive statistics and another table was for the results of Friedman's test.

Awareness Wise Classification of the Respondents

The following table classified the respondents on the basis of opinion related to awareness of absenteeism management practices in Indian and Multinational Organizations.

Table-1: Awareness Related Factors Wise Classification of the Respondents

Awareness Factors	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Explains the absenteeism policy to me	6 3.9	8 5.2	25 16.1	62 40.0	54 34.8
2. Regularly explain my department's absenteeism figure to us	8 5.2	10 6.5	23 14.8	58 37.4	56 36.1
3. Displays our department's absenteeism figures on a notice board where we can see it	7 4.5	16 10.3	36 23.2	63 40.6	33 21.3
4. Knows how labor laws apply to the management of absenteeism	7 4.5	18 11.6	36 23.2	62 40.0	32 20.6
5. Makes us aware of how much overtime results from absenteeism	10 6.5	12 7.7	34 21.9	48 31.0	51 32.9

Source: Primary Data

Table-1.1: Awareness Related Factors Wise Classification of the Respondents

Awareness	N	Mean Factors	Std. Deviation	Mean Rank	Chi square value	df	P value
1. Explains the absenteeism policy to me	155	3.87	1.035	3.37			
2. Regularly explain my department's absenteeism figure to us	155	3.83	1.111	3.27			
3. Displays our department's absenteeism figures on a notice board where we can see it	155	3.84	1.068	2.84	42.686	4	.000
4. Knows how labor laws apply to the management of absenteeism	155	3.61	1.078	2.89			
5. Makes us aware of how much overtime results from absenteeism	155	3.76	1.179	2.83			

Source: Primary Data

The Friedman's Chi-square test results indicated that there is difference of opinion among the respondents regarding awareness for absenteeism management practices (p<0.05). It could be seen from the table that among all the fa-ctors, factor 1 is ranked first and factor 3 ranked last.

Table-2: Discipline Related Factors Wise Classification of the Respondents

Discipline Factors	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Points out unacceptable attendance records to the relevant employees	6 3.9	8 5.2	28 18.1	45 29.0	68 43.9
2. Institutes disciplinary action if an employee abuses sick leave	2 1.3	8 5.2	30 19.4	70 45.2	45 29.0
3. Pay cuts sometimes is necessary when employee get absent intentionally	2 1.3	12 7.7	26 16.8	42 27.1	73 47.1
4. Procedures for disciplinary action apply only to culpable absenteeism	9 5.8	16 10.3	32 20.6	54 34.8	44 28.4
5. The employee's attendance should be closely monitored until it has been reduced to acceptable levels	8 5.2	15 9.7	26 16.8	43 27.7	63 40.6

Source: Primary Data

Table-2.1: Discipline Related Factors Wise Classification of the Respondents

Discipline Factors	N	Mean	Std. Deviation	Mean Rank	Chi square value	df	P value
1. Points out unacceptable attendance records to the relevant employees	155	4.04	1.086	3.04			
2. Institutes disciplinary action if an employee abuses sick leave	155	3.95	.900	3.01			
3. Pay cuts sometimes is necessary when employee get absent intentionally	155	4.11	1.029	3.25			
4. Procedures for disciplinary action apply only to culpable absenteeism	155	3.70	1.159	2.78			
5. The employee's attendance should be closely monitored until it has been reduced to acceptable levels	155	3.89	1.193	2.93	11.529	4	.021

Source: Primary Data

The Friedman's Chi-square test results indicated that there is difference of opinion among the respondents regarding discipline related factors for absenteeism management practices (p<0.05).It could be seen from the table that among all the factors, factor 3 is ranked first and factor 4 ranked last.

Table-3: Motivational and Satisfaction Related Factors Wise Classification of the Respondents

Motivational and Satisfaction Factors	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Counsels absent employees when they return to work	2 1.3	13 8.4	39 25.2	63 40.6	38 24.5
Encourages employees to solve personal problems in order to reduce absenteeism	9 5.8	19 12.3	23 14.8	69 44.5	35 22.6
Management involves the trade unions in the management of absenteeism	13 8.4	16 10.3	37 23.9	59 38.1	30 19.4
Provides incen tives for excellent attendance	9 5.8	17 11.0	24 15.5	66 42.6	39 25.2
Regular employees feedback for attendance policy is collected	10 6.5	17 11.0	43 27.7	56 36.1	29 18.7

Source: Primary Data

Table-3.1: Motivational and Satisfaction Related Factors Wise Classification of the Respondents

Motivational and Satisfaction Factors	N	Mean	Std. Deviation	Mean Rank	Chi square value	df	P value
Counsels absent employees when they return to work	155	3.79	953	3.27			
Encourages employees to solve personal problems in order to reduce absenteeism	155	3.66	1.131	3.19			
Management involves the trade unions in the management of absenteeism	155	3.50	1.184	2.69	35.157	4	.000
Provides incentives for excellent attendance	155	3.70	1.135	3.17			
Regular employees feedback for attendance policy is collected	155	3.50	1.113	2.68			

Source: Primary Data

The Friedman's Chi-square test results indicated that there is difference of opinion among the respondents regarding motivation and satisfaction related factors for absenteeism management policies (p<0.05). It could be seen from the table that among all the factors, factor 1 is ranked first and factor 5 ranked last.

policies followed in Indian and Multinational companies is excellent. If the company continues the same practices of absenteeism management in future it may achieve high.

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Table 4: Accuracy Related Factors Wise Classification of the Respondents

Accuracy Related Factors	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Manager is well trained to deal with absenteeism	5 3.9	16 12.3	31 20.0	71 45.8	31 20.0
Accurately record absenteeism figures	4	8	29	74 47.7	41 26.5
Compares our department's absenteeism figures with that of other departments	2.9 11	5.2 15	18.1 35	59	35
Deals effectively with absenteeism	7.1	9.7	22.6	38.1	22.6
Specific hours of operation & the length of breaks are calculated	9 5.9 5	19 12.3 12	39 25.2 23	48 31.0 68	43 25.8 47
	3.2	7.7	14.8	43.9	30.3

Source: Primary Data

Table-4.1: Accuracy Related Factors Wise Classification of the Respondents

Accuracy Related Factors	N	Mean	Std. Deviation	Mean Rank	Chi square value	df	P value
Manager is well trained to deal with absenteeism	155	3.68	1.032	2.90			
Accurately record absenteeism figures	155	3.90	938	3.39			
Compares our department's absenteeism figures with that of other departments	155	3.59	1.149	2.65	118.358	4	.000
Deals effectively with absenteeism	155	3.59	1.167	2.64			
Specific hours of operation and the length of breaks are calculated	155	3.90	1.024	3.43			

Source: Primary Data

The Friedman's Chi-square test results indicated that there is difference of opinion among the respondents regarding awareness for absenteeism management policies ($p<0.05$). It could be seen from the table that among all the factors, factor 5 is ranked first and factor 4 ranked last.

SUGGESTIONS

- The company should conduct awareness programs related to absenteeism management practices, it will definitely improve the understanding level of the employees about absenteeism management policies and practices.
- The company must instill the disciplinary actions. The rules and regulations related to absenteeism management must be reviewed and clearly stated to the employees. It plays a dominating role in maintaining peace and harmony in the organization. It plays a dominating role in maintaining peace and harmony in the organizations.
- Adequate motivational program must be provided to the employees. It will automatically increase their satisfaction level.
- It is suggested that accuracy related matters must be consider carefully while implementing absenteeism policies in the organization.

CONCLUSION

The study reveals that 75% of the employees are satisfied with absenteeism management policies and practices followed in the company. About the awareness factor, 80% of the respondents were satisfied. In context of discipline related factors, 70% of the employees were satisfied with the disciplinary actions instilled in the organization. More than 70% of the employees were satisfied with motivational and satisfaction factors and accuracy related factors existed in the organization. The overall conclusion about the absenteeism management practices and

A Study of Job Satisfaction-with Special Refernce to It Sector in NCR-Region

Dr. Shruti Tripathi
Diksha Mehndiratta

ABSTRACT : The Indian Information Technology (IT) and Information Technology-Enabled Services (IT-ITES) industry has continued to perform its role as the most consistent growth driver for the economy. The Indian information technology (IT) sector's market size was recorded at US$ 76 billion during 2010-11. As a proportion of India's gross domestic product (GDP), the contribution of IT sector has risen from 1.2 per cent in 1998 to 6.4 per cent in 2011.

It is observed that, age has a positive correlation with job satisfaction. It is also observed that females have a higher level of job satisfaction than males. As far as qualification is concerned lesser qualified employees have relatively higher job satisfaction as compared to moderate qualified. However, job satisfaction level increases as qualification further increases. In case of designation, employees handling technical tasks are less satisfied as compared to those handling managerial task. Experience has a u shaped relationship with job satisfaction with high level of satisfaction initially, which decreases and then increases with experience.

BACKGROUND

Information Technology has made possible information access at gigabit speeds. It has given a common platform to express oneself across all the strata of society. Thus, making a positive impact on the lives of millions who are poor, marginalized and living in rural and far flung areas. The Indian Information Technology (IT) and Information Technology-Enabled Services (IT-ITES) industry has continued to perform its role as the most consistent growth driver for the economy. The Indian information technology (IT) sector's market size was recorded at US$ 76 billion during 2010-11. As a proportion of India's gross domestic product (GDP), the contribution of IT sector has risen from 1.2 per cent in 1998 to 6.4 per cent in 2011. India's leadership position in the global IT and BPO industries are based primarily on the following advantages

- India accounts for around 28 per cent of IT and BPO talent among 28 low-cost countries.
- It has a rapidly growing urban infrastructure fostering several IT centers in the country
- Offshore service centers are spawning in the country due to operational excellence with low delivery cost, quality leadership and a conducive business environment.
- Favourable policy interventions, enabling infrastructure and augmenting a wide skill base from the government has further enhanced India's brand image.
- The advantage also take accounts of addition of 3.7 million talent pool every year which includes a strong mix of young and experienced professionals

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On the other hand the Nasscom Strategic review 2012 report released in feburary 2012 acknowledged that the changing technology -such as automation and cannibalization of existing services due to new technologies like SaaS replacing production support put a risk on the shelf life of the updayed courses which the techies do

Source : Nasscom, Aranca Research, www.ibef.org

According to Nasscom report the Indian IT-BPO sector crossed aggregate revenue of $100 billion in fiscal 2012 and generating direct employment for more than 2.8 million people as compared to 0.52 million in 2001-02. This represents a net addition of 1.68 million to the industry employee base since 2001-02. The indirect employment attributed by the sector was estimated about 8.0 million in 2008-09. This translates to the creation of about 10.20 million job opportunities around 2010 attributed to the growth of this sector.

REVIEW OF LITERATURE

Weiss (2002), defined job satisfaction as an attitude. However, there it is necessary to distinguish the objects of cognitive evaluation which are affect (emotion), beliefs and behaviors. In other words, feeling, beliefs and behaviors do have an effect on job satisfaction among employees.

Thomas A Wright, Russell Cropanzano, Philip J Denney, Gary L Moline(2002) have studied numerous times that, happy employees exhibit higher levels of job-related performance behaviors than do unhappy employees. However, despite decades of study, support for this hypothesis remains equivocal. These inconsistent findings may be a consequence of the disparate manner in which happiness has been operationalized. The study provides the first opportunity to simultaneously examine the contributions of psychological well-being, job satisfaction and dispositional affect to job performance. While psychological well-being predicted job performance, the results failed to establish relations between job satisfaction and dispositional affect as predictors of job performance.

John Robbins (2003) has defined job satisfaction as a pleasurable emotional state which results from appraisal of job, an affective reaction to job, and an attitude towards job.

Igbaria & Guimaraes, Kuo& Chen, Sumner & Niederman, (2003-2004) researched that the relationship between background variables and job satisfaction, their studies show inconsistent results concerning the relationships between most background variables and job satisfaction.

The Gallup-Healthways Well-Being Index, polling over 1,000 adults every day since January 2008 came out with a survey on topic "Do Happier People Work Harder". The results of the survey showed that Americans felt worse about their jobs and work environments than ever before. It showed that people are unhappy with their supervisors, apathetic about their organizations and detached from what they do.

Chet Robie University of Houston, Michigan State University, Ann Marie Ryan, Robert A Schmieder, Personnel Decisions International, Luis William M. Mercer, IncSmith Bowling Green State University 2010 in their study on the Relation between Job Level and Job Satisfaction examined the relationship between job level and job satisfaction. It was found that as job level increased, so did job satisfaction. Further, there was a high degree of convergence among the measures of job level and a consistently positive relationship between the job level and job facet satisfaction measures. These studies suggest that the relation between job level and job satisfaction is positive.

The San Diego State University and Navy

Personnel Research and Development Centre (2010) conducted a research to find relationship between age, education, salary, job characteristics and job satisfaction. The results showed that job satisfaction increased with age. When the effects of salary, job tenure and when people don't care about their jobs, absenteeism increases, production and work quality reduces. The study revealed the inner work lives of employees— the usually hidden perceptions, emotions and motivations that people experience as they react to and make sense of events in their workdays.

The study by Anna Cristina D'Addio, Tor Eriksson & Paul Frijters (2011) seeks to explain differences in individuals' self-reported satisfaction with their jobs. It was found that the impact of central economic factors is the same as in previous studies. Moreover, the determinants of job satisfaction differ considerably between the genders, in particular once individual fixed effects are allowed for.

Arnold and Feldman (1982), in a multivariate analysis of the determinants of job turnover found that age, tenure in the organization, overall job satisfaction, organizational commitment, perceived job security, and intention to search for an alternative position were the most projecting variables—each of which was negatively related to turnover, with the exception of intention to search for an alternative position which was positively associated with turnover. It was also noted that turnover was more strongly related to intentions to search for alternatives than intentions to change job positions.

IMPORTANCE OF THE STUDY

Although the recent downturn in the economy might have temporarily eased the IT labor shortage, issues of recruitment and retention of qualified personnel are key to the success of its projects. Job Satisfaction is an important indicator of how employees feel about their jobs. Job satisfaction is determined by both personal factors and organizational factors. It is a significant area of conducting research, although the subject has been researched to a great extent This study measures job satisfaction levels of employees working in IT sector keeping into consideration personal and organizational factors" The study also covers detailed analysis of results of a questionnaire based upon the said factors. This study may be useful to the management of IT companies to understand the satisfaction levels of the employees and implementing suggestions provided herein. This study will also be helpful to reduce employee turnover and improve the quality of HR practices.

STATEMENT OF THE PROBLEM

- To measure the Job satisfaction level of employees in IT Sector.
- To examine the demographic differences may impact the employee Job Satisfaction level in IT Sector.
- To give suggestions to retain employees in the IT Sector.

HYPOTHESIS

The present study attempts to examine the impact of several individual factors on the Job Satisfaction Level in IT Sector.

Ho: Null Hypothesis

There is no significant difference between demographic (Age, Gender, Qualification, Designation, Experience) variables and job satisfaction level.

Ha: Alternative Hypothesis

HI: There is a significant difference between different age groups and job satisfaction level. H2: There is a significant difference between gender and job satisfaction level. H3: There is a significant difference between qualification and job satisfaction level. H4: There is a significant difference between Designation and job satisfaction level. H5: There is a significant difference between Experience and job satisfaction level.

Research Design

Pilot Testing

A pilot testing of the research instruments was carried out prior to actual study in the IT Sector to determine the validity and reliability of the items and sample. The 15 item questionnaires were distributed in the two IT firms (i.e. Wipro and IBM) in Delhi NCR region, and mainly focused to programmer specialist, Manager, Business head, Team leader, and Executive. The researchers used the technique of eliciting responses in written, through personal interaction, and social networking sites like (Linkedin, Face book) etc. On the basis of the feedback received from pilot testing, the researchers added & subtracted the item questionnaires accordingly just to check the Job Satisfaction Index in the IT firms.

Research Instrument Questionnaire

Questionnaires are the most popular data collection technique in social science studies (Sekaran, 2003). Questionnaires used in the present study because it is the most appropriate method used to collect the data. -There are many ways to administer questionnaires, and one of them is by mailing them to the selected employees. In this research a questionnaire is used for obtaining information from respondents. The questionnaire tries to establish a significant difference between independent and dependent factors. It is designed in such a way as to yield the desired information required for this research. The questionnaire is based on Likert scaling method ranging from the scale of 1 (Strongly Agree) to 5 (Strongly Disagree).

Data Source

Primary Source: The researchers has concentrated in collecting data from employees who are working as Executives, Team leaders, Programmer specialist, Managers, Business Heads of various IT (Software IT Solutions, Hardware) companies in Delhi NCR Region. Google Docs was used to make the questionnaire and telephonic survey was conducted with many respondents. The data was also collected through physical forms, personal interaction (HR, employees), telephonic survey and using social Networking such as Linkedin.

Secondary Source: The researchers have referred to numerous articles, journals, magazines newspapers books, etc on job satisfaction. Many websites and search engines were also used including Wikipedia, Google for understanding terminologies relating to the research.

Sample Size

The sample size consisted of 400 employees from different IT companies of Delhi/NCR region. The sample which is used is the stratified random sampling method.

Microsoft Excel (2007) has been used in the research study.

RESULTS AND DISCUSSIONS

Table 1: Respondents Characteristics Independent factors

Respondents Characteristics		
Character	**Frequency**	**%age**
Gender		
Male	308	77.00%
Female	92	23.00%
Age		
upto 25 years	96	24.00%
25 to 35 years	234	58.50%
35 to 45 years	70	17.50%
Qualification		
Highly Qualified -	182	45.50%
Moderate Qualified	180	45.00%
Less Qualified	38	9.50%
Designation		
Manager	100	25.00%
Team Leader	52	13.00%
Executive	42	10.50%
Business Head	36	9.00%
Programmer Specialist	170	42.50%
Experience		
less than 1 year	28	7.00%
1 -4 years	150	37.50%
4-8 years	126	31.50%
8-12 years	50	12.50%
Above 12 years	46	11.50%

Table 2: Showing the frequency distribution of the sample according to the age level and gender of employees.

Age	Male	% age male	female female	% age
upto 25 years	58	18.83%	38	41.30%
25 to 35 years	184	59.74%	50	54.35%
35 to 45 years	66	21.43%	4	4.35%

Table 3: Showing the frequency distribution of the sample according to the qualification level and gender of employees.

Qualification	Male	% age male	female female	% age
Highly Qualified	144	79.12%	38	20.88%
Moderate Qualified	128	71.11%	52	28.89%
Less Qualified	36	94.74%	2	5.26%

Table 4: Showing the frequency distribution of the sample according to the qualification level and age of employees.

Age	Highly Qualified		Moderate Qualified		Less Qualified	
up to 25 years	18	18.75%	70	72.92%	8x	8.33%
25 to 35 years	122	52.14%	88	37.61%	24	10.26%
35 to 45 years	42	60.00%	22	31.43%	6	8.57%

Table 5: Showing the frequency distribution of the sample according to the designation level and gender of employees.

Designation	Male	%age male	female	% age female
Manager	86	86.00%	14	14.00%
Team Leader	46	88.46%	6	11.54%
Executive	32	76.19%	10	23.81%
Business Head	34	94.44%	2	5.56%
Programmer Specialist	110	64.71%	60	35.29%

Table 6: Showing the frequency distribution of the sample according to the designation level and age of employees.

Age	Manager	%	Team Lead Leader	exec tive	%	Business Head	%	Prog Specialist	%	
upto 25 yrs.	4	4.17 %	6	8.25 %	10	10.42 %	0	0.00 %	78	79.17 %
25 to 35 yrs.	70	29.91 %	42	17.95 %	28	11.97 %	10	4.27 %	84	35.90 %
35 to 45 yrs.	26	37.14 %	4	5.71 %	4	5.71 %	26	37.14 %	10	14.29 %
	100		52		42		36		170	

Table 7: Showing the frequency distribution of the sample according to the experience level and gender of employees.

Experinece	Male	%age male	female	%age female
less than 1 year	14	50.00%	14	50.00%
1-4 years	92	61.33%	58	38.67%
4-8 years	118	93.65%	8	6.35%
8-12 years	42	84.00%	8	16.00%
Above 12 years	42	91.30%	4	8.70%

Table 8: Showing the frequency distribution of the sample according to the experience level and age of employees

Age	less than 1yr.		1-4 yrs.	4-8	yrs.	8-12		Above 12 yrs.		
up to 25 yrs	24	25.00 %	68	70.83 %	4	4.17 %	0	0.00 %	0	0.00 %
25 to 35 yrs	4	1.71 %	82	35.04 %	110	47.01 %	36	15.38 %	2	0.85 %
35 to 45 yrs	0.00	0.00 %	0.00	12	17.14 %	14	20.00 %	44	62.86 %	
	28		150		126		50		46	

Table 9: Showing the frequency distribution of the sample according to the Overall Satisfaction level of employees

Overall Satisfaction	Frequency	%age
I cannot even think about leaving this organization	78	9.50%
I wish to continue for sometime	246	1.50%
But I am looking for a change	76	9.00%

Table 10: Showing the frequency distribution of the sample according to the Overall Satisfaction and age of employees

Overall Satisfaction	Male	% age male	female	%age female
I cannot even think about leaving this organization	66	84.62%	12	15.38%
I wish to continue for sometime	178	72.36%	68	27.64%
But I am looking for a change	64	84.21%	12	15.79%

Table 11: Showing the distribution of the sample according to the" Overall Satisfaction and age of employees

Age	I cannot even think about leaving this organization	%	I wish to continue for sometime	%	But I looking for a change	%
upto 25 yrs.	10	10.42 %	70	72.92 %	16	16.67 %
25 to 35 yrs.	48	20.51 %	136	58.12 %	50	21.37 %
35 to 45 yrs.	20	28.57 %	40	57.14 %	10	14.29 %
	78		246		76	

DEPENDENT VARIABLES

Table 12: Indicating the mean and standard deviation for job satisfaction

	Mean	Standard deviation
Job Stress management	4.03	0.79
Learning	4.09	0.86
Leadership	3.99	0.92
Pay and promotion opportunity	3.88	0.92
Work Culture	4.13	0.80
Interaction at the work place	4.01	0.82
Interpersonal relationships	4.45	0.63
Recognition and achievement	3.97	0.91
Job Satisfaction Index	3.01	1.24

HYPOTHESIS TESTING

Ho: Null Hypothesis

There is a no significant difference between different age groups and Job Satisfaction level

Ha: Alternative Hypothesis

HI: There is a significant difference between different age groups and job satisfaction level.

Table 13: Indicating the mean and Z-test result between different age groups and job satisfaction

Age	Mean	ZTest Result	Level of Significance
upto 25 yrs.	3.96		
25 to 35 yrs.	4.03	−121.81	0.05
25 to 35 yrs.	4.03	−41.27	0.05
35 to 45 yrs.	4.06		

Interpretation

The observed values of z are greater than 1.96 and falls in the rejection area of bell-shaped curve at 0.05 level of significance and thus we reject Null Hypothesis HO and accept Alternative Hypothesis H1

These results show that there is a positive relationship between Age and Job Satisfaction as shown in the table below. As the Age increases, the Job Satisfaction level also increases.

Table 14: Indicating Frequency and Mean of different Age groups.

Age	Frequency	Sum of Responses	Mean
upto 25 yrs	816	3178	3.89
25 to 35 yrs	1989	7901	3.97
35 to 45 yrs	595	2391	4.02
Grand Total	3400	13470	

Result

In the initial years the expectations from Job is relatively high as a result the overall job satisfaction is less in initial years. As the age increases the expectation from the job becomes clear as a result Job satisfaction increases with age.

Ho: Null Hypothesis

There is a no significant difference between gender and Job Satisfaction level.

Ha: Alternative Hypothesis

H2: There is a significant difference between gender and Job Satisfaction level.

Table 15: Indicating the mean and Z-test result between different gender and Job satisfaction

Gender	Mean	Z Test Result	Level of Significance
Male	4.00		
Female	4.11	-198.46	0.05

Interpretation

The observed values of z are greater than 1.96 and falls in the rejection area of bell-shaped curve at 0.05 levels of significance and thus we reject Null Hypothesis HO and accept Alternative Hypothesis H2. These results show that there is a relationship between Gender and Job Satisfaction level.

Table 16: Indicating frequency and mean of Gender and Job Satisfaction.

Gender	Frequency	Sum of Responses	Mean
Male	2618	10310	3.94
Female	782	3160	4.04
Grand Total	3400	13470	

Result

Females are more satisfied with their Jobs because of their lesser ambitions and financial needs.

Ho; Null Hypothesis

There is a no significant difference between Qualification and Job Satisfaction level.

Ha: Alternative Hypothesis

H3: There is a significant difference between Qualification and Job Satisfaction level.

Table 17: Indicating the mean and Z-test result between different designation and Job satisfaction.

Qualification	Mean	Z Test Result	Level of Significance
Highly Qualified	4.08		
Moderate Qualified	3.07	212.49	0.05
Moderate Qualified	3.07	-44.11	0.05
Less Qualified	4.02		

Interpretation

The observed values of z are greater than 1.96 and falls in the rejection area of bell-shaped curve at 0.05 level of significance and thus we reject Null Hypothesis HO and accept Alternative Hypothesis H3. These results show that there is a relationship between Experience and Job Satisfaction level

Table 18: Indicating frequency and mean of different designation and Job satisfaction.

Qualification	Frequency	Sum of Responses	Mean
Less Qualified	323	1274	3.94
Moderate Qualified	1530	5960	3.90
Highly Qualified	1547	6236	4.03
Grand Total	3400	13470	

Result

Less qualified employees have relatively high Job satisfaction level as compare to moderate qualified employees. The probable reason for this might be that there is higher expectation level of moderate qualified employees as compared to less qualified employees. However as qualification level gets further high, employees get higher level of jobs having higher authority and responsibility, thus the job satisfaction level increases as compared to lesser qualified employees.

Ho: Null Hypothesis

There is a no significant difference between different designation and Job Satisfaction level.

Ha; Alternative Hypothesis

H4: There is a significant difference between different designation and Job Satisfaction level.

Table 19: Indicating the mean and Z-test result between different designation and Job satisfaction

Designation	Mean	Z Test Result	Level of Significance
Executive	4.20	45.46	0.05
Business Head	4.09		
Business Head	4.09	36.34	0.05
Manager	4.03		
Manager	4.03	31.65	0.05
Team Leader	3.99		
Team Leader	3.99	29.03	0.05
Programmer Specialist	3.96		

Interpretation

The observed values of z are greater than 1.96 and falls in the rejection area of bell-shaped curve at 0.05 level of significance and thus we reject Null Hypothesis HO and accept Alternative Hypothesis H4. These results show that there is a relationship between different designation and Job Satisfaction level.

Table 20: Indicating frequency and mean of different designation and Job satisfaction.

Designation	Frequency	Sum of Responses	Mean
Executive	357	1484	4.16
Business Head	303	1246	4.07
Manager	850	3387	3.98
Team Leader	442	1737	3.93
Programmer Specialist	1445	5616	3.89
Grand Total	3400	13470	

Result

Different designation levels carry different levels of technical responsibility. Business head and managers have lesser technical responsibility as compared to programmer specialist. It is observed that as the level of technicality increases the overall job satisfaction decreases. The probable reason for the might be that jobs demanding higher technical responsibility more routine work as may become monotonous with time. However, jobs carrying lesser technical responsibility are more dynamic.

Ho: Null Hypothesis

There is a no significant difference between level of experience and Job Satisfaction level

Ha: Alternative Hypothesis

H5. There is a significant difference between level of experience and Job Satisfaction level.

Table 21: Indicating the mean and Z-test result between level of experience and Job satisfaction

Qualification	Mean	Z-Test Result	Level of Significance
less than 1 year	3.87	- 115.57	0.05
1-4 years	4.04		
1-4 years	4.04	13.47	0.05
4-8 years	4.03		
4-8 years	4.03	-37.59	0.05
8-12 years	4.07		
8-12 years	4.07	40.15	0.05
Above 12 years	3.99		

Interpretation

The observed values of z are greater than 1.96 and falls in the rejection area of bell-shaped curve at 0.05 level of significance and thus we reject Null Hypothesis H0 and accept Alternative Hypothesis H4. These results show that there is a relationship between level of experience and Job Satisfaction level.

Table 22: Indicating frequency and mean of level of experience and Job satisfaction.

Experience	Frequency	Sum of Result	Level of Significance
less than 1 yr.	238	913	3.84
1-4 years	1275	5057	3.97
4-8 years	1071	4245	3.96
8-12 years	425	1705	4.01
Above 12 years	391	1550	3.96
Grand Total	3400	13470	

Result

The Job Satisfaction level generally increases with experience, with increasing maturity and work experience, the employees are able to adjust his ambitions and work expectations to a more realistic level. These new expectations are more achievable and gets fulfilled, the satisfaction level increases.

FINDINGS

Demographic Profile

1. Gender: For the current study, there was larger percentage of male (77%) than female (23%)
2. Age: In terms of age, 24% of the respondents were upto 25 years of age, 58.5% of the respondents were in the age group 25 - 35 years, and 17.5% of the respondents were in the age group 35 - 45 years.
3. Qualifications: In terms of qualification, 45.5% of respondent were highly qualified which include employees holding post graduate degree. 45% of the respondent were moderate qualified which include employees holding technical/professional diploma or certificate. Rest 9.5% were less qualified who were holding diploma or certificate.
4. Designations: In terms of designation, 25% of respondent were managers, 13% were team leaders, 10.5% were executives, 9% were business head, and 42.5% respondents were programmer specialist.

5. Experience: In terms of experience, 7% of the respondents had upto 1 year of experience. 37.5% of respondents were working since 1-4 years followed by 31.50% respondents working since 4-8 years. 12.5% for 8-12 years and remaining 11.50% had above 12 years of experience.

Other Findings

6. IT employees were showing only a moderate level of job satisfaction. Amongst the factors comprising the scale for job satisfaction, the factors with highest satisfaction levels were related to the interpersonal relationships, work culture and learning. On the other hand, employees had lowest satisfaction levels for pay and promotion, recognition and achievement and Leadership. Factors such as job stress management have moderate level of satisfaction.
7. The study revealed that female employees were more satisfied than male employees in relation to all factors except leadership which is shown as per table below.
8. As per the study, there was a significant difference between different age group and job satisfaction level.
9. There is a positive relationship between different age group and job stress management, learning, Leadership, pay promotion opportunity, interaction at work place.
10. The study revealed that there was a significant difference between experience and job stress management. Initially, there is lesser job stress management, which gradually increases as the experience increases and again decreases at high level of experience.
11. The study revealed that experience has a u-shaped curve of job satisfaction index. The possible reason for this finding may be that initially there are high work expectations from job which increases satisfaction level. However, when these high expectations are not fulfilled, there is a resultant drop in job satisfaction. With increasing maturity and work experience, the employees are able to adjust his ambitions and work expectations to a more realistic level. These new expectations are more achievable and gets fulfilled, the satisfaction level increases.

RECOMMENDATIONS/SUGGESTIONS

In life every connotation is unique and individual in nature. The understanding of Job-satisfaction is also very unique from the user point of view. For knowledge-based enterprises, job satisfaction must be viewed in the context of high salary linked strongly with performance, small shelf life of the degree/qualifications/experience, target-based work-schedule, and flat organizations.

1. As per the finding shown above, the younger generation is relatively less satisfied. Therefore the companies should align their policies and change their work culture for increasing job satisfaction for younger age group.
2. As per the study, the younger employees are relatively less satisfied with interaction at work place. Therefore, the company should have a dedicated HR staff deputed for younger employees and a separate HR helpdesk for dealing with younger employees for ensuring better interaction at work place.
3. The study shows that, younger age group have relatively lesser satisfaction level as far as pay and promotional opportunities are concerned. For ensuring higher satisfaction level, the companies should make Cafeteria style pay structure which is more preferred and give systematic promotional opportunities to younger employees. For example, Bangalore-based information technology (IT) major Wipro is walking the extra mile to bring down attrition. Recently, it changed the quarterly variable pay structure for its middle and senior level executives.

The company has revised its performance-based compensation package plan for groups C1, C2 and D1 (middle level

engineers) with effect from the second quarter. Employees in the C and D category are the middle and senior level executives.

4. For the purpose of ensuring that there is ample learning involved in the job, the company should ensure proper training is imparted to employees from time to time. IT companies have understood that people at times join for a lesser pay package for a different reason. Such entrants are motivated by the fact that they would be able to learn a new language or have access to the latest software package for which they would have to pay a huge fee outside. They view this job as an opportunity to update their knowledge to be used to their own advantage from the point of view of a lucrative foreign job. It is clear, therefore, that job satisfaction has different connotations for people in the IT sector.
5. The study has revealed that females have low leadership opportunities than males. In this regard, for ensuring satisfaction to females, training on leadership should be imparted and better opportunities to lead teams be given to females. A number of considerations can improve job satisfaction, particularly for women, who have joined the IT sector in large numbers in recent years. The requirements of a female employee are totally different from that of a male employee. Many companies have realised that a key element of managing diverse knowledge- employees is flexibility. Uniform rules may not be work well. Privileges such as maternity leave, unpaid leave for prenatal or postnatal care, sick leave (with or without salary), and working at home through PCs are considered important motivators for a woman, who may even prefer a creche at work-place.
6. The findings show that job stress management is at moderate level among IT employees. For ensuring that employees better manage the stress of job, stress busters such as proactive employee's engagement activities and family events should be a regular part in the culture of the company.

LIMITATIONS

- The females respondents were less as compare to males.
- The survey is subjected to the bias and prejudices of the respondents. Hence 100% accuracy can't be assured.
- The findings of the research are based on what the respondent have stated as true
- Time limit of the researchers is one major limitation otherwise it would have been an intensive study, not the extensive one.
- Personal Blasness in the Social Networking sites.
- Difficult to convince the respondents to fill the questionnaire.
- Some companies were unable to open my link in the office premises

CONCLUSION

The above study shows IT employees have a moderate level of job satisfaction. Job satisfaction is a positive approach about one's job resulting from an evaluation of its characteristics. Job satisfaction represents an attitude rather than behaviour. Satisfied employees are more productive than dissatisfied.

According to the hypothesis, it is concluded that there is a significant difference between demographic variables (Age, Gender, Qualification, Designation and Experience) and job satisfaction level.

It is observed that, age has a positive correlation with job satisfaction. It is also observed that females have a higher level of job satisfaction than males. As far as qualification is concerned lesser qualified employees have relatively higher job satisfaction as compared to moderate qualified. However, job satisfaction level increases as qualification further increases. In case of designation, employees handling technical tasks are less satisfied as compared to those handling managerial task. Experience has a u shaped relationship with job satisfaction with high level of satisfaction initially which decreases and then increases with experience.

Satisfied employees exhibit higher levels of job-related performance behaviours than do dissatisfied employees. A person with a high level of job satisfaction holds positive feelings about the job. It is very tough job for HR department to ensure job satisfaction among staff.

Employees will not be just happy with salary, position and prestige. They also want better work culture, learning and leadership opportunities and hormonal interpersonal relationships.

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Empirical Study of Customer Perception and Satisfaction of on Line Banking Services in NCR- A Case of ICICI BANK

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ABSTRACT : The present banking system in India has gone through various changes over last decade. This was the result of the financial sector reforms which aim at deregulation, liberalization and globalization of Indian banking. The concept of on line banking includes all types of banking activities performed through electronic networks. In India, the ICICI Bank was one of private sector bank which kicked off its online banking in1996. As information technology services have come into the Indian banking for the last 15 years not many research works are documented in Indian context. So, an attempt has been made. A sample of 500 customers was chosen for carrying out the survey. The study concludes that human contact is necessary in addition to e-channels. This throws up a challenge to banks as well as policymakers. Technology alone cannot give a sustainable competitive advantage for the banks. But, beyond a point, IT along with 'personal touch' will be necessary for the banks to retain the existing customers and attract new customers. Banks have to incorporate this in their IT and operational strategy.

INTRODUCTION

The banks in the past did not find any attractions in the Indian economy because of the low level of economic activities and meager business prospects. The beginning of the decade 1990s brought a significant change in the concept of bank marketing because of the use of sophisticated information technology in the banking sector. The beginning of the electronic business (e-business) or electronic commerce (ecommerce) age has been shivering the business environment and breaking out innovative and unconventional ways of doing business. One of the latest outcomes of this e-business is internet banking or online banking or electronic banking (i.e. on line banking). The process of development thus started gaining the momentum. The use of sophisticated technologies particularly by the foreign banks has greatly increased the expectations of customers. In information technology era, internet banking is most popular for their services. The concept of on line banking includes all types of banking activities performed through electronic networks. It is the most recent delivery channel of banking services which is used for both business-to-business (B2B) and business-to-customer (B2C) transactions. In India, internet banking both as a medium of delivery of banking services and as a strategic tool for business development, has gained wide acceptance internationally and is fast catching up with more and more banks entering the fray. The ICICI Bank was

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the pioneer bank to use Internet banking for some of its services in India. The ICICI Bank provides a wide array of banking products and financial services to its retail and corporate customers. Electronic banking plays a vital role in the economic development of a country. Due to immense advances of information and communication technology (ICT), it certainly introduced new dimensions for the global On line banking community. In India, the leading private sector bank and the eminent banking service providers, i.e. ICICI Bank Limited kicked off its online banking service in 1996, followed by a host of other banks viz. ICICI, Axis, Citibank, Federal Bank, etc. Now, all the banks in India have either totally implemented 'Core Banking Systems' or halfway through. In spite of various innovative on line banking services offered by many banks in India, the question of how the customers are utilizing the on line banking services has not been investigated so far. As customers get more and more educated, getting insight about modern banking, via Internet banking has evolved as primary area of concern for all leading and upcoming banks in India. As IT services have come into the indian banking only in the last 15 years, not many research works are documented in Indian context. Banks like ICICI Bank Ltd., ICICI Bank Ltd, etc. are thus looking to position themselves as one stop financial shops. These banks have tied up with computer training companies, computer manufacturers, Internet Services Providers (ISP) and portals for expanding their net banking services, and widening their customer base

REVIEW OF LITERATURE

The various articles on on line banking do not show a comprehensive picture. A review of some of the relevant literature is given below:

Arne Floh and Horst Treiblmaier (2006) has investigated the importance of antecedents of online loyalty such as trust, quality of the web site, quality of the service and overall satisfaction of the customers. Rather than investigating which factors drive customers to use online banking instead of offline banking, it addresses the problem of how to keep customers online and loyal to a specific supplier. **Malhotra and Singh (2007)** found the internet banking (i-banking) adoption by the banks in India and suggested that larger banks or banks with younger age, private ownership and lower branch intensity possess high probability of adoption of this new technology. **Rajesh Kumar Srivastava (2007)** conducted study on what are the customers perceptions about internet banking and what are the drivers that drive consumers and corroborated the conceptual framework stating that if skills can be upgraded there will be greater will to use internet banking by consumers. **Kamakodi, N., (2008)** found that banks like ICICI in India used technology as a 'competitive advantage', and successfully became the largest private sector bank in India within five years of commencing operations. ATMs, cell phone banking, anywhere anytime banking and internet banking are the most popular services, which have come to the market, and all banks are competing with ICICI bank to offer these services. **Ahasanul Haque et al. (2009)** dealt with the perception of Malaysian online customers on Internet banking and found that only protected transaction, have significant impact on consumers' perception about on line banking security, followed by service quality and regulatory frame work issues. **Shripad Vaidya (2009)**, provided a glimpse on how some of the leading banks and financial institutions across the globe make effective use of the Internet Banking channel to garner impressive results and concluded that most of banks across the globe predominantly use Internet Banking channel for cost reduction or revenue growth; whereas very few banks seem to adopt this channel comprehensively, and that is true even for some of the banks with direct platforms. **Rahmath Safeena, Hema Date and Abdullah Kammani (2011)** determines the factors influencing the consumer's adoption of internet banking in India and hence investigates the influence of perceived usefulness, perceived ease of use and perceived risk on use of internet banking. It is an essential part of a bank's strategy formulation process in an emerging economy like India.

OBJECTIVES OF THE STUDY

The main objectives of the study are –

a) What are the main on line services offered by banks and specially by ICICI bank?

b) Whether customers are utilizing the Online banking services?

c) What are the factors responsible for utilization of on line banking services of ICICI Bank?

d) To understand the motivational factors for the utilization of various on line banking services.

RESEARCH METHODOLOGY

This is an exploratory research that evaluated different factors that how far the customers in NCR Region and utilizing the online banking services. Both the primary and secondary data are used in this research. A structured interview schedule was used to collect the primary data to answer the research questions and objectives regarding utilization pattern of on line banking services by the customers of ICICI Bank in NCR Region. For distributing the interview schedules the ICICI Bank branches and ATMs location in NCR Region were chosen. The survey was conducted generally via face-to-face interviews. After consulting the experts and banking officials, 500 samples were taken for this research. The data which was collected by primary and secondary sources was analysed keeping in mind the objectives of this research paper and to examine existing literature.

Empirical Results

The main objective of the study is to analyze the extent of utilization on line banking services by the customers of ICICI Bank Limited. The on line banking services of ICICI Bank such as ATM, Cards, Tele (Phone) Banking, Internet Banking, Mobile Banking, Bill Payment Service, Electronic Clearing Service (ECS), Electronic Fund Transfer (EFT), and Investment in Securities are taken into account for study. In order to achieve the said objective, the most utilized on line banking services by the sample customers are gathered and the opinion is presented in Table.

It is found that the most utilized on line banking services in the low age group respondents are – ATM (100%), Cards (99%), Electronic Clearing Services (53.1%), and Tele Banking (53.4%). 'Internet Banking' and 'Investment in Securities' utilized in equal proportions (i.e. 26.2%). The electronic fund transfer service has been utilized to the extent of 21.3 per cent. Followed this, bill payment service (16.5%) and mobile banking (9.7%) comes in order. In the case of middle age group respondents, ATM is mostly utilized by all the cent per cent respondents. In this category, all the respondents utilized the card services also. Next to this, the internet banking services utilized by 60.6 per cent of respondents, investment in securities by 34.3 per cent, and Tele Banking to the extent of 31.3 per cent. Remaining services are also utilized to some extent. Regarding high age group respondents, ATM is utilized by all the sample respondents (i.e. 100%). Next to this, card accounts for 98.7 per cent, telon line banking 71.8 per cent, electronic clearing services 44.9 per cent, and investment in securities 38.5 per cent. The remaining services, such as, electronic fund transfer, bill payment service, mobile banking and internet banking accounts for 26.9, 21.8, 12.8, and 8.9 per cent respectively. Overall, all the respondents in the study unit utilized the ATM service, followed that card services, tele banking, electronic clearing service, accounted for a major portion, i.e. 99.3 per cent, 50.7 per cent, and 43.9 per cent respectively. It is understood from the above analysis that majority of respondents utilized the ATM and card services mostly from the ICICI Bank.

The association between the age group of sample respondents and the period of utilization of on line banking services such as ATM, Cards, Tele Banking, Internet Banking, Mobile Banking, Bill Payment Service, ECS, EFT, and Investment in Securities has been analyzed with the help of chi-square test. For finding out the association, a three-way table has been uniformly framed. For this purpose, the respondents have been grouped into three group viz. low, middle, and high age groups. In addition, the period of utilization has also been grouped into three viz. less than 3 years, 3 to 7 years, and more than 7 years for on line banking services like ATM, Cards, Tele banking, and Investment in Securities. For other on line banking services like Internet banking, Mobile banking, Bill Payment Services, Electronic Clearing Service (ECS) and Electronic Fund Transfer (EFT), the period of utilization grouped as less than 6 months, 6 to 12 months, and more than 1 year. Based on this group, the chi-square test has been computed. The null

hypothesis and the alternative hypothesis framed are given below

Null Hypothesis (H0): There is no association between the age group of respondents and the period of utilization of various on line banking services

Alternative Hypothesis (H1): There is association between the age group of respondents and the period of utilization of various on line banking services

The 3 x 3 table (3 rows and 3 columns) of chi-square test has a degree of freedom of 4 and shows a table value of 9.488 at 5 per cent level of significance. The computed chi-square value for the various on line banking services is shown in the Table

It is observed that the computed chi-square value is greater than 5 per cent critical value for the on line banking services viz. ATM, Cards, Tele Banking, Internet Banking, Bill Payment Service, ECS, and Investment in Securities. Hence, the null hypotheses for these on line banking services are rejected. So, it is concluded that the there is association between the age group of respondents and the on line banking services like ATM, Cards, Tele Banking, Internet Banking, Bill Payment Service, ECS, and Investment in Securities. From the Table 2 it is also clear that the calculated chi-square value is less than the table value for 'mobile banking' and 'Electronic Fund Transfer'. So, the null hypothesis is accepted and it is said that there no association between the age group of respondents and the on line banking services viz. mobile banking and electronic fund transfer.

The on line banking services such ATM, cards, tele banking, internet banking, mobile banking, bill payment services, electronic clearing service, electronic fund transfer, and investment in securities are utilized by most of the customers of ICICI Bank. Based on the usage of frequency, the customers are asked to rank the selected nine on line banking services. Weighted score method has been adopted for ranking the services by different age group respondents. Under the weighted score method, the first rank assigned by the sample respondent to the on line banking service will be given the highest weightage score of 'nine' and the lowest score of 'one' has been awarded to the ninth rank. For each on line banking service, the total respondents for each rank have been found out. Then the score has multiplied with the number of respondents in each rank. All the multiplied scores are added from first to last rank. The resultant figure will be the weighted score. Then the weighted score has been divided by the total sample respondents for getting the mean score for each service. Then ranks are assigned to each on line banking service in descending order. Thus, ranks for each on line banking service are analyzed

RANKING BY LOW AGE GROUP RESPONDENTS

The ranks assigned by the low age group respondents towards the various on line banking services based on their utilization have been attempted. The result it displayed in Table given in appendix.

It could be found that most of the sample respondents utilized the 'ATM' service frequently. The calculated weighted score for this service is 923 and the mean score is 8.96 which are highest score among the various on line banking services. Hence, the first rank has been assigned to this service by the low age group respondents. The next rank, i.e. second goes to 'Cards', third to 'Tele Banking' and fourth to 'Internet Banking'. The 'Bill Payment Service' ranked in fifth position by scoring a mean score of 6.29, 'Investment in securities' secured the sixth rank and 'mobile banking' placed in seventh position. The eighth rank was assigned to two services by the sample respondents, i.e. 'Electronic Clearing Service' and 'Electronic Fund Transfer'. These two services scored a weighted score of 390 and 132 respectively but the mean score for these two services is six.

RANKING BY MIDDLE AGE GROUP RESPONDENTS

The ranks allotted by the middle age group respondents towards the various on line banking services based on their utilization have been attempted.

It is inferred that the middle age group respondents ranked the on line banking services

based on their usage. The first and second rank goes to 'ATM' and 'Cards' respectively based on the mean score of 8.87 and 8.11. The 'Internet Banking' ranked in third position (mean score 7.65) and the 'Tele Banking' in fourth position (mean score 6.94). Fifth rank is assigned to 'Mobile Banking'. Here also the 'Investment in Securities' placed in sixth position. The 'Bill Payment Service' moved to the seventh position by the middle age group respondents. The 'Electronic Clearing Service' and 'Electronic Fund Transfer' positioned in eighth and ninth rank respectively.

RANKING BY HIGH AGE GROUP RESPONDENTS

The ranks assigned by the high age group respondents towards the various on line banking services based on their utilization have been attempted. The result of the study is presented in appendix. It is observed that the four on line banking services viz. ATM, Cards, Tele Banking, and Internet Banking were placed in first to fourth rank respectively by the high age group respondents also. The computed mean score for these services are 8.92, 8.03, 6.75, and 6 respectively. The 'Electronic Clearing Service' forwarded to fifth rank by the high age group respondents. The sixth and seventh rank goes to 'Bill Payment Service' and 'Electronic Fund Transfer' respectively. Here the 'Mobile Banking' and the 'Investment in Securities' placed in eighth position by the high age group respondents and the mean score is 5.60 for these services. The general observation is irrespective of age group; all the sample respondents mostly utilized the on line banking services of ICICI Bank such as ATM, Cards, Tele Banking, and Internet Banking frequently. Hence, the first four ranks scored by these services in all age group category. The usage in remaining on line banking services may differ from one age group to another age group which is clear in Tables.

UTILIZATION OF BRANCH COUNTER OF ICICI BANK

As the on line banking services do not require the utilization of branch counter, an attempt is made to know the number of customers using the branch counter. For this purpose a question has been posed to the sample respondents. The responses received from the respondents are shown Table

It reveals that out of 500 sample respondents a vast majority of 98.9 per cent utilized the branch counter of ICICI Bank. Only a minimum of 3 respondents constituting 1.1 per cent do not utilized the branch counter. In the case of low age group 98.1 per cent utilized the branch counter and it 98.9 per cent in middle age group. But all the respondents (i.e. cent per cent) of high age group have utilized the branch counter. The general observation is irrespective age all the sample respondents in different age groups utilized the branch counter of ICICI Bank.

REASON FOR UTILIZING THE BRANCH COUNTER OF ICICI BANK

Out of 500 sample respondents, 377 respondents utilized the branch counter of ICICI Bank. So, the reason for utilizing the branch counter has been attempted. The findings are depicted in Table given in appendix.

It is evident that the first and the foremost reason stated by the majority of sample respondents for using the branch counter is 'to make enquiry'. Hence, first rank is assigned to this reason. Next to this 'to deposit cheques', and 'to withdraw huge amount' comes in order as second and third. These three reasons have been mainly stated by all the age group respondents and overall the same result has been displayed. The reason 'to make a bulk cash deposit' has been given fourth rank by the low and middle age group respondents whereas eighth rank has been assigned by the high age group respondents. Overall it is placed in fifth position. The reason 'to open fixed deposit' is positioned in fifth by the low age group respondents, sixth by the middle age group respondents, fourth by the high age group as well as by overall respondents. There is no middle age group respondents for the reason 'to create new relationship' among the bankers. But this reason has been ranked as seventh by the high age group respondents and eighth by the low age group and overall respondents. The reason 'to buy gold coins' has been placed in seventh by the overall respondents as well as low age group respondents

whereas it is placed in fifth and sixth by the middle and high age groups respectively. From the above analysis the researcher comes to a conclusion that the branch counter of ICICI Bank is mostly utilized for the reasons such as 'to make enquiry', 'to deposit cheques' and 'to withdraw huge amount'.

DEMANDING OF ON LINE BANKING SERVICES

A question regarding the demanding of on line banking services from the ICICI Bank during the last six months (i.e. April to September 2011) by the sample respondents has been attempted.

It explains that out of 500 respondents, a majority of 293 respondents constituting 58.6 per cent demanded on line banking services from the ICICI Bank during Jan 2012 to June 2012. The low age group respondents demanded more i.e. 66.9 per cent when compared to other age groups. However, around 41.4 per cent not demanded so. In order to see whether there is any relationship between the on line banking services demanded and age group of respondents, chi-square test has been applied. The null hypothesis framed is given below:

Null Hypothesis: "There is no significant relationship between the on line banking services demanded and the age group of respondents". The calculated chi-square value is 4.830 which is less than the table value of 5.991 at the 5 per cent level of significance. Hence, the null hypothesis is accepted.

So, it is concluded that there is no significant relationship between the on line banking services demanded and the age group of respondents.

REASON FOR DEMANDING ON LINE BANKING SERVICES

There are so many reasons for demanding on line banking services by the customers of ICICI Bank. The reasons may be low cost, east to use, faster transaction, convenient, saves time, anywhere anytime, to use latest service, and no need to go branch of the ICICI Bank. As the respondents were stated more than one reason, the results have been interpreted by using ranking method. The top most liked reason is given the first rank and the others come in order. The result of analysis is exhibited in Table given as appendix that the reasons for demanding on line banking services from the ICICI Bank. In the total sample, 364 respondents demanded on line banking services. According to the low age group respondents, due to 'low cost' majority of them have demanded the on line banking services. Hence, this reason has been ranked as 'first'. The next rank goes to the 'convenient' reason, and third to 'saves times'. The fourth to eighth ranks are assigned to the reasons viz. easy to use, to use latest service, anywhere anytime, faster transaction, and no need to go branch respectively. From the opinion of middle age group respondents, it is understood that the reason 'low cost' as the first and foremost reason for demanding on line banking services following this the reasons 'convenient', and 'faster transaction' comes in order. Two reasons such as 'easy to use' and 'anywhere anytime' placed in fourth position. 'Saves times', 'to use latest service', and 'no need to go branch' occupied the fifth, sixth and seventh ranks respectively. An equal number of 26 respondents in high age group have demanded the on line banking services due to 'low cost' and 'easy to use'. Hence, these reasons have been ranked as 'first'. The second rank goes to the 'saves times' and 'to use latest service' reasons, and third to 'faster transaction'. The reasons 'convenient', 'anywhere anytime', and 'no need to go branch' are placed in fourth, fifth and sixth ranks respectively. The overall result indicated in Table 9 shows that the first, second, and third ranks are assigned to the reasons viz. 'low cost', 'convenient', and 'easy to use'. The reason 'saves times' placed in fourth position, and fifth rank goes to 'anywhere anytime'. The reasons 'faster transaction' and 'to use latest service' occupies the sixth position. The final and the seventh rank positioned to the 'no need to go branch' reason.' It is concluded that the reason 'low cost' has been attracted to most of the respondents irrespective of age group which is clear from Table 9. So, the age-wise groups as well as overall respondents have placed it in first position. Next to this, the reason 'convenient' has been positioned in second except the high age group respondents.

TYPE OF ON LINE BANKING SERVICES DEMANDED RECENTLY

The respondents have demanded a few on line banking services according to their choice during the last six months. In the sample study out of 500 respondents, 164 respondents have demanded on line banking services due to various reasons. What are the services demanded by them are attempted here and the result is depicted in the Table and It is observed from Table that the on line banking service 'Electronic Clearing Service' has been demanded by 67 sample respondents in overall. It is the highest number demanded among various services. Hence, this service has been placed in first rank. This service has been placed in first, fourth, and sixth position by the low, middle, high age group respondents respectively. The 'internet banking' service has been demanded as 'second' by the overall respondents as well as by the low and middle age group respondents whereas the high age group respondents demanded it as their third choice. Third demand goes to 'cards' services of ICICI Bank by the overall respondents. The same choice has also been given by the middle age group respondents, and the low and high age group respondents demanded as fourth. The overall results also shows that the 'investment in securities' service has been demanded in fourth, 'tele banking' as fifth, 'bill payment service' as sixth, 'electronic fund transfer' as seventh, and 'mobile banking' as their eighth demand. The 'investment in securities' has been demanded as first by the middle and high age group respondents whereas it is demanded thirdly by the low age group respondents. The type of on line banking services demanded recently differs from one age group to another. But from the overall analysis it is clear that most of the respondents in the sample unit have demanded the on line banking services like electronic clearing service, internet banking, and cards recently.

MOTIVTIONAL FACTORS FOR ON LINE BANKING SERVICES

In general, a customer can not utilize any services without motivational factors. On line banking service is not an exception to this. Here also customers can be motivated by some factors for the utilization of on line banking services of ICICI Bank. Garrett's ranking technique was adopted for analyzing the motivational factors. For the application of Garrett's ranking technique, the sample customers were asked to rank the factors which mainly motivated them in utilizing the on line banking services of ICICI Bank. The customer who responded to the motivational factors is taken into consideration for analysis. The rank assigned to each factor by the sample respondents has been converted into per cent position by using the following formula

$$\text{Per cent Position} = \frac{100\,(R_{ij} - 0.5)}{N_j}$$

Where,

R_{ij} = Rank given by the j th sample respondent for the i th factor, and

N_j = Number of factors ranked by the j th sample respondent.

The per cent position of each rank thus obtained has been converted into score by referring the table given by Garrett. Then the score has been multiplied with the number of respondents in each rank for each factor and the scores of all respondents for each factor have been then added together and the total score has been placed against that particular factor. The total scores of all respondents for each factor were divided by the number of respondents experiencing that motivation. Thus the mean scores for each factor were arrived and ranks were allotted. The factor which received the highest mean score is taken as the first one and the lowest as the last one. The above procedure was adopted for all the on line banking services separately and the overall analysis presented in Table appendix.

It reveals the main motivational factors for utilization of on line banking services by the customers of ICICI Bank. The utilization of service 'ATM' for withdrawal of cash and mini statement of account; 'Cards' for no need to carry cash and fear of theft of money, 'Tele Banking' for balance enquiry / complaints and no charges; 'Internet Banking' for the purpose of downloading applications and accounts statement and individual access; 'Mobile

Banking for getting recent transactions and mini statements and account history information. Bill Payment Service offers time saving and low charges. Electronic Fund Transfer for transfer of money with immediate effect and saving of time. Electronic Clearing Service for the auto credit of dividend and interest and no charge for transactions. And Investment in Securities has been utilized for on line/paper and easy operation of trade in stock market.

CONCLUSIONS AND SUGGESTIONS

The results indicate that the majority of the customers are very comfortable and willing to use e-banking channels. At the same time, 98.9 per cent utilized the branch counter. It implies that human contact is necessary in addition to e-channels. This throws up a challenge to banks as well as policymakers. Technology alone cannot give a sustainable competitive advantage to the banks. [illegible] Beyond a [illegible] is a differentiator. [illegible] will be necessary [illegible] existing customers and for the banks to attract new customers. Banks have to [illegible] and operational strategy. It was concluded that most of the respondents utilized the [illegible] banking services as their top [illegible] service and the banking services. It was also observed that the [illegible] according to the frequency of usage of the e-banking services such as ATM, Cards, Tele Banking placed in first, second and third position respectively. Next internet banking comes in order. Further it can be said that in IT era, customers feel that human contact is necessary. This was proved by 98.9 per cent of respondents by visiting branch counter. It was also found that on line banking services also going up around 58 per cent of respondents demanded e-channels further. The average Indian's growing demand for personalized, quick and cost-effective services is pushing banks to innovate further. The following are some smart new offerings of other banks which are not offered by the ICICI Bank. As ICICI Bank is one of the leading private sector banks in India, the researcher suggest the management of the bank to implement these offerings within a quick span of time to its customers in all districts.

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Table 1 : Utilization of E-banking Services of ICICI BANK

		MIDDLE AGE GROUP	HIGH AGE GROUP		OVER ALL		LOW AGE GROUP
E-Banking Services	NO	%	NO	%	NO	%	NO
	105	100	99	78		280	78
CARDS	102	99	99	77	99	278	77
TELE BANKING	55	52.2	21	55	56	142	39.7
INTERNET BANKING	27	25.2	60	7	7	94	22.1
MOBILE BANKING	10	9.7	12	10	10	32	11.1
BILL PAYMENT SERVICES	17	16.3	1	17	7	42	15
ECS	65	62.7	25	22.7	35	122	42.1
EFT	22	21.2	12	12.7	21	55	15.5
INVESTMENT IN SECURITIES	27	25.5	34	32.1	30	91	25

TABLE 2: Period of Utilization of E-banking Services and Age Group of Respondents-Chi-Square Test

E BANKING SERVICES	COMPUTED CHI SQUARE	HYPOTHESIS RESULT
ATM	4.3	REJECTED
CARDS	22.58	REJECTED
TELE BANKING	14.88	REJECTED
INTERNET BANKING	15.84	REJECTED
MOBILE BANKING	3	ACCEPTED
BILL PAYMENT	47.12	REJECTED
ECS	28.72	REJECTED
EFT	7.4	ACCEPTED
INVESTMENT IN BANKING	45.85	REJECTED

Table 3 : Ranking of E-banking Services Based on the Frequency of Utilization by Low Age Group Respondents

E BANKING SERVICES	Weighted Score	Mean Score	Rank
ATM	923	8.98	1
CARDS	821	8.08	2
TELE BANKING	402	7.31	3
INTERNET BANKING	187	6.37	4
MOBILE BANKING	67	4.29	7
BILL PAYMENT	107	6	5
ECS	280	4	9
EFT	102	6.32	8
INVESTMENT IN BANKING	168		6

Table 4 : RANKING OF E-BANKING SERVICES BASED ON THE FREQUENCY OF UTILIZATION BY MIDDLE AGE GROUP RESPONDENTS

E BANKING SERVICES	Weighted Score	Mean Score	Rank
ATM	978	8.9	1
CARDS	802	8.1	2
TELE BANKING	276	5.86	4
INTERNET BANKING	458	7.62	3
MOBILE BANKING	87	6.38	5
BILL PAYMENT	47	5.88	7
ECS	125	5.78	8
EFT	54	4.5	9
INVESTMENT IN BANKING	227	6.88	6

Table 5 : Ranking of E-banking Services Based on the Frequency of Utilization by High Age Group Respondents

E BANKING SERVICES	Weighted Score	Mean Score	Rank
ATM	686	8.52	1
CARDS	615	8.02	2
TELE BANKING	576	6.75	3
INTERNET BANKING	42	6	4
MOBILE BANKING	56	5.6	8
BILL PAYMENT	85	5.76	6
ECS	205	5.8	5
EFT	118	5.62	7
INVESTMENT IN BANKING	188	5.8	8

88

TABLE 6: TYPES OF E-BANKING SERVICES DEMANDED RECENTLY

	LOW AGE GR.		HIGH AGE GR.		HIGH AGE GR.		OVER ALL	
E BANKING SERVICES	NO	RANK	NO	RANK	NO	RANK	NO	
CARDS	14	4	13	3	15	4	42	3
TELE BANKING	17	2	6	6	13	5	36	5
INTERNET BANKING	17	2	18	2	17	3	52	2
MOBILE BANKING	1	7	4	8	22	1	27	8
BILL PAYMENT	11	5	5	7	18	2	34	6
ECS	44	1	11	4	12	6	67	1
EFT	7	6	7	5	17	3	31	7
INVESTMENT IN BANKING	15	3	22	1	1	7	38	4

TABLE 7: Reasons for Demanding E-banking Services

REASONS	LOW AGE GR.		HIGH AGE GR.		HIGH AGE GR		OVER ALL	
	NO	RANK	NO	RANK	NO	RANK	NO	
RANK	55	1	40	1	25	1	121	1
LOW COST	34	4	25	4	26	1	86	3
EASY TO USE								
FASTER TRANSACTIONS	25	7	27	3	21	3	73	6
CONVINENT	37	2	30	2	20	4	87	2
SAVES TIMES	36	3	24	5	24	2	84	4
ANYWHERE ANY TIME	30	6	26	4	19	5	75	5
TO USE LATEST SERVICE	31	5	18	6	24	2	73	6
NO NEED TO GO BRANCH	8	8	3	7	5	6	16	7

TABLE 8: DEMANDING OF E-BANKING SERVICES DURING THE LAST SIX MONTHS

RESPONSE	ON OF RESPONSE LOW AGE GROUP	MIDDLE AGE GROUP	HIGH AGE GROUP	OVERALL
YES	69	54	41	164
	-69.00%	-54.00%	-41.00%	-164.00%
NO	34	45	37	116
	-33.10%	-45.00%	-47.40%	-41.40%
TOTAL	103	99	78	280
	-100.00%	-100.00%	-100.00%	-100.00%

TABLE 9: REASONS FOR UTILIZING THE BRANCH COUNTER OF ICICI BANK

REASONS	LOW AGE GROUP NO	RANK	NO	MIDDLE AGE GROUP RANK	NO	HIGH AGE GROUP RANK	NO	OVERALL RANK
MAKE ENQUIRY	98	1	93	1	77	1	268	1
WITHDRAW HUGE AMOUNT	65	3	44	3	52	3	161	3
MAKE BULK OF CASH DEPOSIT	22	4	5	4	8	6	35	5
OPEN FIXED DEPOSIT	14	5	9	6	28	5	51	4
MATURE/RENEW FIXED DEPOSIT	11	6	1	7	13	5	25	6
CREATE NEW RELATIONSHIP	1	8	-	-	9	7	10	8
BUY GOLD COINS	7	7	4	5	10	6	21	7
DEPOSIT CHEQUES	86	2	81	2	62	2	229	2

E Commerce in India Still a Long Way to Go

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Ms. Richa Arora

Abstract: The growth of e-Commerce in India has had a very high correlation to the adoption of Internet in the country. More and more brick and mortar institutions, and those dealing with organized markets, retail are building/beefing up their online transaction capabilities. Growth of E commerce has enhanced each and every industry hence India is one of the fastest growing country in context of adoption of e commerce technologies. However still customers in India are not comfortable making a payment online which has resulted in COD (Cash on Delivery) model to be a huge success. In the paper we have discussed the growth of e commerce in India along with various challenges in the path of growth.

Key Words: E commerce, E business, COD Model, E Commerce Hubs.

INTRODUCTION

The high rate of growth of business carried over Internet has made it synonymous with the whole phenomenon of E-commerce. Electronic commerce is the new term for existing activities being done in new ways. As long as communication networks have been available, they have been used to their fullest capability by entrepreneurs to create business opportunities. Most prominently, the meteoric rise of the Internet and the World Wide Web has accelerated the transformation of global commerce, allowing for instantaneous, inexpensive contacts among sellers, buyers, investors, advertisers, and financers throughout the world. The rapid integration of the Internet and other telecommunications based functions nearly into every sphere of business is what has given rise to the recent international focus on the new world of Electronic commerce. The term Electronic commerce or e-commerce consists of all business activities carried on with the use of electronic media, that is, computer network. It involves conducting business with the help of the electronic media, making use of the information technology such as Electronic Data Interchange (EDI). In simple words, E-commerce (electronic commerce or EC) is the buying and selling of goods and services on the Internet, especially the World Wide Web. In practice, this term and a newer term, e-business, are often used interchangeably.

INTERNET PENETRATION IN INDIA

The number of active internet users in India grew with 26% reaching 55 million in 2011. Regular internet users are 81 million and India is the second fastest growing presence on Face book with almost 2 million people only in 2010. Having seen the number of Internet users double over the past five years, this Asian giant has come a long way.

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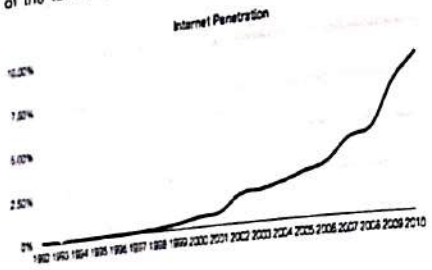
considering the fact that there were just 1,000 Internet users in 1992 Currently ranked 3 in terms of the number of Internet users (behind China and the US), there is plenty of room for growth since current penetration levels are equivalent to just 8.4% of the total population



E COMMERCE IN INDIA

The Internet has created a new economic ecosystem, the e-commerce marketplace, and it has become the virtual main street of the world. Providing a quick and convenient way of exchanging goods and services both regionally and globally, e-commerce has boomed. E-commerce is the most used technique of buying and selling goods and services online. With the hectic and busy schedule that everyone is going through it becomes very difficult for the consumer to spend time in malls in order to select his or her desired product. At such a situation the e-commerce or widely known as the e-business proves to be great help for all of us. With the rising needs of consumer based products and services the need for e-commerce is also increasing in a progressive manner. India has also developed the trend of e-commerce and has emerged out as one of the leading nations to make use of e-commerce for online selling and buying of products.

Benefits of e Commerce

- Development of e Commerce in India is mainly attributable to political stability, education, and increase in foreign exchange programs. This has led to an increase in number of highly trained personnel who have good programming and online skills.
- As opposed to past, when the businesses needed specific skills, they had to incur expenses for plane ticket, hotel stay, and other needs of the professionals. But today, with e Commerce, businesses can make use of expertise of individual people, without having to limit themselves to geographical location.
- E Commerce has led to unlimited shelf space for products and services.
- E Commerce has helped businesses to reach national and global markets at low operating costs.
- As far as consumers are concerned, e Commerce has revolutionized the buying patterns and choices. With huge amount of available information, consumers have the flexibility to pick up the product of their choice, make comparisons, and evaluate their prospective purchase. The search facility has provided a huge base of information, which can be further refined with the help of search criteria. Delivery time and costs are reduced when buyers buy goods digitally.
- With e Commerce, individuals can work from home and shop from home, which reduces the need to travel. This has other benefits like reduction in air pollution and traffic. Government agencies are benefited with e Commerce as queues and effort involved in paying taxes, booking railway tickets are greatly reduced. The health services also stand to benefit because doctors and nurses can gain appropriate information from the internet and be connected with updates easily.

E Commerce companies in India - E-commerce companies in India offers the most tangible and finest e-commerce solutions, provide high end e-commerce solution taking utmost care of the privacy and security of the e-commerce website. Indian E commerce market is characterized by various companies offering variety of services and which have created huge revenue for the companies and have shown a tremendous increase in past few years. Some of them include:

IRCTC online services: The Indian Railway Catering and Tourism Cooperation Limited (IRCTC) is not only India's but Asia's largest e-commerce portal. It was launched in 2002, with just 27 tickets booked on the first day. The same portal today has millions of visitors per month. In April 2011, it had 84 lakh visitors. The firm sells over 2 lakh tickets per day through its websites.

Bus services offering online booking: Booking tickets for bus travel has become popular in some parts of India. People are no longer standing in long queues at reservation counters or paying more to travel agents to get their bus tickets booked. Many are booking the tickets from the comforts of their home or office. Many public and private bus services are offering online ticket booking facilities across the country.

Online job portals: Today, many of the job seekers are actively looking for jobs online. Many (particularly, those from urban areas) have user accounts with job portals. Simplifying the job search process for the job seekers and referring the candidates to the employers, these services became quite popular across the country. Pioneered by Naukri.com, today there are many including Monster India, Times Jobs and Click Jobs.

Movie booking: With many movie buffs in India, online movie booking almost instantly became popular. Online booking of movie tickets is very popular today in many parts of the country. Most of the multiplex theaters along with some famous theaters in the cities are offering these booking services.

Matrimonial services: Another interesting segment of Indian e-commerce business is the matrimony portals. Indians, once entirely dependent on relatives and brokers for matches, are today looking for matches online. Easy access to various profiles, time and cost efficiency has made these portals popular among many households in India. Marriage matches are being made extensively through popular service providers like Shaadi.com, Jeevansathi.com, Bharatmartimony.com, Indiamatrimony.com, etc.

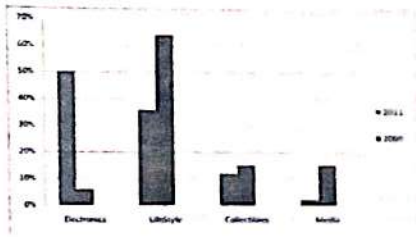
Online retail stores: Easy access to various brands and models, free home delivery, discounts and coupons turned many of the web users to web consumers in India. Improved payment methods such as cash on delivery, net-banking facility, etc. have spurred the growth of online retail transactions. Some online retailers like Flipkart, eBay etc. are fairly popular in India.

Growth of E commerce Hubs in India 2009 to 2011(Data via e bay census guide)

E Commerce Hub (also known as Commerce Technologies, Inc.) is a provider of hosted integration, drop ship fulfillment, and product content management for multi-channel e commerce merchants. It provides integration and fulfillment services to both online and brick and mortar retailers, distributors, and supplier companies It was formed in 1997 to develop e-commerce integration services for the sharing of data and business processes between trading partners. As online retailing was developing, merchants were fulfilling orders via "virtual merchant" business models, selling online and fulfilling orders via drop shipping

E commerce hubs in India have shown a tremendous increase from 2471 hubs in 2009 to 3311 hubs in 2011.

Overall Percentage of Traded Goods through E Commerce 2009 and 2011(Data via e bay census guide)



Goods are traded online with the help of various E commerce sites in 2008 lifestyle goods were majorly traded however the trend of trading of electronic goods have shown an increase in the year 2011 i.e. now even electronic goods are traded online.

E Commerce Model in India

Indian E commerce industry has shown a boom in last few years but the model used by the most successful E commerce companies is Cash on Delivery Model. Cash on Delivery Model is a financial transaction where the payment of products and/or services received is done at the time of actual delivery rather than paid-for in advance. The term is mainly applied to consumer products purchased from a third party, where payment is made to or collected by the deliverer from the recipient rather than the sender. In the way that a collect call is also charged to the recipient instead of the caller. The delivery company in turn remits the charge for the item itself to the company which shipped it, keeping only the portion which it charged for the shipping service. The expenses involved in physically collecting cash, higher rejection rates and longer turnaround time to receive money make cash on delivery a less efficient model to sell merchandise online.

E-commerce works on the principle of negative working capital. In other words the vendor does not use his capital in procuring the goods rather uses your payments made in advance to procure the goods and deliver it. We can explain it with an example. Just imagine you bought an iPad on line, and you paid for it using your credit card. Now the money from the credit card is debited immediately while the delivery of the iPad takes about a week or 10 days. Now most firms can procure faster and deliver but they take that extra few days as they retain the payment and can put it to other use or simply generate interest for those few days. This model was pioneered by Dell when they sold their laptops extensively through Dell Direct and it had worked very well for them earlier. Now this model is under threat as consumers in India work on the cash on delivery model. Now in the global scenario Cash on delivery accounts for almost 10% of transactions according to a Nielson report. But in India it is almost

60%. Apart from backing up working capital, cash on delivery also adds to the complexity of the supply chain. Plus there is an added threat as collection is done by the delivery agents and often there is an element of hazard while using external collection agents.

Cash on Delivery was initially very exciting. Everyone thought this will solve all the problems faced by Indian ecommerce. Market was not ready for Credit card payments, customers were not comfortable sharing the bank details over internet, internet infrastructure itself was not robust. When COD was introduced by some major players, every one readily embraced it and thought this would solve every problem. Cash on Delivery is primarily launched to enable that generation, which doesn't have credit cards and debit cards to shop online and that community which was not confident of transacting on internet. But the [illegible] [illegible]. The total control shifted from merchant to buyer. Merchant is at the mercy of the buyer. Merchant is not sure of the sale until the buyer pays the money. Statistics say that there are 60% returns in Cash on Delivery. Merchant has to bear the cost of [illegible] delivery charges, and if the customer doesn't like the product, the warehouse charges have to be borne and the return charges as well. This not only eats away whatever little profits he makes on each sale, but runs the merchant to huge losses.

It is a good idea to introduce an alternate payment when the industry and infrastructure is not ready. But the industry and players also should quickly correct the market if the ideas like these are making losses for most of the players. Customers should be educated to use online payment now. They should be lured with discounts if they choose online payment over COD. The mindsets of the customers have to change and industry itself has to drive the initiative. Only one who is making money out of COD is the logistics providers. Before COD becomes a loss making activity for the whole industry, measures have to be taken to make it profitable.

Challenges for E commerce in India

1. *Too many players*

When any market develops, there is a fine balance between demand and supply. In India we

have observed is that whenever a trend starts several people jump in and soon supply starts to exceed demand and that causes all kinds of issues in the market. E-commerce is inherently a very capital intensive game and a similar takes all market consolidation happens fast and the companies that can build scale the fastest gets to destroy the rest of the players in the market.

2. *Logistics & Supply Chain*

India does not have a sound logistics system. A large part of the ecommerce success in the developed nations is because they already had rock-solid logistics in place. In the US before [illegible] and USPS were already around nationwide and goods could be moved within 24 hours between [illegible] miles. In India we don't even have a properly standardised physical postal address system. Courier companies don't even have bar code readers to track the packages in transit. In the US the logistics companies use very sophisticated technology keeping the customer informed of the transit of a package. Companies like Flipkart are doing a great job working around the issues in the logistics industry by setting up their own logistics but that just is really inefficient use of Flipkart's funding. Largely the other 99% of the players will not be able to solve the logistic issues that exist in the market. This just surfaces some of the basic issues that face India.

3. *Payments*

This is a major challenge and results in poor customer experience. The payment gateway vendors and banks are not up to the mark in technology. Payment gateway error rates are high (~25% of transactions fail at the gateway). This has made it really hard for anyone to use virtual mediums of payments (credit/debit cards, cash transfers etc). Payment gateways and banks also charge way too much commission on each transaction which is bad for the smaller players - which eats into their margins significantly.

4. *Large volume of transactions in India is cash-based transactions*

A small fraction of Indians have virtual payment instruments like credit cards or bank accounts. Largely we are cash driven economy. Almost everyone has started COD in India and for the right reasons. However, my thesis here is that this is

incredibly hard to scale. As humans are involved in the collection of cash etc. fraud rates will be very high which will dig into the margin levels of the ecommerce players.

5. *Ecommerce in India is not for startups*

Because of all the physical/infrastructure challenges that exist, a startup will need to raise huge amounts of capital if they attempt to solve all of these problems. Even if they raise capital and start to solve some of these problems. Hence in India e-commerce is a game for the large players and not startups as there are significant [illegible] challenges that exist and it will be impossible for startups to address the scale of these problems.

6. *Amazon.com could grab the market*

Biggest threat to the e-commerce play in India is from Amazon.com. Amazon.com has entered into the Indian online retail market with a new website, Junglee.com, which enables customers to browse for products from a wide variety of stores and then shop for them either online or in person. The company said that the new website would offer more than 10 million products from over 14,000 Indian and global brands. Shoppers can buy online and offline from Indian retailers including [illegible], Mobileshop, Cromas, The Bombay Store, [illegible], Tata India Ltd and Reebok. Amazon said. The new website offer a wide range of product categories from phones and cameras to toys and games, baby products, electronics and jewelry, according to the company. Amazon has a lot of cash and can use it to out-run the e-commerce startups. They have plenty of tech that help a lot in demand generation and sales which the e-commerce players in India have not even started to work on. They have a lot of experience in logistics and last mile issues of e-commerce.

7. *Rapidly changing business models*

Due to heightened competition and inability to sustain high costs, business models in e commerce sector are changing rapidly. Hence companies in e commerce space need to adapt to changing business models and innovate constantly to sustain their business.

8. *Language*

Lack of vernacular content on the e commerce websites is another reason for low penetration in rural areas.

CONCLUSION

A developing country can become industrialized and modernized if it can extensively apply IT to enhance productivity and international competitiveness. Develop e commerce and e-governance applications. With all these success stories indian ecommerce industry is projected to grow manifold in the near future in the next 3 to 5 years India will have 30 to 70 million internet users which will exceed if not surpass many of the developed countries internet economy will then become more meaningful in India. However, the continuous growth of the e-commerce depends on creating increased awareness among the people about the benefits of online services along with the assurance of secured transactions and improved data security so that E Commerce companies will no more rely solely on the e commerce models like cash on delivery model.

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Creating Value Through Corporate Restructuring (Spin-offs): A Review of the Empirical Evidence

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ABSTRACT : This paper examines the factors that influence the wealth effects associated with the announcements of corporate spin-offs. By using meta-analysis the study summarizes the findings of 26 event studies on spin off announcements. A significantly positive average abnormal return of 3.00% during the event window has been obtained. Returns are higher for larger spin-offs, for divestments that are tax or regulatory friendly and for spin-offs that lead to the divestiture of a non-related division. It has also been found that spin-offs that are later completed are associated with lower abnormal returns than non-completed spin-offs. In the second part of the paper an overview of studies on the long run stock price performance of spin-offs is conducted. Even though early studies find a long run superior performance, this effect is no longer found in later studies that use more refined statistical tests.

Keywords: spin-offs; demergers; value creation; event study; meta-analysis; long-run excess returns; industrial focus

1. INTRODUCTION

Restructuring is widely used in both the developed and developing countries nowadays. Companies and economies are restructuring to achieve a higher level of performance or to survive when the given structure becomes dysfunctional. Restructuring takes place at different levels. At the level of the whole economy, it is a long-term response to market trends, technological change, and macroeconomic policies. At the sector level, restructuring causes change in the production structure and new arrangements across enterprises. At the enterprise level, firms restructure through new business strategies and internal re-organization in order to adapt to new market requirements.

In the last decades it has been encountered that a large number of companies have reduced their size by spinning off one or more divisions. In a spin-off the shares of a firm's subsidiary are distributed pro-rata amongst the shareholders of the company. No cash transaction takes place. After the spin-off, the shareholders of the parent company hold shares in both the parent company and the subsidiary. In general, spin-offs are applauded by shareholders. For example, in February 2001 Canadian Pacific announced that it was going to spin off four of its subsidiaries, including Canadian Pacific Railway and Pan-Canadian Petroleum. After the spin-off Canadian Pacific's only significant business would consist of Canadian Pacific Hotels. On the day of the spin-off announcement, shares of Canadian Pacific went up $ 6.60 to $ 57.15, resulting in a return of almost 11 per cent on one day. This paper will review the world-wide empirical evidence on the announcement date and long-run performance effects of spin-offs.

The popularity of spin-offs as a divestiture instrument varies widely across different countries. A possible reason for that lies in regulatory and fiscal restrictions. In the United States, spinoffs usually do not have tax consequences. Besides that, there are also no other legal barriers for spin-offs.

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This paper will be reviewing the empirical studies that have investigated the wealth effects associated with spin-offs. This review is in the form of a meta-analysis that is based on the methodology of Datta, Pinches, and Narayanan (1992), who do a meta-analysis on wealth effects associated with announcements of mergers and acquisitions. In the second part of the paper we study the literature on the long-run stock market performance of companies that are involved in a spin-off.

For this study a set of 26 papers have been selected which present event study results for spin-off announcements. Given that a large number of these studies present separate subsamples for specific variables, a total of 69 observations were taken. The mean abnormal return for the 69 observations is 3.02%. This number is significantly different from zero at the 1%-level. Returns are higher for larger spinoffs. In addition it has found that taxable spin-offs are associated with lower abnormal returns. Spin-offs that create tax or regulatory advantages give higher abnormal returns. It will also find that spin-offs of unrelated divisions are associated with higher abnormal returns. An unexpected result from the meta-analysis is that spin-offs that are later completed show *lower* abnormal returns than spin-offs that are later withdrawn. This topic requires some additional research.

The remainder of this paper is organized as follows. Section 2 briefly reviews the studies on the wealth effects of the spin-offs. Factors that can potentially explain the wealth effects of spin-offs are discussed in Section 3. Section 4 includes the model for the meta-analysis as well as the results of this analysis. Section 5 analyzes the studies on the long-run performance of spin-offs. The paper concludes with Section 6 which summarizes the results of these studies and discusses possible topics for future research.

2. WEALTH EFFECTS OF SPIN-OFFS

A large number of studies analyze the stock returns that are associated with spin-offs. The reason for this is that the shareholders are the most important party in this transaction. All these event studies document abnormal returns associated with the spin-off announcement. An important problem in analyzing these studies is that most of them use different criteria for including spin-offs. For example, some studies only include spin-offs that were eventually completed. Other studies also include spin-off announcements that were later withdrawn. In addition, many studies try to find out which factors explain the wealth effects of spin-offs, with different variables used as factors. In order to review and draw conclusions from all these studies meta-analysis technique will be used. In this study the approach used is of Datta, Pinches, and Narayanan (1992) who use a meta-analysis to study the wealth effects associated with the announcement of mergers and acquisitions. In the meta-analysis of this study the estimates of abnormal returns associated with spin-offs from previous empirical studies are used as observations in a multi-factor experiment, with the experimental factors corresponding to the factors hypothesized to influence wealth creation. Therefore the abnormal returns are the dependent variable. In this study the multivariate regression analysis to assess the impact of each factor on the dependent variable.

As a starting point for the meta-analysis, the library catalogues and the internet (Google) to select all studies that present event study results for spin-off announcements are used. These studies include papers in academic journals, working papers, and papers in books. This search results in 26 studies, of which 21 were published (or are forthcoming in) academic journals, 4 working papers, and 1 paper published in a book. The papers were published between 1983 and 2008. This study includes papers that present separate results for spin-offs.[2] Given that spinoffs are quite common in the United States; most studies are on that country. However, in recent years studies appeared also on Western Europe and on Malaysia. Table 1 summarizes the 26 papers and the wealth effects that they report.

2. The studies of Koh, Koh, and Koh (2005) for Singapore and Coakley, Thomas, and Wang (2008) for the United Kingdom for example were excluded because they only present results for several types of divestitures (spin-offs, carve-outs, and sell-offs) together. The study of Abarbanell, Bushee, and Raedy (2003) was excluded because they only report abnormal returns around the date that the spin-off becomes effective.

Table 1: Studies of the wealth effects associated with spin-off announcements

Study	Country	Research Period	Observations	Event Window	Cumulative average abnormal return
Schipper and Smith (1983)	United States	1963-1981	93	(-1, 0)	2.84%***
Hite & Owers (1983)	United States	1963-1981	123	(-1, 0)	3.3%***
Miles & Rosenfeld (1983)	United States	1963-1980	55	(0, 1)	3.34%***
Rosenfeld (1984)	United States	1963-1981	35	(-1, 0)	5.56%***
Copeland, Lemgruber, and Mayers (1987)	United States	1962-1982	168	(-1, 0)	3.03%***
Denning (1988)	United States	1970-1982	42	(-6, 6)	2.58% n.r.
Seifert & RubinStates (1989)	United States	1968-1983	51	(-1, 0)	3.26%***
Ball, Rutherford, and Shaw (1993)	United States	1968-1990	39	(-1, 0)	2.55% n.r.
Vijh (1994)	United States	1964-1990	113	(-1, 0)	2.90%***
Allen, Lummer, McConnell, and Reed (1995)	United States	1962-1991	94	(-1, 0)	2.15%***
Michaely and Shaw (1995)	United States	1981-1988	9	(-1, 1)	3.19%n.r.
Slovin, Sushka, & Ferraro (1995)	United States	1980-1991	37	(0, 1)	1.32%**
Seward & Walsh (1996)	United States	1972-1987	78	(-1, 0)	2.6%***
Johnson, Klein, & Thibodeaux (1996)	United States	1975-1988	104	(-1, 0)	3.96%***
Daley, Mehrotra, & Sivakumar (1997)	United States	1975-1991	85	(-1, 0)	3.4%***
Desai & Jain (1999)	United States	1975-1991	144	(-1, 1)	3.84%***
Krishnaswami & Subramaniam (1999)	United States	1978-1993	118	(-1, 1)	3.28%***
Mulherin & BooneStates (2000)	United States	1990-1999	106	(-1, 1)	4.51%***
Maxwell & Rao (2003)	United States	1976-1997	79	(0, 1)	3.59%***
Veld and Veld-Merkoulova (2008)	United States	1995-2002	91	(-1, 1)	3.07%***
Kirchmaier (2003)	Western Europe	1989-1999	48	(-1, 1)	5.4%***
Veld and Veld-Merkoulova (2004)	Western Europe	1987-2000	156	(-1, 1)	2.62%***
Sudarsanam and Qian (2007)	Western Europe	1987-2005	157	(-1, 1)	4.82%***
Murray (2000)	United States	1992-1998	25	(-1, 1)	-0.19%
Schauten, Steenbeek, and Wycisk (2001)	United States	1989-1996	23	(-1, 1)	2.13%n.r.
Sin and Ariff (2006)	Malaysia	1986-2002	85	(-1, 0)	1.60%*

Notes to Table 1: This table presents the cumulative average abnormal stock returns around the announcement dates of spin-offs. n.r. = significance level is not reported for this event window. *** = significance at the 1%-level, ** = significance at the 5%-level, * = significance at the 10%-level.

From this table it directly becomes clear that spin-offs are associated with positive abnormal returns. The magnitude of these returns is different over individual studies, since they generally use different datasets and different methodologies. However, the main conclusion is consistent: spin-offs are associated with strongly significant abnormal returns that range from 1.32% to 5.56%. The only exception is the study of Murray (2000) for the United Kingdom, which reports a non-significant abnormal return of -0.19% for the event window from day -1 to day 1. However, the study of Schauten, Steenbeek, and Wycisk (2001) for the same country and for the same event window shows an abnormal return of 2.13%. The studies of Veld and Veld-Merkoulova (2004) and Sudarsanam and Qian (2007) present separate subsamples forthe United Kingdom. Both studies find significantly positive abnormal returns for the same event window of respectively 2.54% and 2.79%. Therefore it is reasonable to conclude that in all the areas that are studied (United States, Western Europe, United Kingdom, and Malaysia) spin-offs are associated with significantly positive abnormal returns.

3. FACTORS EXPLAINING WEALTH EFFECTS OF SPIN-OFFS

This section presents factors that can possibly explain the wealth effects of spin-offs. For each factor one or two variables for the meta-analysis were selected.

3.1. Improvement of Industrial Focus

Starting with Berger and Ofek (1995), extensive research has shown that the equity of diversified firms is traded at a discount compared to single business firms. A spin-off is a relatively simple way to improve the focus of the firm and to avoid the diversification discount. Therefore, a spin-off allows the firm to concentrate on its core business. This idea is also confirmed in statements by financial analysts.

There are two different ways in which event studies investigate the effect of an improvement of industrial focus. Some studies take the stated objective from the spin-off announcement as a starting point. They present abnormal returns for subsamples for which management states that the spin-off will be carried out in order to specialize or to go "back to basics" (Hite and Owers, 1983, and Johnson, Klein, and Thibodeaux, 1996). Other studies, starting with Daley, Mehrotra, and Sivakumar (1997), define focus-increasing spin-offs as spin-offs in which the parent company is in a different industry from the subsidiary or use other measures of focus, such as the reduction in the Herfindahl index or the number of segments reported by the firm (Desai and Jain, 1999).

This study uses proxies for both ex ante and ex post distinctions in the meta-analysis. The *back-to-basics* variable is used for subsamples that are based on the statements of management that they announce a spin-off in order to specialize or go back-to-basics. The *industrial focus* variable is used for studies or subsamples that only include spin-offs where the parent company is in a different industry from the subsidiary.

3.2. Information Asymmetry

Habib, Johnsen, and Naik (1997) present an information-based explanation for spin-offs. They derive a model in which a firm can increase its value by spinning off a subsidiary. The spin-off will lead to an increase of the number of securities that is traded on the market. This makes the price system more informative and, hence, leads to a decrease of information asymmetry. This decrease of information asymmetry will lead to an increase of the total value of the firm and it spun off subsidiaries.

Krishnaswami and Subramaniam (1999) are the first to test whether firms may engage in a spin-off because there is information asymmetry between the management of the firm and the external capital market. Krishnaswami and Subramaniam (1999) use a number of different measures of information asymmetry; three of these measures are based on data from the Institute of Brokerage for Investment Services (IBES) on analysts forecast errors; the remaining two measures are based on the volatility around earnings announcements. Following Krishnaswami and Subramaniam (1999), Veld and Veld-Merkoulova (2004) also report results for separate subsamples based on similar measures of information asymmetry. The study includes *information asymmetry* as a variable in the meta-analysis.

3.3. Tax treatment

In general spin-offs by American companies do not have tax consequences. However, there are some exceptions. Schipper and Smith (1983) and Copeland, Lemgruber, and Mayers (1987) argue that in some cases the tax status of a firm can be improved by spinning off specific assets. Examples include the formation and spin-off of real estate natural resource royalty trusts or oil royalty trusts. These trusts do not pay income taxes and they pay 90% of their income as dividends to shareholders. Another example that Schipper and Smith (1983) mention is Real Estate Investment Trusts (REITs). However, Goolsbee and Maydew (2002) state that until 2001 it was not sure whether spin-offs of REITs would be taxed. They argue that because of uncertainty no firm was willing to take the risk of undertaking a REIT spinoff.

In 2001 the IRS issued a ruling allowing firms to engage in nontaxable REIT spin-offs. This was immediately following by a large REIT spin-off of timber properties by Georgia-Pacific.[3] Goolsbee and Maydew (2002) speculate that the IRS ruling would potentially lead to a large number of REIT spin-offs with an estimated net tax revenue decrease of $ 823 million per year.

In some cases American spin-offs can have negative tax consequences. Copeland, Lemgruber, and Mayers (1987) state that, generally speaking, spin-offs are non-taxable for shareholders if the spun off entity was (at least 50 percent) controlled by the parent corporation. However, if the spin-off is a minority interest it is taxed at the capital gains rate. There is also a possibility of partial taxation.

The tax situation in Europe is largely derived from the so-called "Merger Directive" that was adopted by the European Union on July 23, 1990. According to this directive, the capital gains taxation on a spin-off is deferred. In other words, the tax authorities consider a spin-off as the re-arrangement of investments that the investor already owns, and as a result, levy no taxes. This directive applies to intra-community spin-offs. The ultimate intention for this directive is its application in all countries within the European Union.[4]

Our meta-analysis includes proxies for both *tax advantages* and *taxable spin-offs*. These variables are based on studies that restrict themselves to spin-offs that are carried out because of tax advantages or that separately report subsamples of spin-offs that are carried out for this reason (Schipper and Smith, 1983, Copeland, Lemgruber, and Mayers, 1987, Desai and Jain, 1999, and Michaely and Shaw, 1995) or that report (sub) samples for either taxable or nontaxable spin-offs (Desai and Jain, 1999, and Krishnaswami and Subramaniam, 1999).

3.4. Regulatory Motives

Schipper and Smith (1983) argue that regulation may be a motive for American firms to engage in a spin-off. They mention two separate cases in which this may apply. The first possibility is if a parent spins off a rate-regulated utility. In this case the spun off utility can no longer be subsidized by cash flows from unregulated operations. According to Schipper and Smith (1983) a loss in subsidy may lead to an increase in the speed and/or magnitude of rate increases. The second possibility that they mention is where a multinational firm spins off a foreign subsidiary in order to exempt the latter from restrictions imposed by Congress on domestic firms operating abroad. Such regulatory advantages do not seem to exist outside the United States.

We include a variable for *regulatory advantages* in the meta-analysis. This variable is based on studies that either restricts themselves to spin-offs that are carried out in order to profit from regulatory advantages or that report separate subsamples for such spin-offs (Schipper and Smith, 1983, and Krishnaswami and Subramaniam, 1999).

3.5. Spin-off size

A number of studies find that the wealth effects are larger when the portion of assets that is divested is larger. This result is in line with intuition, since the impact of spinning off a large division can be expected to be bigger than the spin-off of a relatively small division. We test for this effect by including a variable for *size* in the meta-analysis.

3.6. Completed spin-offs

A large number of empirical studies restrict themselves to announcements of spin-offs that were later completed. Other studies present separate subsamples for completed and non-completed spin-offs (see Copeland, Lemgruber, and Mayers, 1987, and Kirchmaier, 2003). For this reason we also include a variable for *completed* spin-offs.

3.7. United States versus other countries

Most of the original research on spin-offs is carried out for the United States. It is interesting to see whether the results of other countries

3. The spun-off REIT merged with an existing REIT and joined the S&P 500 as Plum Creek Timber Company.

4. See Raedler (1994).

corroborate the American results. In this sense the studies of countries outside the United States can be considered as an out-of-sample test for the question whether spin-off announcements are associated with positive abnormal returns. For this reason the study included a variable for *United States* spin-offs.

3.8. Early Study

This study examines whether the results of spin-off announcements have changed throughout the years. This has been studied by including a separate variable for *early studies*. Early studies are defined as studies that were published in 1997 or earlier, with half of our sample classified as early studies.

3.9. Publication Bias

It is possible that event studies that report significantly positive or negative abnormal returns get easier published in refereed journals than event studies that find non-significant abnormal returns. For instance, Card and Krueger (1995) find evidence of publication bias in studies on the relation between minimum wage and unemployment. This paper includes two variables for a possible publication bias. The first variable, *Top-3 journal*, measures whether the study was published in one of the Top-3 finance journals, i.e. *The Journal of Finance*, *Journal of Financial Economics* or *The Review of Financial Studies*. The second variable, *SSCI*, measures whether the study was published in one of the journals included in the Social Sciences Citations Index (SSCI). For this purpose we used the list of journals of 2006.

4. META-ANALYSIS

4.1. Model

To assess the impact of the factors described in Section 3 on the wealth effects of the spin-off announcements, we employ a meta-analytic procedure to estimate the significance of the hypothesized independent variables on abnormal spin-off announcement date returns. For this purpose we follow a replication analysis methodology used by Datta, Pinches, and

Narayanan (1992) who study merger returns for bidders and targets. The estimates of spin-off announcement date abnormal returns from previous empirical studies play the role of observations in a multi-factor natural experiment, with the experimental factors corresponding to the factors hypothesized to influence wealth creation. The following multiple regression approach is employed using the earlier described dummy variables as factors & abnormal returns as dependent variables:

ARt = *f* (Back-to-basics, industrial focus, information asymmetry, tax advantages, taxable spin-offs, regulatory advantages, size, completed, United States, early study, Top-3 journal, SSCI)

Where:

ARt	=	Abnormal return for event period t
Back-to-basics	=	Management statement that spin-off is announced in order to specialize or go "back-to-basics" (1 = Statement is made)
Industrial focus	=	Parent company is in a different industry from the subsidiary (1 = Yes)
Information asymmetry	=	Measure of information asymmetry between management of the firm and outsiders (1 = High information asymmetry)
Tax advantages	=	Spin-off leads to a tax advantage (1 = Yes)
Taxable spin-offs	=	Spin-off is taxable (1 = Yes)
Regulatory advantages	=	Spin-off leads to a regulatory advantage (1 = Yes)
Size	=	Relative size of spin-off compared to total assets of the parent firm (1 = Large)
Completed	=	Spin-off is completed after the announcement (1 = Yes)
United States	=	Study is on American spin-offs (1 = USA spin-off)
Early study	=	Year in which study is either published, or the latest draft of the working paper (1 = published in 1997 or earlier)
Top-3 journal	=	Published in one of the Top-3 finance journals, i.e. *The Journal of Finance*, Journal of Financial Economics or The Review of Financial Studies (1 = Yes)
SSCI	=	Published in a journal that is included in the list of the Social Sciences Citations Index (SSCI) of 2006 (1 = Yes)

This procedure allows testing the impact of each independent variable after controlling for the effects of the other variables. The regression intercept is the main effect and each dummy variable adds or subtracts from the main effect.

4.2. Results of the Meta-Analysis

The basis for our meta-analysis consists of the 26 studies summarized in Table 1. This sample was constructed by searching library catalogues, electronic databases, Social Sciences Research Network (SSRN), and the Internet (Google and Google Scholar) for studies that present event study results for spin-off announcements. In the context of this search some researchers were also contacted to ask for their unpublished papers, which they kindly sent to us.

The final data-set of 26 papers comprises the entire available data-set on papers that study spin-off announcements. Where available the selection of interval was the event interval from day -1 to day 1. For studies where this interval is not available the closest possible alternative has been chosen. For all studies, except Denning (1988) this is the interval from day -1 to day 0. For the Denning study an interval from day -6 to day 6 has been taken. Since a large number of the 26 studies present separate subsamples for at least one of the variables mentioned in Section 3 this study has a total of 69 observations. Table 2 includes the mean and median abnormal returns for spin-off announcements with cross-sectional *t*-statistics and Wilcoxon tests.

Table 2: Mean and median abnormal returns around spin-off announcements

Mean	3.02%*** (13.23)
Standard deviation	1.90
Median	2.90*** (6.84)
Maximum	7.80%
Minimum	-5.29%
Number of positive observations	67
Total number of observations	69

Notes to Table 2: This table contains the abnormal return statistics of the 69 observations for the 26 studies. Test-statistics are in parentheses. The significance of the means is tested using a *t*-statistic. The significance of the medians is tested using the Wilcoxon signed rank test; *** = significance at the 1%-level; ** = significance at the 5%-level, * = significance at the 10%-level

The mean abnormal return for the 69 observations is 3.02%. This number is significantly different from zero on the 1%-level. The median is 2.90% and is also significantly different from zero at the 1%-level. The minimum abnormal return is -5.29% and the maximum abnormal return is 7.80%. The results from the regressions are included in Table 3.

Table 3: Meta-analysis

Variable	Coefficient (1)	(2)	(3)	(4)
Intercept	3.47*** (4.13)	3.51*** (4.14)	3.51*** (3.91)	3.44*** (6.54)
Back-to-basics	0.71 (0.60)	0.66 (0.52)	0.73 (0.65)	
Industrial focus	1.34*** (3.59)	1.32*** (3.67)	1.41*** (3.92)	1.39*** (3.59)
Information asymmetry	0.23 (0.22)	0.22 (0.22)	0.31 (0.33)	
Tax advantages	1.02*** (3.29)	1.04*** (3.33)	1.14** (2.63)	0.79*** (3.41)
Taxable spin-offs	-0.87* (-1.70)	-0.84 (-1.46)	-0.94* (-1.89)	-0.87** (-2.28)
Regulatory advantages	0.81** (2.61)	0.68 (1.65)	0.88** (2.38)	0.83*** (3.52)
Size	2.76*** (6.11)	2.62*** (4.78)	2.68*** (5.20)	2.63*** (6.22)
Completed	-1.09* (-1.79)	-1.15* (-1.81)	-1.02 (-1.59)	-1.03* (-1.84)
United States	0.30 (0.35)	0.10 (0.11)	0.44 (0.61)	
Early study	-0.52 (-1.62)	-0.42 (-1.03)	-0.62 (-1.49)	
Top-3 journal		0.25 (0.51)		
SSCI			-0.25 (-0.43)	
R^2	0.26	0.26	0.26	0.24

Variable	Coefficient (1)	(2)	(3)	(4)
Adjusted R²	0.13	0.12	0.12	0.17
Number of observations	69	69	69	69

Notes to Table 3: This table contains the results of the meta-analysis based on the observations for the 26 studies that analyze abnormal returns surrounding spin-offs announcements. The dependent variable is the abnormal return for event period 0. Back to basics = 1 if the announcement is made by management that the spin-off is announced in order to specialize or go "back to basics" (1 = Statement is made); Industrial focus = Parent company is in a different industry (1 = Yes); Information asymmetry = Measure of information asymmetry between management of the firm and outsiders (1 = High information asymmetry); Tax advantages = Spin-off leads to a tax advantage (1 = Yes); Taxable spin-offs = Spin-off is taxable (1 = Yes); Regulatory advantages = Spin-off leads to a regulatory advantage (1 = Yes); Size = Relative size of spin-off compared to total assets of the parent firm (1 = Large); Completed = Spin-off is completed after the announcement (1 = Yes); United States = Study is on American spin-offs (1 = USA spin-off); Early study = Year in which study is either published or the latest draft of the working paper (1 = published in 1997 or earlier); Top-3 journal = Published in one of the Top-3 finance journals, i.e. The Journal of Finance, Journal of Financial Economics or The Review of Financial Studies (1 = Yes); SSCI = Published in a journal that is included in the list of the Social Sciences Citations Index (SSCI) of 2006 (1 = Yes); *** = significance at the 1%-level, ** = significance at the 5%-level, * = significance at the 10%-level.

The first model in Table 3 shows that the *back-to-basics* variable is not significant. Apparently, the fact that the company reports itself that it plans to spin-off a segment in order to specialize, or go back-to-basics, does not significantly affect abnormal returns. However, the coefficient of the *industrial focus* variable is significant on the 1%-level. This means that the stock market is more positive about a proven going-back-to-basics activity, rather than to just rely on what the company reports. The coefficient of 1.34 means that increasing industrial-focus on spin-offs result in 1.34% higher abnormal returns.

In the second model the study includes the same variables, but with an addition of the first variable for publication bias, *Top-3 journal*. This variable is not significant. Adding this variable does not change the significance level of the other proxies, except that *taxable spin-offs* and *regulatory advantages* are no longer significant. In the third model this *Top-3 journal* is replaced by the second variable for publication bias, *SSCI*. This variable is also not significant. This suggests that the studies under *review* do not suffer from a publication bias, that is, higher abnormal returns found in a study do not increase its chances of being published in a journal that is included in the SSCI-index. In this model, *taxable spin-offs* is significantly negative at the 10%-level and *regulatory advantages* is significant at the 5%-level. In addition, the significance of the *completed* variable disappears.

Finally the regression analysis is done with all the variables that showed a significant sign in at least one of the first three models: *industrial focus, regulatory advantages, tax advantages, taxable spin-offs, size,* and *completed*.

The results of this regression are included in the fourth model in Table 3. This regression shows significant signs for all included variables. Apparently these are the variables that show the strongest effect. The explanatory power of the regressions is fairly high. The R2 of the three regressions varies between 0.24 and 0.26 and the adjusted R2 varies between 0.12 and 0.17.[5]

5. THE LONG-RUN PERFORMANCE OF COMPANIES INVOLVED IN SPIN-OFFS

The results of the meta-analysis presented in Section 4 show that spin-offs are unambiguously associated with positive abnormal returns on the announcement day. On average, announcing a spin-off increases the value of company equity by about 3%. In only 2 subsamples out of 69 negative abnormal returns were reported. A related research question that a few studies try to answer is whether the wealth effects of spin-offs are limited to the announcement returns, or do they persist in the longer-run, after the spin-off is completed. These studies are summarized in Table 4.

5. Given that the study of Denning (1988) uses a different event interval from the other studies (day -6 to +6 instead of day -1 to +1 or day -1 to 0), we have also ran all the regressions without the Denning (1988) study. The only result that changes is that the taxable variable in Regression (1) is no longer significant: the t-statistic for this coefficient changes from -1.70 to -1.64. For the remainder the results remain unchanged. These results are available from the author on request.

Table 4: Long-run stock market performance

Panel A: Pro-forma combined firms

Study	Research period	Observations	Event window: tsp +6 mths	tsp +12 mths	tsp +24 mths	tsp +36 mths
Cusatis, Miles, & Woolridge (1993)	1965-1988	141		4.7 %	18.9* %	13.9 %
Desai & Jain (1999)	1975-1991	155		7.7 %	12.7 %	19.8*** %
Veld & Veld-Merkoulova (2004)	1987-2000	45-61*	-2.2%	-2.3%	4.2%	2.0%
Sudarsanam & Qian (2007)	1987-2002	129		-2.3%	8.3%	8.4%

Panel B: Parent firms

Study	Research period	Observations	Event window: tsp +6 mths	tsp +12 mths	tsp +24 mths	tsp +36 mths
Cusatis, Miles, & Woolridge (1993)	1965-1988	131	6.8%** %	12.5%** %*	26.7 %**	18.1 %
McConnell, Ozbilgin, and Wahal (2001)	1989-1995	60	8.6%	13.5%	19.2%	5.1%
Desai & Jain (1999)	1975-1991	155		6.5%	10.6%	15.2%
Veld &Veld-Merkoulova (2004)	1987-2000	68-106*	3.9%	-0.7%	6.5%	-0.4%
Sudarsanam & Qian (2007)	1987-2002	129		-3.9%	6.2%	7.1%

Panel C: Subsidiaries

Study	Research period	Observations	Event window: tsp +6 mths	tsp +12 mths	tsp +24 mths	tsp +36 mths
Cusatis, Miles, & Woolridge (1993)	1965-	146	-1.0% %	4.5% %	25.5 %**	33.6 %
McConnell, Ozbilgin, & Wahal (2001)	1989-1995	96	8.9% %	7.2 %	5.8 %	20.9 %
Desai & Jain (1999)	1975-1991	-152		15.7 %**	36.2 %**	32.3 %**
Veld & Veld-Merkoulova (2004)	1987-2000	53-70*	12.0%	12.6% %	13.7 %	15.2 %
Sudarsanam & Qian (2007)	1987-2002	142		7.2% %	17.6% %	23.0 %

Notes to Table 4: This table presents the results on the long-run stock performance of parents, subsidiaries and pro-forma combined firms involved in spin-offs. The long-run performance is measured as the buy-and-hold abnormal return after the spin-off completion. tsp represents the spin-off completion date. *** = significance at the 1%-level, ** = significance at the 5%-level, * = significance at the 10%-level. a = the number of observations is different for different event windows (pro-forma combined firms: 5, 12, 24, respectively 36 months 61, 61, 61, respectively 45 observations, parents 6, 12, 24, respectively 36 months 106, 105, 88, respectively 68 observations, subsidiaries 5, 12, 24, respectively 36 months 70, 70, 60, respectively 53 observations.

The first paper on this topic is by Cusatis, Miles, and Woolridge (1993). They study the stock price performance of U.S. firms after a spin-off. This stock price performance is calculated using Buy-and-Hold Abnormal Returns (BHARs). These returns are corrected for returns on matching firms. Their paper includes results for parents, subsidiaries, and pro-forma combined firms. The latter are created by weighing the return of the parent company, and that of the subsidiary, by the market value of the firm on the spin-off date. As can be seen from Panel A of Table 4, Cusatis, Miles, and Woolridge (1993) find a significant long-run abnormal performance in the period of 2 years after the spin-off date. Panels B and C show that this performance is driven by both the parents and the subsidiaries. Their paper has had a large impact in the financial industry. After the publication of this paper, the popular press picked up the idea that a strategy of buying parents and subsidiaries involved in spin-offs would lead to a superior portfolio performance. There were also reports in the press that managers started to implement such strategies in particular investment funds.

Fama (1998) criticizes the use of BHARs by Cusatis, Miles, and Woolridge (1993) and other authors on different topics. With regard to the

Cusatis, Miles, and Woolridge (1993) paper he writes (page 303) "*The t-statistics for the three-year BHARs for spinoffs range from 0.58 to 2.55, hardly overwhelming. Moreover, in calculating the t-statistics, the BHARs of the event firms are assumed to be independent. It would not take a large adjustment for cross-correlation to produce t-statistics that suggest no real anomaly*". More recent papers on longrun performance use improved methodologies, such as the one derived by Lyon, Barber, and Tsai (1999). They present a method to adjust t-statistics for overlapping samples.

6. CONCLUSIONS AND TOPICS FOR FUTURE RESEARCH

This paper has reviewed the existing empirical evidence on value creation through spin-offs. A meta-analysis using the 26 studies that report wealth effects associated with spinoff announcements shows a significantly positive average abnormal return of 3.02% during the event window. An important result is that spin-offs that lead to an improvement of industrial focus are associated with larger abnormal returns. This result confirms the idea that dispositions involving assets outside the core business of a firm are viewed by the market as value-increasing whereas this does not apply to the disposition of core assets. Daley, Mehrotra, and Sivakumar (1997) argue that this confirms a general result on the positive relation between firm value and corporate focus (as documented by, e.g., Berger and Ofek, 1995). The result that larger spin-offs are associated with higher abnormal returns is possibly related to the industrial focus result. The divestiture of a large non-related subsidiary is likely to be received more favorable than the divestiture of a small non-related subsidiary.

In addition, it has been found that returns are higher for spin-offs that receive a tax or regulatory friendly treatment. A surprising result is that spin-offs that are later completed are associated with lower abnormal returns than those that were not completed. A possible reason for this result is that the spin-offs that were ex-post not completed were less expected by the market participants. Future research should shed more light on this. A possible way to study this result is to carry out research around the announcements of spin-off withdrawals.

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Green Supply Chain Management; Critical Research and Practices

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ABSTRACT : The waste and emissions caused by the supply chain have become the main sources of serious environmental problems including global warming and acid rain. Green supply chain policies are desirable since reactive regulatory, to proactive strategic and competitive advantages. The novelty of this topic makes it difficult to truly determine contradictory and conflicting issues that could be considered true "debates". We will present some of the debates that do occur, but this paper appraisal of investigation, practice and evaluation of green supply chain Management

Keywords: Green supply chain management, green purchasing, in-bound logistics, out-bound logistics, reverse Logistics.

1. INTRODUCTION

In early environmental management frameworks, operating managers were involved only at arm's length. Separate organizational units had responsibility for ensuring environmental excellence in product development, process design, operations, logistics, marketing, regulatory compliance and waste management. Today, this has changed. As in the quality revolution of the 1980s and supply chain revolution of the 1990s, it has become clear that the best practices call for integration of environmental management with ongoing operations. Green supply chain management (GSCM) is gaining increasing interest among researchers and practioners of operations and supply chain management. The growing importance of GSCM is driven mainly by the escalating deterioration of environment, e.g. diminishing raw material resources, overflowing waste sites and increasing level of pollution. However, it is not just about being environment friendly; it is about good business sense and higher profit. The supply chain "system" includes Purchasing and In-bound Logistics, Production, Distribution (Outbound Logistics & Marketing), and Reverse Logistics. The first three categories are part of the well-known value chain concept espoused by strategic thinkers [22]. The last functional element, Reverse Logistics, is one of the more recent areas of focus by supply chain researchers. Figure 1 brings these factors together and exactly, what is the green supply chain?

After a brief discussion concerning the definition of green supply chains, the discussion and presentation of issues turns to our four defined areas.

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Some practices, research, and evolving issues are discussed for each of them. Then, an integrative look at the whole system and common issues will be presented.

1.1 Green Supply Chain Management – What is it?

"Green supply refers to the way in which innovations in supply chain management and industrial purchasing may be considered in the context of the environment"

"Environmental supply chain management consists of the purchasing function's involvement in activities that include reduction, recycling, reuse and the substitution of materials."

"The practice of monitoring and improving environmental performance in the supply chain..."

Integrating environmental thinking into a supply chain management, including product design, material resourcing and selection, manufacturing processes, delivery of the final product to the consumer as well as end-of-life Management of the product after its useful life". From these four definitions we see that there is a range of author focus and purpose on green supply chains and their management. Research or practitioner field (i.e. purchasing, operations, marketing or logistics) also influences the definition. The definition of the purpose of green supply chains, which range from reactive monitoring of general environmental management programs to more proactive practices such as the R's of environmental management and incorporating "innovations", also seem to differ. This lack of consensus in practice and definition of green supply chain is not surprising, since its foundational elements of corporate environmental management and supply chain management are both relatively new areas of study and practice. If the practice of green supply chains is novel, the theory is even more so, if true theory even exists

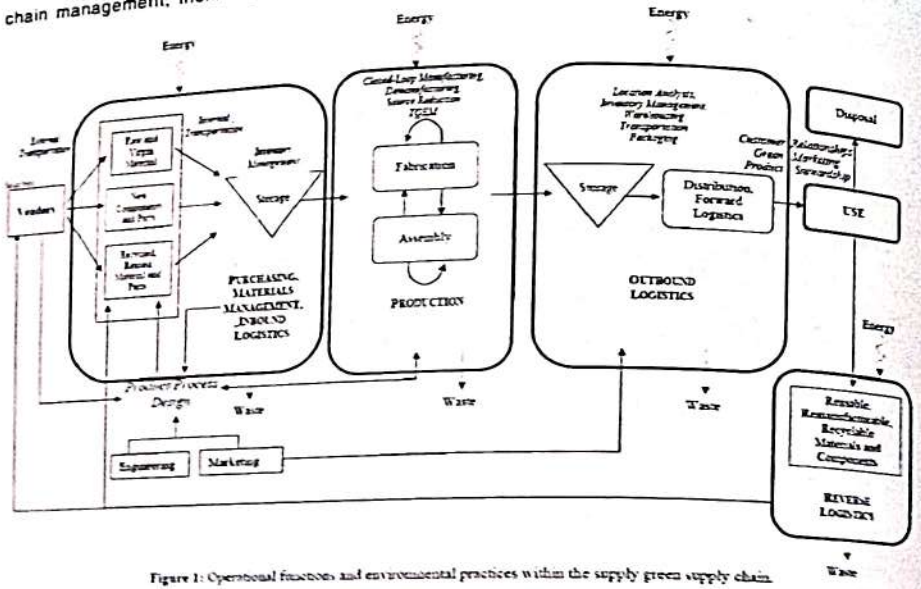

Figure 1: Operational functions and environmental practices within the supply green supply chain

2. Purchasing and In-Bound Logistics

The purchasing function involves the acquisition of materials from suppliers to meet the needs of producing the organizational product or service. Purchasing includes duties such as vendor selection, material selection, outsourcing, negotiation, buying, delivery scheduling, inventory and materials management, and to some extent,involvement in design. We shall initially take an overall look at some of the issues relevant to general green purchasing.

2.1 GENERAL GREEN PURCHASING PRACTICE

Green purchasing has a number of environmentally based initiatives that may be incorporated into the purchasing function; these are summarized as follow Supplier Environmental Questionnaires; Supplier Environmental Audits and Assessments; Environmental Criteria on Approved Supplier List; Require Suppliers to undertake independent Environmental Certification; Jointly Develop Cleaner Technology/Processes with Supplier(s); Engage Suppliers in Design for Environment product/process innovation; Reduce packaging waste at the customer/supplier interface ; Reuse/Recycling of materials requiring co-operation with supplier; Reuse initiatives (including buy-backs and leasing); Conduct LCA with cooperation from suppliers; Seek to influence legislation in cooperation with suppliers; Create supply "club" to collaborate on environmental issues ; Coordinate minimization of environmental impact over full supply chain ; Build environmental criteria into supplier contract conditions; Audit Supplier Environmental Performance. Exemplary Industrial Practices for the Green Purchasing Function as follows.

Fiat Auto – A document called "Guidelines for Cooperation," signed in February 2004, requires that partners accept the increasing environmental compatibility of their products and manufacturing processes as a priority, while respecting the economic and competitive balance. A survey of 360 suppliers was conducted in 2004 to monitor their Management of environmental resources (energy, water, air, and so on). A packaging waste control program is under way with 70 suppliers, monitoring incoming and outgoing materials. (Company Report, 2006)

General Motors formed a Supplier Environmental Advisory (SEA) Team to explore ways that GM can work effectively with suppliers to integrate environmental concerns into the design, sourcing, and manufacturing processes. The SEA Team has identified near-term and longer-term opportunities for collaboration among GM and its suppliers on environmental management systems (EMS), design for environment, and environmental metrics throughout the supply chain. Working with the SEA Team, GM developed a policy statement on "Environmental Performance Management in GM's Value Chain." (Company Report, 2005)

2.2 In-bound Logistics

One of the issues in delivery (and production) is the use of just-in-time (JIT) practice. This practice is meant to reduce inventory, thus eliminating costs and waste. For example, less storage and warehouse space is needed. This practice reduces the necessary overhead and resource consumption needed to manage this inventory. Thus, JIT seems to be an environmentally sound practice, yet when considered on the whole, the environmental savings can be deceptive. For example, the major method to lessen the amount of inventory is to deliver and produce in small batches. These smaller batches mean more deliveries, thus raising fuel consumption and traffic congestion. Investigations of this tradeoff's are necessary. But some of these issues are mitigated with such practices as on-site suppliers or those that are in close proximity for JIT reasons. Another factor related to JIT and supplier management is that fewer suppliers are usually used in a JIT environment. This means better forecasting and fuller loads could be planned. Of course this delivery approach will be dependent on demand levels and characteristics.

Wu & Dunn have also identified a number of other "tradeoffs" and issues facing in-bound logistics (and out-bound, as well). One is freight consolidation. Waiting for freight to become a full load may lead to longer lead times but may yield savings and be environmentally preferable. Another issue is mode selection. Some transport modes like rail and barge use less energy or use energy more efficiently than other modes like road haulage and air cargo. In this case, flexibility, timing and speed are tradeoffs to cost and environmental factors. The transport mode

decision determines which transport option to use and often affects traffic congestion and air pollution both directly and indirectly. Carrier selection, a part of supplier selection, is an important in-bound logistics decision. Transportation is important to all industries. As an example, the Chemical Manufacturers Association cited Roadway Express, a major carrier, as a responsive care partner in hauling chemicals. The major question in these examples is whether companies are capable and willing to make the tradeoffs. An issue that arises relates to any major environmental issue: when does the environment play a large enough role to overcome other performance metrics? As well, the addition of a third party (third-party carriers and logistics managers are quite popular) into the decision process makes it more difficult for the vendor-customer relationship. Who makes the decision on mode and freight consolidation, especially when organizations may have differing environmental strategies?

3. Production

The manufacturing and production function's role in corporate environmental has been well addressed in the literature. The internal supply chain's performance can best be managed within this function. Since a number of reviews on environmentally conscious manufacturing have been completed . We shall only focus on a few of the major principles in this function. A principle topic that has evolved within this area is total quality environmental management (TQEM). But, similar to the concept of total quality management, it is hard to get a concrete definition and practice of TQEM. It is a managerial philosophy, rather than a hard technology or program, with a number of tenets (some of which are also espoused above in dealing with suppliers as well). Some of the tenets of TQEM include empowerment of employees, continuous improvement, team efforts, inter functional collaboration, and leadership elements. There are issues in each of these areas, one of the most important of these areas, from a managerial perspective, is empowerment and employee involvement. Closed-loop manufacturing is one of the internal measures that can be used to improve the environmental performance of the internal supply chain. The philosophy of zero-emissions (similar to zero-defects of many TQM programs) is what drives closed-loop manufacturing

practice. Closed-loop manufacturing is a process of producing products with no negative environmental impact. Currently, much of the emphasis on closed-loop manufacturing is on development of supporting technology. This internal loop helps to lessen some waste streams that flow from the production function, but may require additional energy and resources to function and maintain. As part of the source-reduction philosophy closed-loop manufacturing, a related issue to the zero-emissions philosophy is substitutability, which has become much more popular with design for the environment linkages. For example, substitutes for environmentally toxic materials such as solvents with aqueous solution for processes and powders paint for liquid paint are examples of using substitutes to reduce and eliminate emissions. The determination of life cycle impacts of these substitutes is still a problematic proposition. The investigation of managing in this environment seems to be almost non-existent. From a research perspective this is one of the more technology and tool driven functions of the green supply chain. Exemplary state-of-the-art green practices in the production function are as follows.

Compaq (formerly Digital Equipment Corporation) has a recovery facility for electronics parts where purchasing agents also serve as marketers and salesmen. They have developed relationships with a number of organizations that send their electronics components and products there for demanufacturing and organizations (such as Envirocycle) that use their outputs as inputs for their products.

Disney built an on-site material recovery facility (MRF), which began handling recyclables from the Walt Disney World Resort. The MRF handles more than 45 tons of paper, plastic, glass, steel, aluminum, and cardboard, daily, representing an average recycling rate of more than 30% of these materials. Other used equipment and excess items are sold to Cast Members or auctioned to the public. (Corporate Environmental Report, 2004)

4. Distribution and Out-Bound Logistics

Whereas, purchasing and In-bound logistics focuses on managing the vendor-organization relationships of the supply chain, the distribution and out-bound logistics function is meant to address the

organization-customer relationship issues. We shall begin with a discussion on some of the issues in a general category of "customer"relationships which includes some developments in green marketing. A brief discussion on out-bound logistics completes this section.

4.1 Customer Relationships

Customer relationships are greatly influenced by green marketing policies. Some studies have found that ultimate individual consumer interest in the environment and environmentally sound products is quite substantial, even though there has been a slight decline. This interest along with government regulations, are two external pressures that flow throughout the supply chain. Studies have shown that many companies are putting pressure on their suppliers and suppliers are listening to corporate customers, as well as the end-user One of the controversies in green marketing and customer relationships is whether customer interest in environmentally sound products relates to actual purchase. Various studies have shown that interest is usually higher than actual purchase. This argument can be made for either individual consumers or corporate and industrial buyers. Even though this issue has been shown to be an individual consumer phenomena, the extension to corporate buyers needs a more complete evaluation.

4.2 Outbound Logistics

One of the reviews of the literature found a number of areas within standard practice of outbound logistics that have implications for greening the logistics function . The design of a logistics network and its planning are two of the more strategic issues facing logistics managers in this function. Many trade-off decisions need to be made with regard to the firm's market, customer, product and logistical resources. Examples of typical logistics decisions include options such as direct shipping or hub-and-spoke, central warehouse or distributed network, intermodal or single mode, and third party services or private fleet. Some of the design and management criteria that support environmental planning in this area include fewer shipments, less handling, shorter movements, more direct routes, and better space utilization. But, each of these issues includes tradeoffs among delivery time, responsiveness, quality and cost, as well as environmental performance. Warehousing and delivery packaging design are two important issues in outbound (and inbound) logistics and distribution. Wu and Dunn argue that warehousing, other than land use requirements, also generates much of the packaging waste in the supply chain. Standardized reusable containers, good warehouse layouts, easy information access all cut storage and retrieval movements and save on operating costs and are environmentally sounder. Freight consolidation functions and "breakbulk" operations carried out in warehouses also have the potential of utilizing transport capacity more efficiently, thus minimizing the environmental impact of the out bound transport system. Following example shows some exemplary practices that have impact on the greening of distribution, out-bound logistics and marketing. Bristol Myer's Squibb has a customer related environmental program that educates customers, typically health care management institutions to aid in environmental practices (Corporate Environmental Report, 2005) DuPont has developed a partnership with Ford Motor in which DuPont's payments are based on the number of cars that are painted. This creates an incentive for the two companies to use paint as efficiently as possible

5. Reverse Logistics

Reverse logistics incorporates the return of materials, components and products back into the "forward logistics"chain. Carter and Ellram, have further defined reverse logistics as an environmentally conscious approach by incorporating reverse distribution and resource reduction . Their complete definition for reverse logistics is the return, upstream movement or a good or material resulting from reuse, recycling, or disposal with the minimization of waste which results in more efficient forward and reverse distribution processes. Reverse logistics operations include the following major steps: collection, separation, densification or disassembly, transitional processing, delivery and integration. The operational emphasis is dependent on the type of material or component that flows in the reverse logistics channel. For example, disassembly will be required for copy machines ,whereas plastic bottles would require densification. Practical examples of issues that have been addressed in the reverse logistics function are

as follows. Siemens Nixdorf Informations system AG has a recovery plant located in Paderborn, Germany. The recovery plant reconditions and recycles used computers. The customer bears the burden of some of the disposal costs. It charges customers on a sliding scale based on the product type and disassembly and recycling costs.

Rank Xerox, with a history of leasing copier equipment, has implemented programs to increase the leasing option to help in recovery of parts and equipment. These programs have increased the rate of return for purposes of asset recovery. Decreasing the costs of fully warranted equipment at reduced prices. Marketing programs have been developed strictly for promoting these "green" products

5.1 System and Emerging Issues

A number of issues that encompass the green supply chain or that are common across the supply chain are now presented. Within these issues are a set of emerging organizational topics and fields that may have direct impact on the green supply chain.

5.2 Small Companies and the Green Supply Chain

One of the more difficult, and probably most important, groups to incorporate into the supply chain are the small companies. In an academic survey of 135 companies found smaller companies attached less importance to management of environmental issues when compared to larger firms (greater than $1 billion). It has been found in a study of manufacturers that convincing small companies to become involved in green purchasing was a major barrier for these manufacturers. In a more general study of corporate performance and environmental consciousness, found that larger companies are more inclined to be environmentally conscious . In a regional survey of small manufacturer practices found a large number of them were interested or practicing environmental practices (especially recycling initiatives) in their organizations. Almost a third of these companies also monitor their suppliers.

In an investigation of industrial co-location and inter-firm networking's influence on economies in environmental management finds that these strategies can help small organizations gain

environmental savings. Such savings manifest themselves in the form of less expensive environmental management infrastructure and services; accelerated and less expensive information flows; decreased incidence and intensity of land-use conflicts; and an enhanced ability on the part of the public sector to enforce environmental regulations. Thus, close and inter-firm networks could be a way to help small organizations become more effective environmental partners. The use of eco-industrial parks and government sponsored waste exchange programs as techniques to aid the linkage between small and large companies. Another approach is to aid small companies is through mentoring programs from large companies as evidenced by a study in Guadalajara, knowing that there is a difference between large and small companies in their involvement and acceptance of green supply chain principles is one issue for investigation Another, more important issue is determining requirements and practices that would help small manufacturers become more involved in this process.

6. Summary And Conclusion

We have reviewed a number of issues related to green supply chains and their management. The structure of the presentation was based on four major functions that could be considered as drivers within the green supply chain. These functions included purchasing and in-bound logistics, production, distribution and out-bound logistics, and reverse logistics. A number of integrative issues potentially effecting each of these functional areas were then presented. Even in this relatively new field of green supply chain management a number of debates have emerged, within and between functions. It has been found that most of the literature on green supply chain management has been descriptive, anecdotal, and/or prescriptive. As, well much of the literature has investigated small portions of the whole supply chain. Academic journals have only begun to address issues that have been appearing in the trade journals since the early 1990's. With only a few empirical studies, which have been exploratory, the amount of generalizable knowledge and theory development in this area is almost non-existent. To truly address these merging debates and issues, effective research agendas and methodologies will be required. Even then, the debates may never truly be answered. As

in all environmentally based research arenas tools, techniques and theory from a number of disciplines will be required for a truly complete study of this area. We feel that as in future, this topic and field and its debates will keep a number of researchers busy.

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