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Articles

Perspective

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About Thiagarajar School of Management

Thiagarajar School of Management (TSM), Madurai has established itself in the Southern part of India as one of the premier citadels of learning, rendering creditable service to the cause of higher education. TSM was founded in 1962 by the doyen of the South Indian textile industry, Mr. Karumuttu Thiagarajar Chettiar - a great philanthropist who also founded several engineering and arts colleges, polytechnics; teacher's training institutes, and primary and secondary schools.

TSM offers a choice of management education streams: All India Council of Technical Education (AICTE) approved PGDM (Post Graduate Diploma in Management) programme which was launched in 2011 and the MBA (Master of Business Administration) programme - approved by AICTE, accredited by National Board of Accreditation (NBA), autonomous status granted by UGC and affiliated to Madurai Kamaraj University. Both the programmes are 2-year full-time, fully residential. PGDM is the flagship programme of TSM.

TSM is run by the Manickavasagam Charitable Foundation - an organization that has been actively involved in several primary and higher educational projects. Mr. Manickavasagam Chettiar, the prime mover behind TSM, was its Founder Correspondent. TSM prides itself on being one of the few institutions that does not accept any capitation fees from students seeking admission. The school is fully supported and funded by the Loyal Textiles Group. The Chairman & Managing Director of the group, Mr. Manikam Ramaswami, a Gold Medalist from IIT Chennai, is the present Correspondent of TSM.

Eminent faculty members in the areas of Marketing, Finance, Human Resources, Operations and Systems give wider and deeper insights both in theory & practice to the students. Situated in a picturesque location, equipped with a state of art infrastructure, TSM delivers more than what it promises and it is no wonder that a TSM student is academically sound, professionally proficient and ethically correct. The outcome, TSM's excellent placement record and academic performance are the result of the processes that are in place at TSM –processes for excellence in management education.

TSM Business Review

INTERNATIONAL JOURNAL OF MANAGEMENT

(A Double Blind, Peer Reviewed Bi- Annual Journal)

Volume 3 **Number 1** **June 2015**

Chief Editor

Prof. Gautam Ghosh

THIAGARAJAR SCHOOL OF MANAGEMENT (Autonomous)

Pambanswamy Nagar,
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TSM Business Review (TBR) *is the official bi-annual publication of Thiagarajar School of Management, Madurai, India. TBR is published since 2013 regularly during the months of June and December. It provides an open platform for reading and sharing articles, research papers and case studies that have a high impact on the management field. It has a special emphasis on management issues that are relevant to emerging economies and aims at providing a link between academic research and practical implications.*

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EDITORIAL

In our previous issue, I had announced about TBR getting indexed in ProQuest. International presence calls for raising standards. This requires greater expertise and clear thinking. Our getting indexed by ProQuest is testimony to our steadily improving standard.

This issue is a bundle of research papers, complimented by a case and a perspective. I congratulate the authors for their continuous effort in writing and editing of their papers, which finally are a part of this issue. We have two research papers in the area of Finance in this issue. Abdul Rahman and Prabina Rajib talk on stock index revisions of companies added to the CNX 100 index by testing DSDC hypothesis and the PPH from 2004 to 2011. They conclude that the price and volume effect is permanent for inclusions and exclusions of CNX 100 index. The article by Abhishek Parikh endeavours to identify whether there is simultaneous impact of FII on currency rate and equity market by using 1125 observations of daily returns for NIFTY50, FII and currency rate taken from Capital Line. The proposed model was found to be a significant predictor for both currency rate and NIFTY50.

Vetrickarthick talks about the application of green business strategies, and supports practicing the print and demand concept. A study on efficiency of hospitals in terms of patients' health expenses has been done by Anirban Majumdar. Saibal Dutta and Sujoy Bhattacharya have presented a literature review on segmentation research in tourism, while Alamelu and Meena compare online and store shopping behavior of customers. Adding to the above list, we have a short case study on ITC and a perspective on union budget of India.

With this note I wish you happy reading and learning!

Gautam Ghosh

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Are the CNX 100 Index Replacement Effects Permanent or Temporary?

Abdul Rahman and Prabina Rajib

Abstract

Stock index revisions to major stock indices usually bring in changes to the price and volume patterns of stocks getting added/deleted to and from the index. The current study analyzes stock index revisions of companies added (deleted) to and from the CNX 100 index by testing DSDC hypothesis and the PPH from 2004 to 2011. The results show that the price and volume effect is permanent for inclusions and exclusions of CNX 100 index. Hence, this has led to the support of the Downward Sloping Demand Curve hypothesis.

***Keywords**: Stock index, Replacements, DSDC, PPH*

1. Introduction

Stock index revisions to major stock indices usually bring in changes to the price and volume patterns of stocks getting added/deleted to and from the index. They also reveal some kind of information about the impact of this index effect on companies. This fact has been widely discussed in financial literature, and hypotheses in association with these index revisions have been tested by the researchers. Most of the international studies to date have focused their choice on the revision effects of the S&P 500 index, where as some of the studies have also emphasized on the indices of emerging countries like India and China. The rebalancing of index funds by the fund managers is often assumed to be the reason behind such effects.

The increased popularity of using indices as benchmarks of the economy has given rise to the prodigy of index effect. The stocks getting added/deleted to and from an index experience abnormal returns and abnormal volumes, and it is a form of market inefficiency. The effect of index revision can be positive as well as negative. The buying of newly added stocks to a benchmark index leads to a price appreciation, and also the other reason for higher prices might be the index addition leads to increased attention from the potential investors, increased availability of information and increased liquidity. The opposite of this happens due to index deletions. Moreover, the index effect for additions

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and deletions can be long-term (permanent) which means that the prices and volume will remain even or odd for **a** long time after the shock, and can be short-term (temporary) which means that the prices and volume will reverse within a short-span after the shock.

The hypotheses that study the index revision effect includes Downward Sloping Demand Curve hypothesis (DSDC), Price Pressure Hypothesis (PPH), Liquidity Cost Hypothesis (LCH), Information Content Hypothesis (ICH), and Investor Recognition Hypothesis (IRH).

The Downward Sloping Demand Curve (hence forth DSDC) hypothesis says that, as per the investor's knowledge, there are no close substitutes for different stocks. When a particular stock experiences rise or fall in demand for a stock, then the price and volume of that stock tend to move upward or downward to a new equilibrium. Hence, a permanent increase (decrease) is expected post index revision. The Price Pressure Hypothesis (hence forth PPH) assumes that, the increase (decrease) in price and volume due to index change is for a short-term and immediate reversal would follow. However, the DSDC hypothesis differs from the PPH based on the duration of addition/deletion effect on price and volume. The Liquidity Cost Hypothesis states that, stocks added to the index become economical for investors to trade due to increase in liquidity, and decrease in transaction costs, while the deletion causes the reverse. The Information Content Hypothesis says that, index addition or deletion conveys good information that is beneficial to the investors, which in turn affects the stock prices permanently. The Investor Recognition Hypothesis posits that, new competent investors are drawn towards the firm by market attracted information leading to a permanent stock price appreciation. When the addition of stock takes place, there is an opportunity for a new competent investor group which leads to a positive price effect permanently. The reverse is invalid for deletions since investors are still acquainted with these stocks. This hypothesis does not hold any presumption regarding trading volume changes.

The significance of emerging markets in the world has intensely grown in the past two decades. The emerging market nations are tangibly strong in exports and capital spending that is crucial to dynamic rates of economic growth. There are a small number of studies on stock index revisions in the emerging markets like India. The hypotheses cited earlier have been tested comprehensively in a global perspective, while they are in brief in the Indian context.

Index funds provide broad and low-cost exposure to the rapidly moving emerging markets, and also these funds change in line with the developments in the underlying markets when indices rebalance. Also enormous amounts of investment have been evidenced on indices in the form of index funds in India, which mimics the constitution of the index in terms of investment weights. Thus, index rebalances leads to the change in the portfolio holdings of index funds. Hence, contemplating to these index funds, it would be rational to study the impact of index revisions on the price and volume of the stocks getting revised.

The Indian stock market has graduated to a better position akin to the securities markets in developed and other emerging markets. Moreover, India ranked 9th in terms of market capitalization in the international markets.

The analysis of the impact of stock index revision of a particular stock is of interest, because it is an event that should be independent on information that is public at that time. Moreover, changes in the composition of CNX 100 index are purely based on the relative market float capitalization of the corresponding firms. Hence, if index revision leads to a change in demand, then the nature of the price effects observed around index revisions casts light on the specific determinants of the price effects. Considering the studies undertaken in testing the index effects of different global stock indices, it is essential to examine such effects in the Indian circumstances.

In view of the above discussions, the objective of this study is to test the long-term effect on the price and volume of stocks due to index revisions with the help of DSDC hypothesis, and to test the short-term effect of the same with the help of PPH for index changes on CNX 100.

The paper is arranged as follows. The next section briefly explains about the construction and review policy of CNX 100. The following section discusses about the effects of index revision disclosed in the existing literature. Section 4 explains the data and methodology, and finally, Section 5 presents the observations of the paper and concludes.

2. Index Review Policy of CNX 100

The CNX 100 Index is based on the stocks listed and traded on the National Stock Exchange (NSE), and maintained by the Indian Index Services & Products Limited (IISL). The CNX 100 index would comprise of the securities which are constituents of CNX Nifty and CNX Nifty Junior. Any changes, i.e. addition and deletion of securities in the above mentioned two indices would be automatically represented in this index. The CNX 100 tracks the behavior of combined portfolios of two indices. It is a diversified 100 stock index accounting for 38 sectors of the economy. It represents about 82.84% of the free float market capitalization.

3. Past Research on Index Effects

There is a considerable amount of literature studying the stock index revisions on the price and volume of stocks added or deleted to and from an index. The fact that the stocks added (deleted) from a popular index shows significant positive (negative) abnormal returns, and abnormal volume of stocks is positively affected by the event. The competing hypotheses that are preferred to explain the effects of stock index revisions are explained below.

3.1 Downward Sloping Demand Curve (DSDC) Hypothesis

The DSDC hypothesis holds that stocks are imperfect substitutes, and the rise in demand of stocks added (deleted) to and from the index raise or deteriorates the prices permanently. A body of literature examining the effect of DSDC hypothesis due to stock index revisions is explained below.

Shleifer (1986) was the first person to study the price and volume effects for additions to S&P 500, where he documented a positive abnormal return of 2.79% around the announcement. Similarly, Lynch and Mendenhall (1997) who studied the effect of addition (deletion) on S&P 500 reported 3.81% and -12.7% abnormal returns around the announcement date. Deininger et al (2000) found strong abnormal returns on the day of the announcement, and these returns seem to be persistent for a long period for the German stock index replacements. A flat demand curve for the stocks with close substitutes was reported by testing the estimations of price responses of the stock sadded to S&P 500 index by Wurgler and Zhuravskya (2002). Denis et al (2003) documented additions to the index as a non-information free event by observing investors' earnings expectations on S&P 500 index additions. A permanent decline in price supplemented by significant abnormal volume was established by studying the effect of demand on stock prices of TIPs 35 and TIPs 100 by Biktimirov (2004).

Further, Park and Lee (2004) reported the demand curve sloping downward for both additions and deletions of Kospi 200 index. Chakrabarti et al (2005) found a positive abnormal return of 3.4% one day after the announcement, and also these returns got reversed after 10 days following the effective date for the MSCI index additions. The ARCH adjusted abnormal returns evidenced permanent price effect for FTSE 100 index revisions, whereas the OLS based abnormal returns indicated temporary price effect as reported by Mazaouz and Saadouni (2007). Lastly, Liu (2011) reported a permanent price hike for the additions to the Nikkei 225 index.

3.2 Price Pressure Hypothesis (PPH)

The argument that the rise in returns is caused by index fund purchases and a reversal of these returns in the post effective period would provide evidence in support of the price pressure hypothesis. Some of the research studies of the past, examining the aforesaid hypothesis for stock index revisions are explained below.

Harris and Gurel (1986) reported a positive abnormal return of 3.13%, which has reversed almost after two weeks for additions to the S&P 500 index, whereas the temporary movement of stock prices from their equilibrium values, and the reversal of abnormal returns around the announcement date were observed by Chung and Kryzanowski (1998). Similarly, Madhavan (2003) documented significant abnormal returns around the reconstitution of Russell 2000 and 3000 indexes to be attributable to temporary price pressure. The temporary positive and negative effects for additions and deletions of S&P 500 index were reported by Peterson (2004). Biktimirov (2004) observed temporary significant changes in prices, trading volume, and institutional ownership for stock index revisions of the Russell 2000 index. An increase (decrease) in stock prices on the announcement and effective dates for the Nifty index, and a reversal of those prices after a week was reported by Kumar (2007). Shanker and Miller (2006) evidenced temporary price and volume effects during the post-announcement period, and also a corresponding change in the institutional ownership for the index revisions of the S&P Small Cap index.

Further, significant positive abnormal returns of 2.58% that reversed within five days after the effective date were reported by Kerl and Walter (2007), whereas temporary positive (negative) volume effects besides the price for index revisions of ISE index were documented by Bildik and Gulay (2008). Hrazdil (2009) evidenced temporary price and volume effects around the change date for the revisions of S&P 500 index additions. Schmidt et al (2011) found significant positive (negative) effects around the announcement date for the S&P/ASX 200 index revisions. Selvam et al (2012) reported a temporary negative effect around the announcement and effective dates for the stocks added and deleted from the Nifty index. Rahman and Prabina (2014) reported significant positive (negative) abnormal returns around the effective change date, and a reversal of those returns within 5 and 7 days for additions and deletions to and from the Nifty index. Joshipura and Janakiramanan (2015) reported no significant price effect for the Nifty index inclusions on the announcement day, while the exclusions experienced a negative effect. Further, a temporary positive (negative) price effect was observed by them on the effective day for inclusions (exclusions). They observed no significant change in trading volume following Nifty index revisions. Their study supported the price pressure hypothesis.

The stock index revision effect on the price and volume has been studied by many researchers from all over the world, and these effects have been ascribed to the change in the demand from the index funds.

Therefore, a very few research works on the index revision context can be experienced in India. Kumar (2007) has examined the stock index revision effect during 1996 to 2003. Therefore, many significant changes in terms of listing of new companies, investment in FIIs and DIIs, increase in number of index funds, changes in monetary and fiscal policies might have materialized. Parthasarathy (2010) investigated the index revisions of Nifty, and found no support to either DSDC hypothesis nor for Price Pressure Hypothesis, instead he concentrated on conveying information to investors. Further, Selvam et al (2012) reported only the price effects around the index revisions of Nifty, but has not accounted the volume effect. Rahman and Prabina (2014) and Joshipura and Janakiramanan (2015) have studied and reported the price and volume effects for index revisions of Nifty index.

Thus, research work concerned to the stock replacements to the CNX 100 is lacking. Furthermore, the research studies undertaken by the aforesaid Indian researchers contradict with the results of the current study. Therefore, the current study fills this gap by studying associated effects of changes in the index composition of CNX 100 index.

The findings of this research might be of use to the investors and to the fund managers. If the study supports DSDC hypothesis, the investors with a long-term horizon should buy the shares of the added companies immediately following the day of the announcement without waiting for the actual change date to come, and it is at the discretion of the investors to hold or sell the shares of the deleted companies soon after the announcement happens as the share prices fall and trading volume also goes down. Similarly, if PPH gets supported, then the investors with a short-term horizon should rush to buy the shares in case of additions, and also rush to sell the shares of the deleted companies as the prices will fall after deletion

4. Data and Methodology

The list of stocks added and deleted to and from the CNX 100 index as well as the Effective Date of change is available on the NSE website. However, the date of the announcement has been collected from the past archives of IISL press release.

The sample period for this study is 2004 – 2011. The daily data is used to calculate the daily return and daily volume. During this period 77 companies have been added to as well as 88 companies have been deleted from the index. Of these companies 12 from the addition list and 13 from the deletion list are not part of this study due to insufficient data. This leaves with 65 additions and 75 deletions. Further, another 10 companies which are part of the deletion list are removed as these companies were part of M&A activities. Therefore, the final sample has 65 additions and 65 deletions.

To study the price and volume effect, event windows around the Announcement Date (AD) and Effective Date (ED) are identified. AD is the date when the additions (deletions) are announced by the index revision committee, whereas ED is the date when the new company will be actually added (deleted) to and from the index.

The company specific daily price-volume data and the CNX 100 index data have been taken from the NSE's website's (www.nseindia.com) archive. Following the previous research works of different researchers, the current study has used 60 days after the ED to test the DSDC hypothesis and 30 days after the ED to test the PPH.

The null hypothesis is that, the daily Mean Cumulative Abnormal Returns (MCARs) should be equal to zero, and the daily Mean Cumulative Abnormal Volume (MCAV) should be equal to one during the event period for all the testable hypotheses.

4.1. Calculation of Abnormal Return

The index change effect is analyzed by studying the abnormal returns around the AD and the ED. The daily abnormal returns are calculated as the stock's excess return on day 't' over the index return. For calculating the daily return, the adjusted prices are taken. The Daily Return R_t is calculated in the following manner:

$$R_t = \left[\frac{P_t}{P_t - P_{t-1}} \right] * 100 \quad (1)$$

Where Pt is the stock/index adjusted closing price at time 't' and Pt-1is the stock/index adjusted closing price at time t-1. The returns are calculated by estimating a regression using Ordinary Least Squares method. The data is stationary at the first difference.

$$R_{i,t} = \alpha_{i,j} + \beta_{i,j} R_{m,t} + e_{i,t} \quad (2)$$

The parameters of the OLS estimates $\alpha_{i,j}$ and $\beta_{i,j}$ in Eq. (2) are based on the assumption that the error term is homoskedastic with a mean zero and a constant variance. The standard GARCH (1, 1) model is employed to deal with the ARCH effect in the residuals of the model, since the ARCH effect is shown to affect the efficiency of estimators jointly with the magnitude and the statistical significance of the abnormal returns associated with a given event (Mazouz and Saadouni, 2007).

Under the GARCH (1, 1) specification as explained by Bollerslev (1987), the conditional variance of the error term in Eq. (3) $\sigma^2_{i,t}$ is modeled as follows:

$$\sigma^2_{i,t} = \varphi_{i,j} + \delta_{i,j1} \varepsilon_i{}^2_{t-1} + \theta_{i,j1} \sigma^2_{i,t-1} \quad (3)$$

where the indicator j is the estimated period i.e. 150 days; $\varphi_{i,j}$ is the permanent conditional variance component; $\delta_{i,j1}$ is the ARCH term, and can be interpreted as information about the previous periods' volatility; $\theta_{i,j1}$ is the GARCH term, which is the previous periods' forecasted variance. The abnormal returns are calculated by substituting the parameters given in Eq. (4).

$$AR_{i,t} = R_{i,t} - (\alpha_{i,j} + \beta_{i,j} R_{mt}) \quad (4)$$

The daily average abnormal returns, and the MCARs, which are specified in Eq. (4) above measures the price effect. The standard t-statistic is applied to test the OLS abnormal return estimates, but applying the same method for GARCH-based abnormal returns to test the significance different from zero may not be reliable. Hence, GARCH-based statistic of Savickas's (2003) was adopted by the current study which was also adopted by Mazouz and Saadouni (2007), to test whether the cumulative abnormal returns are significantly different from zero. The GARCH-based statistic can be explained as follows:

$$GARCH-test=\frac{\sum_{i-1}^{N}\frac{S_{i,s}}{N}}{\sqrt{\left(\frac{1}{N(N-1)}\right)\sum_{i-1}^{N}\left(S_{i,s}\sum_{i-1}^{N}\frac{S_{i,s}}{N}\right)^{2}}} \tag{5}$$

$$S_{i,s}=\frac{\sum_{t-1}^{s}\frac{AR_{i,t}}{S}}{\sqrt{\sum_{t-1}^{s}\frac{\hat{h}_{i,t}}{S}}} \tag{6}$$

N= 65, S = window length

The GARCH-test follows the student's t distribution with N-1 degrees of freedom. This test statistic informs whether the average abnormal return observed over a window of length s is significant.

4.2. Abnormal Volume

Abnormal trading volume was computed using the market model approach, following the methodology used by Biktimirov et al (2004), Shanker and Miller (2006) which was initially proposed by Campbell and Wasley (1996).

The expected level of volume is calculated using the market model, the estimation period is similar to that of abnormal return analysis, i.e. comprising of 150 days extending from -21 to day -170. Furthermore, the CNX 100 index is employed as a proxy for the market portfolio. The market model equation is as follows.

$$V_{i,t}=\alpha_i+\beta_i R_{mt}+\xi_i \tag{7}$$

where

$$V_{i,t}=\ln\left[\frac{100*n_{i,t}}{S_{i,t}}+0.00025\right] \tag{8}$$

$n_{i,t}$ = the number of shares traded for firm i on day t

$S_{i,t}$ = the number shares outstanding for firm i on day t

In order to account for days on which a firm's stock was not traded 0.00025 is added to the ratio of shares traded over shares trading. The log transformation is used to approximate a normal distribution (Ajinkya Jain, 1989).

$$V_{m,t}=\frac{1}{N}\sum_{i=1}^{N}V_{i,t} \tag{9}$$

N = the number of firms comprising the market index.

$$AV_{i,t} = V_{i,t} - (\alpha_i + \beta_i R_{mt}) \tag{10}$$

Now the Cross-sectional means (MAV_t) are computed by taking the average of AV_{it} values of all the stocks for the 't' th day. The mean value is 0 if there is no change in volume during the event period.

$$MAV_t = \frac{1}{N}\sum AV_{i,t} \tag{11}$$

The mean of MAV_t is used to test whether the average volume ratio is significantly different from 0 in an event window of length s.

$$MCAV_S = \frac{\sum_{t_1}^{t_2} MAV_t}{s} \tag{12}$$

To test the statistical significance of MCAVs, two tailed t-tests.

4.3 The Event and the Event Windows

The current study examines the CNX 100 additions and deletions. The two important event dates are the AD and the ED for addition and deletion. The number of days between AD and ED varies from 1 to 46 trading days. The mean trading days between AD and ED are 35, and that of the median is 38.The MCARs and the MCAVs in the current study are reported over five different event windows.

1. AD-22 to AD-2: Pre-announcement window
2. AD-1 to AD+1: Announcement Date window
3. AD+2 to ED-1: Post-announcement window
4. ED to ED+30: Short-term post-change window (To test PPH)
5. ED to ED+60: Long-term post-change window (To test DSDC)

5. Empirical Results

Price effects of stock index revisions

The daily MCARs for the stocks added and deleted to and from the CNX 100 index around the AD and ED are shown in Table 1.

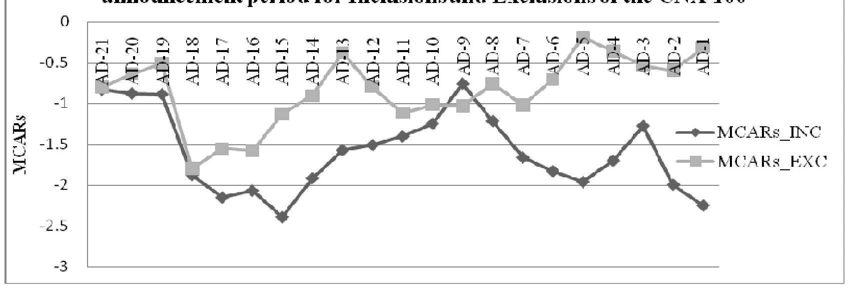
Table 1: Mean Cumulative Abnormal Returns (MCARs) for Inclusions and Exclusions of the CNX 100 Index

Interval	Inclusions		Exclusions	
	MCARs	t-statistic	MCARs	t-statistic
AD-21 to AD-2	-2.24	-14.77*	-0.31	-8.97*
AD-1 to AD+1	-0.06	0.35	-1.35	-3.34**
AD+2 to ED-1	0.92	0.42	0.38	0.85
ED to ED+30	2.74	5.87*	-0.86	-2.65**
ED to ED+60	3.42	12.18*	2.13	0.13

*** Significant at 0.05 level.*
** Significant at 0.10 level.*

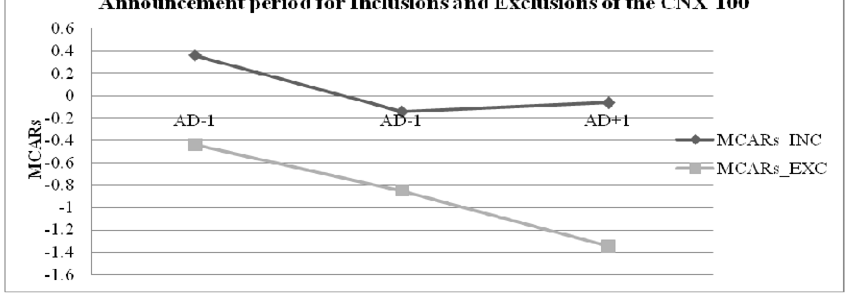
During the pre-announcement period, i.e. 21 days prior to the AD, the daily MCARs for the stocks added to the CNX 100are negatively significant at the 1% level. This shows no anticipation effect during this period, whereas the anticipation effect has been evidenced in case of deletions, because the daily MCARs for the stocks deleted to the CNX 100 in the aforesaid period are negative and significant. The pre-announcement period results can be evidenced from Figure 1.

Figure 1. Mean Cumulative Abnormal Returns (MCARs)for the Pre-announcement period for Inclusions and Exclusions of the CNX 100



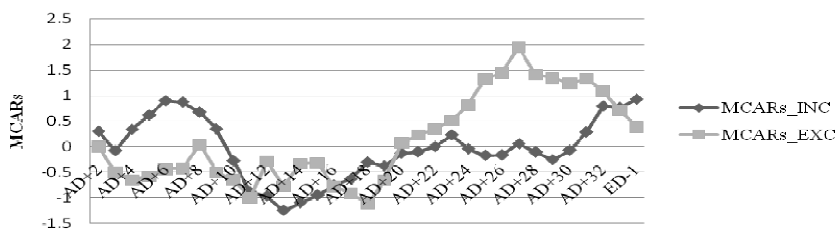
The daily MCARs around the AD are insignificant for additions, whereas the deletions experienced MCARs of -1.35 and significant at the 5% level. This can be experienced from Figure 2. The daily MCARs have a negative impact on the day prior to the announcement, on the AD, and also on the following day of announcement for both additions and deletions. The AD window results vary from the past research works of Lynch and Mendenhall (1997), Chakrabarti et al (2005), Kumar (2007) and Petajisto (2011) wherein the abnormal returns around the AD were significantly positive (negative) for both additions and deletions, whereas these results are comparable with the results of Rahman and Prabina (2014) where they documented similar kind of results for both additions and deletions of Nifty index.

Figure 2. Mean Cumulative Abnormal Returns (MCARs)for the Announcement period for Inclusions and Exclusions of the CNX 100



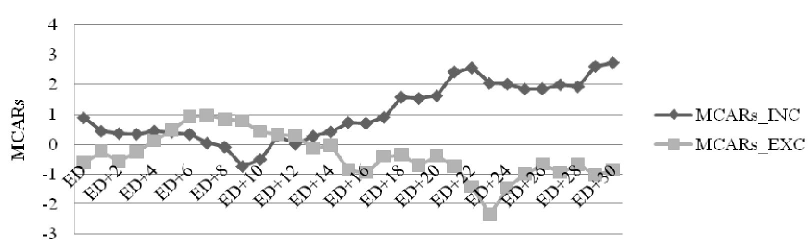
The pre-change period that runs through AD+2 has reported insignificant positive daily MCARs for both additions and deletions. The daily MCARs for deletions should have negative effect after the happening of the announcement, but the results are contrary to that. This shows that the index fund managers as well as other investors have not withdrawn their stocks from these companies resulting in positive MCARs for deletions. Nonetheless, the finding of this paper significantly varies from the other research papers. Kumar (2007) documented insignificant positive (negative) MAARs, and Selvam et al (2012) reported negative MCARs for both additions and deletions. But, in case of deletions, these results are akin to the results reported by Rahman and Prabina (2014) where the deletions evidenced positive and insignificant daily MCARs for Nifty index. The daily MCARs during the post-announcement period are shown in Figure 3.

Figure 3. Mean Cumulative Abnormal Returns (MCARs)for the Post-announcement period for Inclusions and Exclusions of the CNX 100



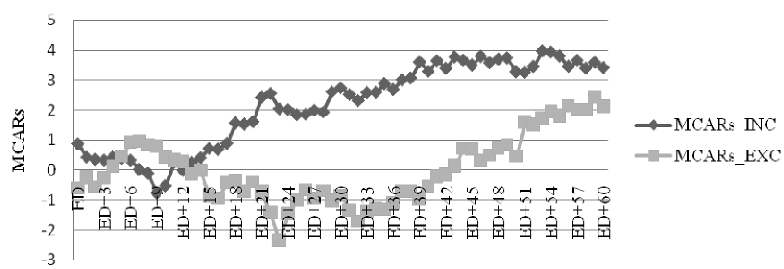
The result of the post-change period, which runs through ED to ED+30 shows positive significant MCARs for additions at the 1% level, and negative significant MCARs for deletions at the 5% level. This positive and negative effect got reversed after 7 days and 3 days of ED. These results are in contrast to the previous studies of Harris and Gurel (1986), Jain (1987), Lynch and Mendenhall (1997), Kumar (2007), Petajisto (2011) and Rahman and Prabina (2014) where the prices reverted in a different time frame for additions and deletions. The short-term price reversal can be evidenced from Figure 4.

Figure 4. Mean Cumulative Abnormal Returns (MCARs)for the short-term post change period for Inclusions and Exclusions of the CNX 100



Further, the long-term post change date window which runs from ED to ED+60 reported positive daily MCARs for both additions and deletions, but insignificant for deletions. This shows that there is persistency in price increase for additions, and for deletions also since the MCARs for deletions are insignificant. This can be evidenced from Figure 5.

Figure 5. Mean Cumulative Abnormal Returns (MCARs)for the Long-term post change period for Inclusions and Exclusions of the CNX 100



The Wilcoxon signed rank test shows significant MCARs at the 5% level for all the periods except for the post-announcement period, which runs from AD+2 to ED-1 for both additions and deletions. The long-term post-change window reported significantly positive MCARs for inclusions to CNX 100. The short-term post-change window for exclusions from CNX 100 has reported negatively significant MCARs and the long-term post-change window has reported insignificant positive MCARs. This shows that there is a permanent increase (decrease) in the prices of inclusions (exclusions) of CNX 100 index, hence allows the current study to support the DSDC hypothesis.

Volume Effects of Additions and Deletions

The movement of trading volume around AD and ED for additions and deletions has been reported in Table 2 below. The results report that the daily MCAV during all the periods except pre-announcement for additions, and announcement period for deletions are positive and significant.

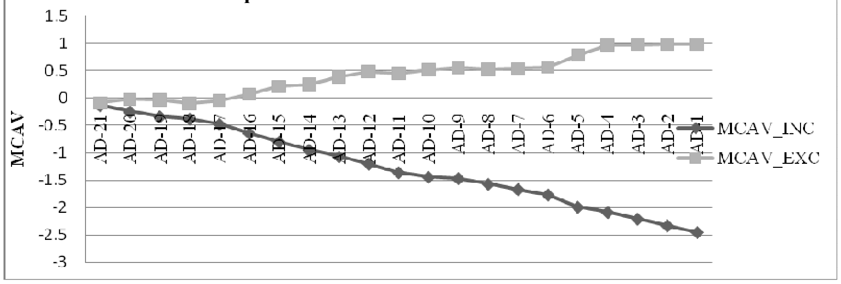
Table 2: Mean Cumulative Average Volume (MCAV) for Inclusions and Exclusions of the CNX 100 Index

Interval	Inclusions		Exclusions	
	MCAV	t-statistic	MCAV	t-statistic
AD-21 to AD-2	-2.45	-7.99*	0.97	5.17*
AD-1 to AD+1	0.58	3.11**	-1.23	-3.50**
AD+2 to ED-1	0.55	7.79*	0.24	4.62*
ED to ED+30	2.76	4.97**	0.80	5.30*
ED to ED+60	6.59	8.49*	2.71	5.81*

*** Significant at 0.05 level*
** Significant at 0.01 level*

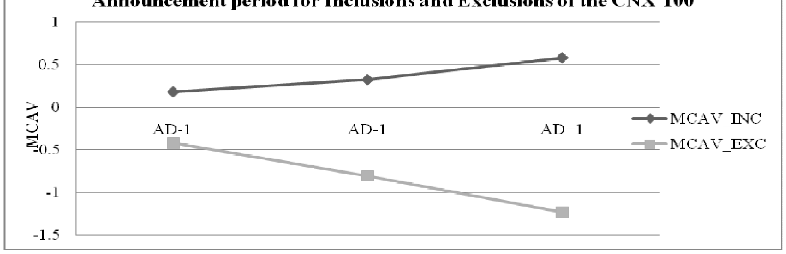
The daily MCAVs during the pre-announcement period are significantly negative and positive at 1% level for both additions and deletions. This shows that there is no anticipation effect for both the additions and deletions. This can be evidenced from Figure 6 below. This shows that the market is not able to pre-empt about the additions, and as well as for the deletions.

Figure 6. Mean Cumulative Abnormal Volume (MCAV)for the Pre-announcement period for Inclusions and Exclusions of the CNX 100



There was an increase and decrease of MCAVs around the announcement period for additions and deletions and significant at the 5% level. This can be evidenced from Figure 7.

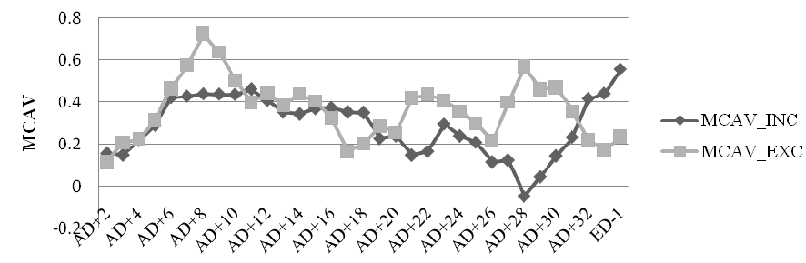
Figure 7. Mean Cumulative Abnormal Volume (MCAV)for the Announcement period for Inclusions and Exclusions of the CNX 100



Further, the MCAVs during the post-announcement period (AD+2 to ED-1) are positively significant at the 1% level for both additions and deletions. The trading activity reduced for additions, and increased for deletions after the announcement date. This shows that the index fund managers try to get some enhanced returns before the actual change date by taking some tracking error risks. This can be evidenced from Figure 8.

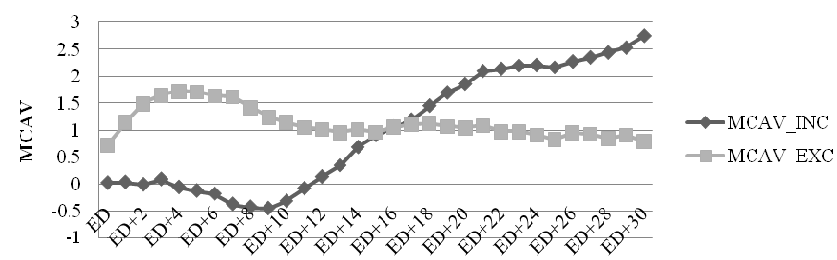
The daily MCAVs during the short-term post change period are positive and significant at 5% and 1% level for additions and deletions. The volume levels significantly increased for both throwing light on market liquidity. This can be experienced from Figure 9 below. Similarly, the MCAVs during the long-term post change period, which runs for 60 days from ED increased significantly to a large extent at the 1% level for both additions and deletions.

Figure 8. Mean Cumulative Abnormal Volume (MCAV)for the Post-announcement period for Inclusions and Exclusions of the CNX 100



To recapitulate, the aforesaid findings show that, the volume levels increased and decreased during the date of announcement for additions and deletions. Then they decreased to a negligible extent for additions, and increased for deletions, and peaked around the short-term actual change date and long-term actual change date. Moreover, it can be observed that the trading activity associated with the stock index revisions is happening on the actual change date.

Figure 9. Mean Cumulative Abnormal Volume (MCAV)for the short-term post change period for Inclusions and Exclusions of the CNX 100



To investigate, whether there is a persistent volume effect, the MCAVs for 60 days after the ED are analyzed. The study reports that the volume levels are positive and significant throughout the long-term post-change window period. The prices reversed after 1 day of the ED for additions, whereas for deletions the prices were positive and decreased negligibly to a small extent. This can be evidenced from Figure 10. Consequently, the trading volume patterns, alike the price effects, find support with regard to the DSDC hypothesis. The volume results are in contrast to the results of Kumar (2007) where no abnormal volumes were observed throughout the event period for both additions and deletions, and also in contrast to Rahman and Prabina (2014) where abnormal volumes are positive and above normal for all the event periods.

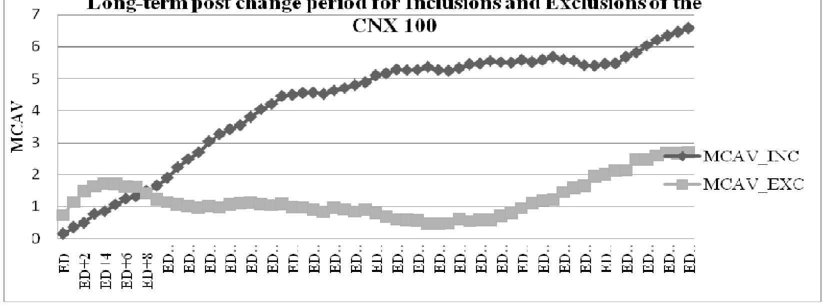


Figure 10. Mean Cumulative Abnormal Volume (MCAV)for the Long-term post change period for Inclusions and Exclusions of the CNX 100

5.1. Supplementary Test for PPH

The study intends to test further the DSDC and PPH to examine the presence of permanent effect and temporary effect in the price and volume of stocks added (deleted) to and from the CNX 100 index.

Following the methodology of Biktimorov (2004) and Shanker and Miller (2006), the study intends to predict the PPH by regressing the post-change day CAR ($CDCAR_{1-T,j}$) on the ED abnormal returns ($CDAR_{0,j}$) for each firm 'j' as given in Eq.13.

$$CDCAR_{1-T,j} = \alpha + \theta CDAR_{0,j} + \varepsilon_{t-T,j} \qquad (13)$$

A negative slope for additions and a positive slope for deletions in this regression indicate a temporary price effect, by full reversal of event day returns in the post change period (ED) as estimated by the PPH. A slope of zero for both the additions and deletions indicate a permanent price effect and hence supports the DSDC hypothesis.

Kaul et al (2000) in their model computed the weekly CARs, starting with the post-event week and advancing repeatedly for 15 weeks following the event. These weekly CARs are then regressed on the announcement week returns. They rejected the hypothesis of the regression in one test that the slope is -1, and accepted the hypothesis that the slope is zero in another test. Similarly, Biktimorov (2004) reported similar results for 60 days following the event. Both the studies found support for DSDC hypothesis. However, Shankar and Miller (2006) reported a slope of -1 for their regression for 60 days following the event. Their study supported the PPH.

Following the time period estimation of Rahman and Prabina (2014) for this model, the current study estimates a time period subsequent to the ED, which extends in 5 day increments to 30 days after the ED. A significant negative slope for additions and a significant positive slope for deletions is consistent with the PPH. A slope of zero for both the additions and deletions indicate a permanent price effect and hence supports the DSDC hypothesis.

Results of Price Pressure Hypothesis

The results of Eq. 13 are presented in Table 3. They report that the prices for additions reversed after 7 days of the ED which falls in the second interval of ED+6 to ED+10. Similarly, the slope estimates for third and fourth interval are positive, and the last interval is negative. But all the slope coefficients are insignificant.

Table 3: Results of the Price Pressure Hypothesis

Windows	C	$CDAR_{0,j}$	t-statistic	R^2
Additions to the CNX 100 index				
ED to ED+5	0.002	0.213	1.16	0.02
ED+6 to ED+10	-0.04	-0.48	-1.04	0.02
ED+11 to ED+15	-0.0003	0.22	-0.27	0.002
ED+16 to ED+20	-0.0004	0.35	0.78	0.012
ED+21 to ED+25	0.002	0.13	0.35	0.015
ED+26 to ED+30	0.02	-0.31	-1.21	0.005
Deletions to the CNX 100 index				
ED to ED+5	-0.003	-0.46	-1.14	0.12
ED+6 to ED+10	0.011	-0.17	0.95	0.003
ED+11 to ED+15	-0.00013	0.11	0.38	0.006
ED+16 to ED+20	-0.004	0.28	1.02	0.010
ED+21 to ED+25	-0.002	0.33	0.55	0.001
ED+26 to ED+30	-0.006	0.88	1.23	0.021

$$CDCAR_{1-T,j} = \alpha + \theta CDAR_{0,j} + \varepsilon_{t-T,j} \quad \text{...} (15)$$

$CDCAR_{1-T,j}$ = Post Effective Date Cumulative Abnormal Return for each firm

$CDAR_{0,j}$ = Effective Date Abnormal Return for each firm

*******Significant at 0.10 levels***

The slope estimates were negative for the first and second intervals, and the remaining intervals experienced positive slope estimates. All the slope estimates are insignificant. The prices for deletions got reversed after 3 days of the ED which falls in the first interval.

Therefore, the current study does not find support to accept the hypothesis that, the slope is negative for additions and positive for deletions for the price reversal during the post change period that extends to 30 days beyond the ED.

Therefore, the results presented in Section 4 and Section 5 of this paper confirm that the prices and volumes persist for a long-term, since the long-term post-change window for inclusions is positive and significant, while it is positive and insignificant for exclusions, and the supplementary tests for PPH also failed to produce significant results, and hence paves the way to support the DSDC hypothesis. The investors should invest more in the companies getting added to the benchmarked index, as the prices are increasing, and this can persist for longer period of time. Similarly, in case of deletions, the investors should not drop the deleted company's stock from their portfolio, as the decreased price might reach its normal position within a short period of time.

6. Summary and Conclusion

The current study analyzes stock index revisions of companies added (deleted) to and from the CNX 100 index by testing DSDC hypothesis and the PPH. The effect on price and volume due to the index revisions has been found less on AD and more on the ED for additions, and vice-versa for deletions. This exhibit that the index fund managers are concentrating more on the actual change date for additions. Similarly, the trading volume levels were less on the AD and peaked on the ED for both additions and deletions. They were moving in an increasing trend even though there was a short reversal in between. This shows that the stocks added and deleted have lost none of their liquidity in the market.

Further, the results document persistency in case of price and volume for both additions and deletions, hence paving the way to support the DSDC hypothesis. This shows that the index fund managers and retail investors are of long-term horizon. The price results reported by the current study departure from the previous studies of Harris and Gurel (1986), Lynch and Mendenhall (1997), Peterson (2004), Petejitso (2011), Selvam et al (2012), and Rahman and Prabina (2014); however, the volume results are similar to that of Lynch and Mendenhall (1997), Shanker and Miller (2007) and in contrast to Kumar (2007). The study also estimated additional tests to predict the long-term and short-term price and volume effect, and does not found meaningful evidence in support of short-term price pressures leading to the PPH.

The current study contributes to the body of knowledge by examining the index revision effects in emerging markets like India and supporting the DSDC hypothesis. Further, the increasing pattern in the volume levels for both additions and deletions shows the presence of liquidity of the stocks which further effect the firm's cost of capital, and exploring those liquidity effects and cost of capital will be the improvement to the current study.

The current study contributes to the body of knowledge by examining the index revision effects in emerging markets like India. Further, the increasing pattern in the volume levels for both additions and deletions shows the presence of liquidity of the stocks, and exploring those liquidity effects will be the improvement to the current study.

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Factors influencing the Indian Publishing Industry towards making investments in green ERP practices

R Vetrickarthick, C Swarnalatha and N Asha

Abstract

The green business technocrats are thinking of reenergizing the entire business towards what is coming down to the New Year. The new arena gazed towards the green practices in ERP management through Enterprise Resource Planning. It is not simply cost controlling techniques but it will change the entire work structures of the organization. This green ERP initiative paves the ways to step up research to produce goods that require much less wastage, including water, from consumers. Under this initiative, the entire business process is studied and analyzed thoroughly right from procurement of raw materials and distribution of finished goods. Surely, this idea will promote a paradigm shift in the outlook of the corporate world. This study enhances the application of green business strategies in the field of ERP management of books publishing industry. This is a descriptive research. The research period is from November 2014 to December 2014. The compiled data are analyzed using percentage analysis, cross tabulations, frequency distributions and factor analysis. For years, most ERP programs have included a similar, somewhat narrow range of demands. This green practices pushed that envelope to dive much deeper into supplier practices like waste control, stockings, etc., These new announcements also expand the demands in different ways. In recent years, the book publishing companies are practicing the 'print n demand' concept to enrich more innovativeness in their ERP management.

Key words*: Enterprise Resource Planning (ERP), Green business, Investments, Management*

1. Introduction

The green ERP has been standardizing its internal systems and ERP technology to improve efficiency and cut wasted processes. It is likely to draw heavily on integration of the enterprise resource planning, business research, competitor intelligence and business process management to achieve its environmental aims. Under this initiative, the entire

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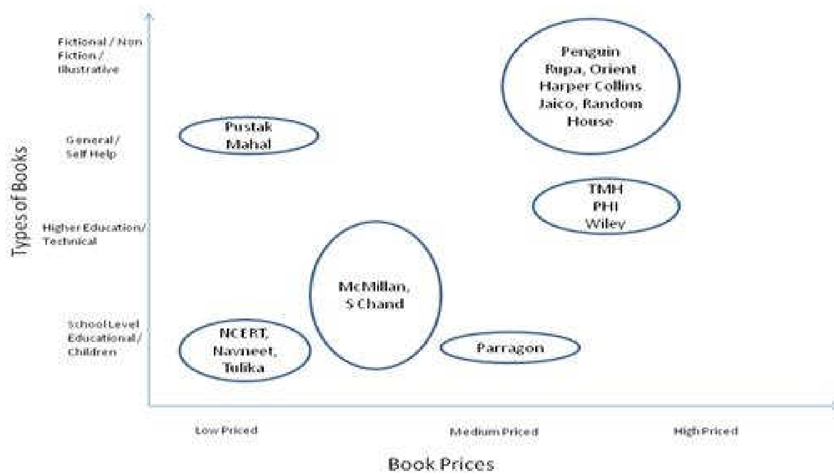
business process is studied and analyzed thoroughly right from procurement of raw materials and distribution of finished goods. Surely, this idea will promote a paradigm shift in the outlook of the corporate world. This study enhances the application of green business strategies in the field of ERP management of books publishing industry. In this era, everything has come under cost reduction. The books are distributed using the chain of flow as wholesalers, dealers, retailers & consumers. Now they are practicing the "Print – On – Demand" concept. So no stockings are kept anywhere. The pace towards e-books, e-learning resources, online subscriptions, etc., made the importance of maintaining a sound ERP management. This article emphasizes on the factors influencing towards making investments in green ERP practices of book publishing companies in Tamilnadu.

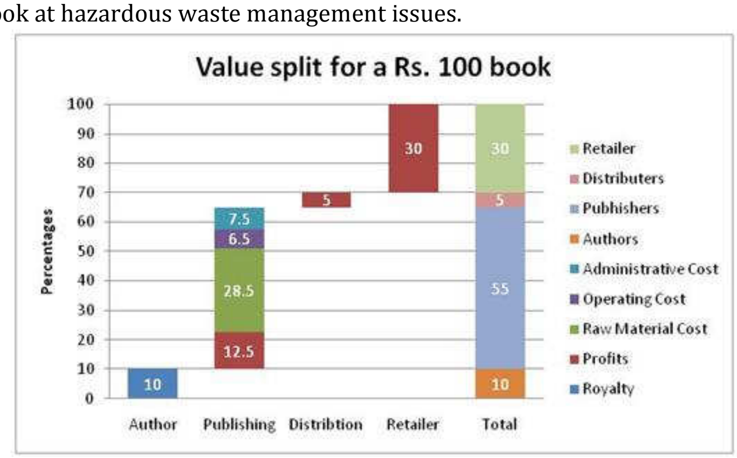
2. Literature review

According to industry body FICCI, the Indian publishing industry, which is worth Rs 12,000 crore, is currently growing at a compound annual growth rate of 25 per cent. Writers such as Chetan Bhagat, whose books Five Point Someone and 2 States have been very successful, and Amish Tripathi, with his 'Shiva trilogy', have helped keep the industry ticking by bringing in an entirely new set of readers, who enjoy a quick and light read. The Indian book publishing industry is very attractive and has a high growth potential, but is operating in an extremely competitive market, with over 16000 largely small publishers spread across the country. With the Indian economy and the education sector booming, the industry is at a new juncture of growth and competition. FICCI's Secretary General, Dr. A Didar Singh, states that the Indian publishing industry produces over 100,000 titles every year. "There was a time 10 years back, when one used to be happy if one printed 3,000 copies of a book and it sold out. But, today you're looking at books which are routinely crossing 10,000 to 20,000, and in some cases 100,000 or even a million copies in sales," says Gautam Padmanabhan, CEO of Westland Ltd, a wholly owned subsidiary of Tata Group's retail arm Trent. He claims his company has made inroads in Bengali and Marathi language content.

With an estimated market of INR 10,000 crores, India ranks third after the US and UK in English language publishing. Currently the sector is witnessing a compound annual growth rate (CAGR) of 30%the sector presently produces 90,000 new books a year in 24 languages including English. Currently, the government (NCERT, State Text Book Boards, NBT, and Publishing Division, combined) is the largest publisher in the country. The Government allows 100 percent FDI to publishing houses across the country to make India a publishing hub, by utilizing the vast English-speaking technical manpower. With a view to service the sector, FICCI started with organizing 'PubliCon' from 2011. The programme focused on key policy / regulatory issues confronting the publishing industry. The conference also deliberated on trade related issues, National Book Promotion Policy, IPR, Digital publishing, rejuvenation of libraries, export potential of the industry, children's publications, etc. Several players in the industry have a national presence – the prominent ones being Penguin Books India, Oriental Longman, Rupa Publications, McMillan, S Chand, Navneet and Parragon. Most of these players have established their positions across only a few types and price points as shown in Exhibit 1 below.



Laskowski says that Walmart is a "great example" of a company using lifecycle analysis to force change down its ERP -- in its case mostly in China. For huge companies like Walmart, the ERP -- consisting of every company, individual and resource involved in a product's lifecycle -- can be quite long. Walmart has 66,000 suppliers in 70 countries and nearly 100,000 stock-keeping units (SKUs). "Greening" that complex chain may take many forms. For example, suppliers can set up recycling systems, reduce waste production, limit energy and resource use, switch to environmentally preferable materials and cut back on emissions. The EPA used lifecycle analysis in the 1970s to take a closer look at hazardous waste management issues.



The agency's Resource and Environmental Profile Analysis (REPA) also helped when, in 1990, the Council for Solid Waste Solutions evaluated the energy consumption and environmental performance of paper versus plastic grocery bags (and later disposable versus cloth diapers). But according to Mary Ann Curran, a lifecycle expert in the systems analysis branch of the EPA, the agency has no plans to regulate lifecycle work or require companies to conduct product analyses. Xerox's work shows that ERP efforts can sometimes flow uphill. As part of a collaboration begun in 2004, Xerox performed a paper audit for Dow Chemical, one of its largest industrial clients, and found that Dow had 16,000 printers producing 480 million pages per year. Xerox and Dow worked to get the company down to 5,500 printers -- reducing printing costs an estimated $20 million to $30 million over five years, and dramatically reducing environmental impact. Xerox also launched a Sustainability Calculator which, when applied to a single sector of Northrop Grumman's operations, saved 27% in energy costs, 26% in climate emissions and 33% in solid waste.

3. Objectives of the study

- To find out the various factors influencing the book publishing companies to make investments in green ERP practices.
- To find out the various factors to be considered while making investments in green ERP

4. Research Framework

This is a descriptive research taken the book publishing companies as simple random samples with sample size 30 in Tamilnadu. The data has been collected through Questionnaire with structured 5 point rating scale questions. The research period is from November 2014 to December 2014. The compiled data are analysed using percentage analysis, cross tabulations, frequency distributions and factor analysis. Factor analysis is applied to identify the factors influencing the book publishing companies towards making investments in green ERP practices. The data are analysed using the SPSS software version 19.0. The reliability of the nine items with the scale returned with a Cronbach Co-efficient Alpha of 0.907 which has been indicated as high level score according to Nunnally (1976), as Cronbach Co-efficient Alpha of 0.6 is sufficient to be acceptable value for the research purpose.

On the basis of size of business, 60% of the companies are micro enterprises, 33.33% are small enterprises and the remaining 6.67% are medium enterprises. Out of the total sample of 30 companies, 56.67% are started working before 6-9 years, 30% are commenced before 3-6 years, 6.67% of the companies are started just below 3 years before and 3.33% of the companies are started before 9-12 years and the same 3.33% of the sample companies are started above 12 years. It is revealed from the percentage analysis that 30% of the sample companies are public limited companies, 26.67% are belonging to the category of partnership with limited liability, 23.37% are fall under

5. Data Analysis and Interpretation

Table 1: Company characteristics

	Characteristics	Frequency	Total %
Size of Business	Micro enterprises	18	60
	Small Enterprises	10	33.33
	Medium Enterprises	2	6.67
	Total	30	100
Age of Company	Below 3 years	2	6.67
	3-6 years	9	30
	6-9 years	17	56.67
	9-12 years	1	3.33
	Above 12 years	1	3.33
	Total		100
Structure of Ownership	Sole proprietorship	4	13.33
	Partnership firm	2	6.67
	Partnership with limited liability	8	26.67
	Public limited	9	30
	Private limited	7	23.33
	Total		100
Trend of earnings	Below 5%	6	20
	5% – 10%	18	60
	10% - 15%	3	10
	15% - 20%	2	6.67
	Above 20%	1	3.33
	Total		100
Total number of employees	Below 25	19	63.33
	25-35	3	10
	35-45	4	13.33
	45-55	3	10
	Above 55	1	3.33
	Total		100

Source: Primary Data

private limited category, 13.33% are having sole proprietorship structure of ownership and the rest 6.67% are fall under the partnership firm category. The sample companies are categorized on the basis of trend of earnings as 60% belongs to 5% -10% earnings, 20% are having below 5% earnings, 10% of sample companies have 10%-15% of earnings, 6.67% are having 15%-20% of earnings and the rest 3.33% of earnings are fall under the category of earnings above 20%. As per the total number of employees working in the sample book publishing companies, 63.33% of the sample companies are having total number of employees below 25, 13.33% are with 35-45 number of employees, 10%

are employed 25-35 employees , again 10% of the sample companies employed 45-55 employees and the rest 3.33% are employed above 55 number of employees.

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.714
Bartlett's Test of Sphericity	Approx. Chi-Square	154.726
	Degree of Freedom	36
	Significance level	.000

Table 3: Communalities

Statements	Frequency	Percent
The company has got good vendor support in managing Green ERP	20	66.7
The company is maintaining good green supply alignment with the parties involved in the business process of the company	3	10
The top management of the company is exhibiting full commitment in making green ERP practices in the company	1	3.3
The green computing concept is used based on innovative business process by eliminating unwanted data computation practices.	1	3.3
The Competitor advancement and the business solutions to the company are interlinked with green practices	1	3.3
Employees are having good attitude towards the adaption of green ERP practices	1	3.3
The production system of the company is highly flexible that can be able to adapt any kind of innovative methods in it.	1	3.3
The organization is using the Green ERP to ensure eco-sustainability in the society because of eco-consciousness of the consumers.	1	3.3
The most important factor that influence the company for green ERP is government rules and enacted laws	1	3.3
Total	30	100

Table 4: Extraction Method: Principal Component Analysis

	Initial	Extraction
Vendor Support	1.000	.836
Green supply Alignment	1.000	.365
Management commitment	1.000	.732
Green computing	1.000	.378
Competitor advancement	1.000	.742
Employees' attitude	1.000	.754
Flexible manufacturing system	1.000	.709
Consumers eco-consciousness	1.000	.352
Government interventions	1.000	.712

Table 5: Total Variance Explained

Component	Initial Eigen Values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.569	50.669	50.669	4.569	50.669	50.669	3.386	38.065	38.065
2	1.646	17.205	67.874	1.646	17.205	67.874	2.829	29.809	67.874
3	.932	10.244	78.118						
4	.752	8.354	86.472						
5	.476	4.278	90.75						
6	.319	3.643	94.393						
7	.230	2.655	97.048						
8	.177	1.978	99.026						
9	.078	0.974	100						

From this total variance explained. 2 Components Extracted. These results explained that in the midst of various factors listed the following variables show greater importance when compared to other variables

- Internal environment
- External environment

It is also found that the nine variables can be representatives of the two components. The result of the Rotation method using Varimax with Kaiser Normalisation has been exhibited below.

Varimax is performed based upon the Eigen values not less than 1. Only for the first two components the values are 4.569 and 1.646. For any factor, the nine items are listed in assessing the investments of sample book publishing companies in Tamilnadu state. Nomenclature of the factors extracted is given on the basis of highest factor loadings of the variables of a particular factor. Factor – 1 is labeled as Internal environment has been composed of four items dominating the factor such as Management commitment, Green computing, Employees' attitude and Flexible manufacturing system and are accounted for variance of 38.065. Factor – II is dominated by five items such as Vendor support, Green supply alignment, Competitor advancement, Consumer eco-consciousness and Government interventions accounted for 29.809 percent of the variance. This Factor – II is labeled as External environment

Table 6: Rotated Component Matrix- Varimax with Kaiser Normalisation

	Component	
	1	2
Vendor Support	.153	.874
Green supply Alignment	.231	.912
Management commitment	.901	.203
Green computing	.847	.341
Competitor advancement	.251	.871
Employees' attitude	.654	.002
Flexible manufacturing system	.714	.148
Consumers eco-consciousness	-.063	.618
Government interventions	-.079	.914

Table 7: Result of factor analysis

<table>
<tr><th>Factor</th><th>Label</th><th>Item</th><th>Factor loadings</th><th>% of variance</th></tr>
<tr><td rowspan="4">I</td><td rowspan="4">Internal Environment</td><td>Management commitment</td><td>.901</td><td rowspan="4">38.065</td></tr>
<tr><td>Green computing</td><td>.847</td></tr>
<tr><td>Employees' attitude</td><td>.654</td></tr>
<tr><td>Flexible manufacturing system</td><td>.714</td></tr>
<tr><td rowspan="5">II</td><td rowspan="5">External Environment</td><td>Vendor Support</td><td>.874</td><td rowspan="5">29.809</td></tr>
<tr><td>Green supply Alignment</td><td>.912</td></tr>
<tr><td>Competitor advancement</td><td>.871</td></tr>
<tr><td>Consumers eco-consciousness</td><td>.618</td></tr>
<tr><td>Government interventions</td><td>.914</td></tr>
</table>

From the Principal Component Factor Analysis with Rotation Method only two factors are identified.

Factor – I (Internal Environment) the following factors have greater influence on investments made by the book publishing companies towards Green ERP:

- Management commitment
- Green computing
- Employees' attitude
- Flexible manufacturing system

Factor – II (External Environment) the following factors have greater influence on investments made by the book publishing companies towards Green ERP:

- Vendor support
- Green supply alignment
- Competitor advancement
- Consumer eco-consciousness
- Government interventions

6. Conclusion

Despite the regulatory requirements, it is concluded from the findings of the research that many of the companies are tried to reframe their business strategies towards green business and making sustainability processes to get market leading position. From the intelligence of Environment Ministry, many companies are ready to submit their environmental reporting to the public which is showing the following details in it:

- The types of devices installed for pollution control
- Steps taken for energy conservation
- Steps taken for raw material conservation
- Steps taken for waste water and production process waste.
- Steps taken for improvement in production process, quality of product, etc.

International Chamber of Commerce also provides many information to perform Environmental Audit to the companies. These kinds of actions would definitely increase the awareness about Green ERP and it may fix out the responsibilities to the workforce and the top management to rethink their technology mapping towards Green ERP.

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Identifying Interdependence between Returns on Currency Rate (INR/$) and NIFTY50 for Predicting Currency Rate (INR/$) Returns

Abhishek Parikh

Abstract

In present study, researcher tries to identify whether there is simultaneous impact of FII on currency rate and equity market do exist or not. Analysis was performed by using 1125 observation of daily returns for NIFTY50, FII and Currency rate taken from Capital Line and confirmed through NSE for developing model. In present study, proposed model found to be significant predictable for both currency rate and NIFTY50. Result can be used to control currency fluctuation, which is major issue of concern for Indian economy. Result will be helpful in deciding buy/sell strategies to traders of equity market and currency market for earn abnormal returns.

Keywords: *Currency Rate, FII Cash Flow, NIFTY50, Prediction model*

1. Introduction

With recent currency fluctuation in India, Indian stock market has shown much volatility. Government of India and Reserve Bank of India (RBI) usually take corrective steps in terms of budget and policy regarding different financial measure as tool of reducing currency fluctuation. Meanwhile, continuous Foreign Institutional Investment (FII) outflow is an evidence of Indian stock market degradation in recent time. Thus, this whole process created circular effect. Indian rupee depreciated as money goes out and due to depreciation of money economy worsens which result in decline in stock market. Due to decline in market results, attractiveness of capital market to foreign investor has been reducing. Hence, it resulted in more outflow of money due to bad performance of stock market. To stop this vicious circle, and to make market as well as currency rate stabilize, there must be some corrective steps used in budget or policy regarding deciding key rates.

However, when stock market return is concerned, currency fluctuation or FII cash flow need to be discussed and for prediction different time series models are very effective. For predicting such time series data, many researchers have used different econometrics model like AR (autoregressive) model, MA (moving average) model and (ARIMA) (autoregressive integrated moving average) model (Gupta, 2003; Mishra, 2005; Hadi, 2006; Iqbal and Mallikarjunappa, 2007). These all models assumed to be homoscedacity n

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time series data. But in reality such data do not show homoscedacity and hence lead to development of ARCH (autoregressive conditional hetroscedacity) group of model for prediction of such time series data. Most recently, Junare et al. (2013) used combination of ARIMA-GARCH for better prediction of NIFTY50 returns and found that combination works better for prediction of NIFTY50 returns. In same study one period lag shown major impact on the next day returns and hence in current study one lag period selected to predict the NIFTY50. Similarly, for INR/$ currency rate it may equally applicable and so one period lag taken for use of prediction of currency rate in simultaneous prediction of NIFTY50 and currency rate.

It is also assumed by many investors that return on equity market and currency rates had lagged relationship. In fact, many past studies tried to find out causal relationship for currency rates and equity market performance (Chien and Cheng, 2001; Li and Huang, 2009). But in recent time, direction and relational behavior between Indian rupee and NIFTY50 (Indian stock market performance parameter) has captured the attention of many investor. Past literature has indicated contradictory results and directionality of relationship. There may be three possibilities of relation i.e. I) currency depreciation leads to negative returns on market and vice-versa (Li and Huang, 2009) II) negative returns on market leads to currency depreciation and vice-versa (Horobet et al, 2007) and III) both as well.

In present study, researcher tries to explore third possibility using simultaneous equation model to predict currency rate with consideration of interdependent between NIFTY50 and currency rate. For appropriate prediction of model, daily closing data from 1st January, 2009 to 31st August, 2013 were taken for analysis which will help in formation of buy-sell strategy for NIFTY50 and currency rate for creating abnormal returns.

2. Review of Literature

In past literature, many researchers has worked on prediction of equity market using time series analysis to earn higher and abnormal returns on investment using one lag dependence (Gupta, 2003; Mishra, 2005; Hadi, 2006; Iqbal and Mallikarjunappa, 2007). Similarly, Levich and Rizzo (1998) have showed lag dependence of currency rate. However, there were few studies that talk about prediction of equity market using variable that impacts economy like FII.

Recently, significant impact of FII was found by Raman (2012) on Indian equity market. At the same time, Hyuket al (1998) examined the impact of FII on equity returns in Korea for the period starting from November, 1966 to December, 1997 and found no evidence for stable effects of FII on Korean equity. In fact, Eric et al. (2000) examined the investment behavior of market participants in US, Hong Kong, Japan, South Korea and Taiwan. They found the evidence of no impact of FII on equity market in US and Hong Kong. In same line partial impact was found in Japan and as well significant impact was found in South Korea and Taiwan. That clearly shows significant impact of FII were present in developing countries.

Similarly if we talk about currency rate predication, very few studies succeeded to identify variables that have impact on currency rate (EPW research foundation, 1997; 2000). Economic and Political Weekly research foundation (2000) clearly indicated impact of FII cash flow on currency rate. Same study is applicable to India, and according to that currency rate has impact on the performance of equity market. So, prediction of currency rate may depend on performance of Indian equity market and vice versa. The result of various studies evidenced impact of currency on equity returns (Bahmani-Oskooee and Sohrabian's, 1992; Chien and Cheng, 2001, 2001; Li and Huang, 2009). On the other hand, possibility of impact of equity returns on currency rates has been evidenced in past studies (Aggrawal, 1981; Roll, 1992; Horobet et al, 2007).

Thus, research on showing dependence of index returns and currency returns on each other was evidence (Bahmani & Sohrabian, 1992; Aggarwal, 1981; Aguirre et al., 2005; Griffin et al., 2004). This interdependence leads to more fluctuation of currency rate during volatile market performance. Hence, in current research using FII and interdependence between market performance & currency change author tried to develop model that may help for prediction of currency rate in Indian context.

In present study, instead of considering directional causality it is assumed that currency rate and stock returns interdependent to each other with single lag relationship. Based on that assumption, model of prediction for both was proposed and developed using two stages least square method in next section.

3. Objectives of the Study

- Developing prediction model for the currency rate (INR/$) on daily basis

Sub Objectives are

- To understand relational behavior between currency exchange rate (INR/$) and NIFTY50
- To develop predicting model for the NIFTY50 on daily basis
- To understand predictability of NIFTY50 and currency exchange rate (INR/$) based on time series data.

4 Research Methodology

4.1 Source of Data

To fulfill the objective of study, NIFTY50, currency exchange rate (INR/$) and FII (Florien Institutional Investor) Cash Flow daily closing data from 1st January, 2009 to 31st August, 2013 were taken for analysis from the capital line and confirm through NSE website. Total 1125 observations were taken out on daily basis for the analysis based on trading days on NSE. Reason for selection of data from 2009 to 2013 is major crash in 2008 may have changed some relation between currency and equity market returns and hence data from 2009 may give true picture of current scenario. Again, NSE (National Stock Exchange) is considered as number one stock exchange with highest volume in Indian equity market. NIFTY50 index is taken in to consideration as indicator of Indian equity market performance. 50 stock comprised in NIFTY50 index also counted for more than 70 per cent market capitalization and hence may used for generalization of the study (www.nseindia.com, as on 14thOctober, 2013).

4.2 Rational of the Study

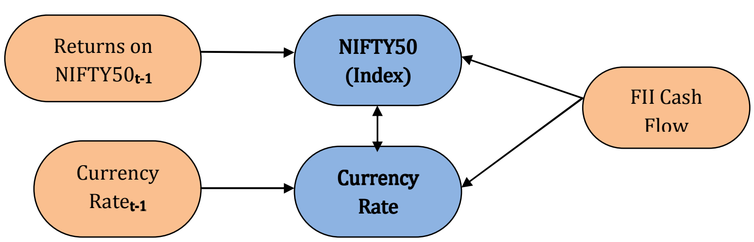
Recently, major fluctuation in currency rate become major concern for Indian economy and hence for the government. Predictive model for currency rate help them to design policy that may reduce volatility in currency market and give stable economy to country. This prediction can be useful for mutual fund managers and traders to take advantage of earning abnormal returns through knowledge of daily FII cash flow and NIFTY50 closing in market.

On the other side, mutual fund player have failed to achieve benchmarking returns for their portfolio. Hence the need arise to predict the NIFTY50 returns for next day based on which one can decide trading strategy for buy or sell NIFTY50. This prediction can be useful for mutual fund managers and traders to take advantage of earning abnormal returns through knowledge of daily FII cash flow and currency rate in market.

4.3 Methodology Used

In present study, main attempt was to find out particular model of prediction of currency rates based on equity market returns (NIFTY50 returns) and FII cash flow. Using simultaneous equation model, researcher tries to establish simultaneous equation model of prediction for both currency exchange rate (INR/$) as well as NIFTY50. Figure I indicates proposed model for interdependence between Index and currency rate in India.

Figure 1: Proposed Model



$$\boldsymbol{CR = \beta_0 + \beta_1 FII + \beta_2 I + \beta_3 CR_{(t-1)} + u_{1t}} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (\mathbf{1})$$
$$\boldsymbol{I = \alpha_0 + \alpha_1 FII + \alpha_2 CR + \alpha_3 IR_{(t-1)} + u_{2t}} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (\mathbf{2})$$

Where,

CR = Currency Exchange Rate (INR/$)

FII = Foreign Institutional Investment (in Crore Rs.)

I = NIFTY50 (Index Value)

CR_{t-1} = Previous Currency Exchange Rate (INR/$)
IR_{t-1} = Previous NIFTY50 (Index) return (in percent)
u_{1t}, u_{2t} = Residual for Currency Exchange Rate and NIFTY50 (Index Value) respectively

In current study, Currency rate and Index value are endogenous variables, while remaining variables are predetermined variable. FII was considered as exogenous variable, which may function of budget by Government of India and RBI policy that makes economy attractive for investment. First lag of currency rate and Index returns are lag of endogenous variables.

To confirm whether current model exists or not, following step are required to perform:
Step I: To check whether given equation was under identify, just identify or over identify it was required to solve Identification Problem (through Order and Rank condition).
Step II: To check variable as endogenous Hausman Specification Test (Test for erogeneity) was required to perform.
Step III: Using Two Stage Least Square (TSLS) method estimate the NIFTY50 Index value and currency rate for next day.

4.4 Identification Problem

4.4.1 Order Condition of Identifiability (necessary but not sufficient condition)

"In the model of M simultaneous equation, to identify an order for equation, it must exclude at least M-1 variables (endogenous as well as predetermined) appearing in the model. If it excludes exactly M-1 variables, the equation is just identified. If it exclude more than M-1 variables, it is over identified" (Gujarati, Porter and Gunasekar, 2009).

In current model, Currency rate and NIFTY50 are endogenous variables. FII net cash flow, Currency rate (t-1) and Returns on NIFTY50 (t-1) are predetermined variables. Equation 1 excludes exactly one variable NIFTY50 Index value (t-1) and hence just identified. Similarly, equation 2 also excludes exactly one variable Currency rate (t-1) and hence just identified.

4.4.2 Rank Condition of Identifiability (necessary and sufficient condition)

Table 1: Rank condition of Identification

Equation	Coefficients of the Variables					
	Const	I	CR	FII	IR (t-1)	CR (t-1)
CR (2)	$-\beta_0$	$-\beta_2$	1	$-\beta_1$	0	$-\beta_3$
I (1)	$-\alpha_0$	1	$-\alpha_2$	$-\alpha_1$	$-\alpha_3$	0

Note*: bold value is creating matrix of (M-1) * (M-1) = 1*1, where nonzero*

"In a model containing M equation in M endogenous variables, an equation is identified if and only if at least one nonzero determinant of order (M-1)* (M-1) can be constructed from the coefficients of the variables (both endogenous and predetermined) excluded from that particular equation but included in the other equations of the model" (Gujarati, Porter and Gunasekar, 2009).

Since the determinant as per Table I for the both equation is nonzero, thus equation satisfy rank condition and hence is identified.

4.4.3 Test of Simultaneity (Hausman Specification Test)

To check the simultaneity, following reduced form of equation obtained from equation 1 and 2:

Reduced form of equation;

$CR = \xi_0 + \xi_1 FII + \xi_2 IR_{(t-1)} + \xi_3 CR_{(t-1)} + v_{1t}$ ……………………………… (3)

$I = \pi_0 + \pi_1 FII + \pi_2 CR_{(t-1)} + \pi_3 IR_{(t-1)} + v_{2t}$ …………… …………… (4)

Where,

v_{1t}, v_{2t} = Residual for reduced form equation of Currency rate and NIFTY50 respectively

Estimation was done through Ordinary Least Square (OLS) method for equation 4 and from that we get predicted value for I (PI) and error term (RI) for the same as follow:

$PI\ 4386.78 + 0.1728FII\ 14.66CR_{(t-1)}\ 42.23IR_{(t-1)}$ ………………… . (5)

$RI\ \ I - PI$ ……………………………………………………………………… . (6)

These values in equation 5 and equation 6 were required to regress for currency rate prediction based on original equation given at 1 and from that we get result as follow:

$CR = \beta_0 + \beta_1 FII + \beta_2 PI + \beta_2 RI + \beta_3 CR_{(t-1)} + u_{1t}$ …………………………… . ……………… (7)

Estimation was done through Ordinary Least Square (OLS) method for equation 7 and from that we get

$CR = 0.1309 - 0.00008FII - 0.00005PI + 0.00002RI + 1.0037CR_{(t-1)} + u_{1t}$ … (8)

S.E	0.3882	0.00001	0.00007	0.00001	0.0026
t-value	0.3759	-6.9128	-0.7080	1.6891	384.87
p-value	0.70	0.0000	0.47	0.0936*	0.0000

Solution of equation 7 (shown as equation 8) confirms that coefficient of PI and RI were not same, at the same time coefficient of RI* was statistically significant ($p<0.1$) and hence there is a problem of simultaneity. In other words, Index (I) is endogenous variable. Same results are required to check for currency rate (CR).

For that equation 3 estimation, values are predicted for CR (PCR) and error term (RCR) through Ordinary Least Square (OLS) method is as follow:

$PCR = -0.1184 - 0.00006FII - 0.0760IR_{(t-1)} + 1.0032CR_{(t-1)}$ ………… (9)

$RCR = CR - PCR$ ………………………………………………………………………… . (10)

These values in equation 9 and equation 10 were required to regress for I prediction based on original equation given at 2 and we get result as follow:

$I = \alpha_0 + \alpha_1 FII + \alpha_2 PCR + \alpha_2 RCR + \alpha_3 IR_{(t-1)} + u_{2t}$ ………………………………… . . … (11)

Estimation was done through Ordinary Least Square (OLS) method for equation 11 and from that we get

$$I = 4404.55 + 0.1735FII + 15.83PCR + 14.28RCR - 41.08IR_{(t-1)}\ u_{2t} \ldots\ldots (12)$$

S.E	250.16	0.0242	65.5757	4.9913	16.3661
t-value	17.61	7.16	0.2414	2.86	-2.51
p-value	0.0000	0.0000	0.8093	0.0043*	0.0000

Solution of equation 11 (shown as equation 12) using OLS confirms that coefficient of PCR and RCR were not come same at the same time coefficient of RCR* was statistically significant ($p<0.01$) and hence there is problem of simultaneity. In other words, currency rate was also considered to be endogenous variable. Thus, model under consideration showing problem of simultaneity and that's why simultaneity equation model (with the help of TSLS method) is used for estimation of NIFTY50 and currency rate in next section.

5. Data Analysis and Interpretation

Using OLS method following output is obtained for equation 3 and 4:

Reduced form:

$$CR = -0.1184 - 0.00006FII - 0.0760IR_{(t-1)} + 1.0032CR_{(t-1)} + v_{1t} \ldots\ldots (13)$$

S.E	0.114	0.00005	0.0074	0.0022
t-value	-1.04	-5.03	-10.18	439.22
p-value	0.3008	0.0000*	0.0000*	0.0000*

($F = 64622$; $p = 0.0000^*$; $R^2 = 99.42$ per cent)

$$I = 4386.78 + 0.1727FII + 14.66CR_{(t-1)} - 42.23IR_{(t-1)} + v_{2t} \ldots\ldots\ldots (14)$$

S.E	250.44	0.0241	5.0126	16.33
t-value	17.52	7.16	2.93	-2.59
p-value	0.0000*	0.0000*	0.0035*	0.0098*

($F = 19.34$; $p = 0.0000^*$; $R^2 = 4.93$ per cent)

These reduced form equations 13 and 14 gives least squared error for particular equation and hence overall structure under consideration may not with least square error. Secondly, reduced form equation gives significant model ($p<0.01$) with 99.42 and 4.93 per cent variance explanation for currency rate and Nifty50 respectively. But, use of OLS may create problem of simultaneity and do not give true prediction. Thus, using TSLS method following final structure is identified and then interpreted based on output of E-views, which confirms least square error for the structure under consideration hence for overall equation.

Final form of model under consideration:

$$CR = -8.0072 - 0.0004FII + 0.0018I + 0.9768CR_{(t-1)} + u_{1t} \ldots\ldots\ldots\ldots (11)$$

S.E	3.18	0.0001	0.0007	0.0138
t-value	-2.52	-3.07	2.52	70.74
p-value	0.0120*	0.0022*	0.0120*	0.0000*

($F = 3943$; $p = 0.0000^*$; $R^2 = 90.58$ per cent)

From the result it is confirmed that model is significant and all the variables under consideration were significant ($p<0.05$). But FII showed even with negative sign actually showing positive impact on currency rate. Result clearly indicating that net positive FII cash flow leads to decrease in currency rate and hence appreciation of Indian currency. At the same time, higher the equity market value higher the currency rate and hence depreciation in Indian currency. Result shows that last day closing of currency rate decide next day currency rate and hence higher the last day closing higher the next day value. In short, result indicating positive impact of FII and negative impact of Index value and last day currency rate on next day currency rate.

$$I = 4388.52 + 0.1736FII + 14.61CR - 41.13IR_{(t-1)} + u_{2t} \dots\dots\dots \dots (12)$$

S.E	249.83	0.0241	4.99	16.32
t-value	17.57	7.19	2.93	-2.51
p-value	0.0000*	0.0000*	0.0035*	0.0119*

(F = 19.35; p = 0.0000*; R^2 =4.94 per cent)

Result of equation confirms that model is significant and all the variables under consideration found to be significant (p<0.05). However, FII cash flow shows positive impact on Index which suggest that if one can prepare a policy in such a way that attracts FII it easily helps in getting better performance of Index. And at the same time currency rate also affects on final outcome of Index. Basically, currency rate directly impacting on Index as depreciation on any currency results in bad performance of economy and vice versa. However, last day returns impact negatively on next day's performance of Index.

Overall model under consideration showing that equation for currency rate and NIFTY50 estimation were statistically significant (p<0.01) and explain 90.58 per cent variance and 4.94per cent variance respectively. Again, overall model for currency rate and NIFTY50 as jointly endogenous prediction model provides better understanding about impact of FII on currency and Index performance. Result clearly indicates that when there is huge FII inflow occurs currency is appreciated and NIFTY50 also increase in value. Hence, Net FII cash Inflow if positive suggest buying opportunity (for index as well as local currency i.e. INR) and Net FII cash outflow suggest selling opportunity to traders and investors to creating abnormal returns.

6. Implications and Limitations of the study

In present study, researchers attempted to propose a model that helps to understand the simultaneous movement of Currency rate and NIFTY50. At the same time, researchers humble try to justify effect of FII on both with their respective lag dependence. Overall proposed model was found to be significant and hence it helps for predicting both Currency rate and NIFTY50. Prediction of currency rate helps policy makers to take appropriate steps in advance to prevent major fluctuation in currency rate. And prediction of NIFTY50 helps trader to decide their buy/sell position. Present model provides accurate prediction of Currency rate and NIFTY50. It is also clearly depicted from Figure II and III. Other major findings and implications of the study are as follow:

- By Using simultaneous equation model, it was found that FII cash flow and NIFTY50 returns significantly impacts on currency rates. Hence using market return and FII cash flow one can predict currency rate for the next day.
- By using simultaneous equation model, it was found that FII cash flow and currency rate significantly have impact on NIFTY50. Hence using currency rate in market and FII cash flow one can predict NIFTY50 for the next day.
- Model will help government in deciding policy decision, which may control FII cash flow and hence currency rate and equity market fluctuation.
- Model will also help trader to predict and trade on currency as well as NIFTY50 using FII data for making abnormal profits.

Figure 2: Actual, Predicted and Residual Value for Currency rate

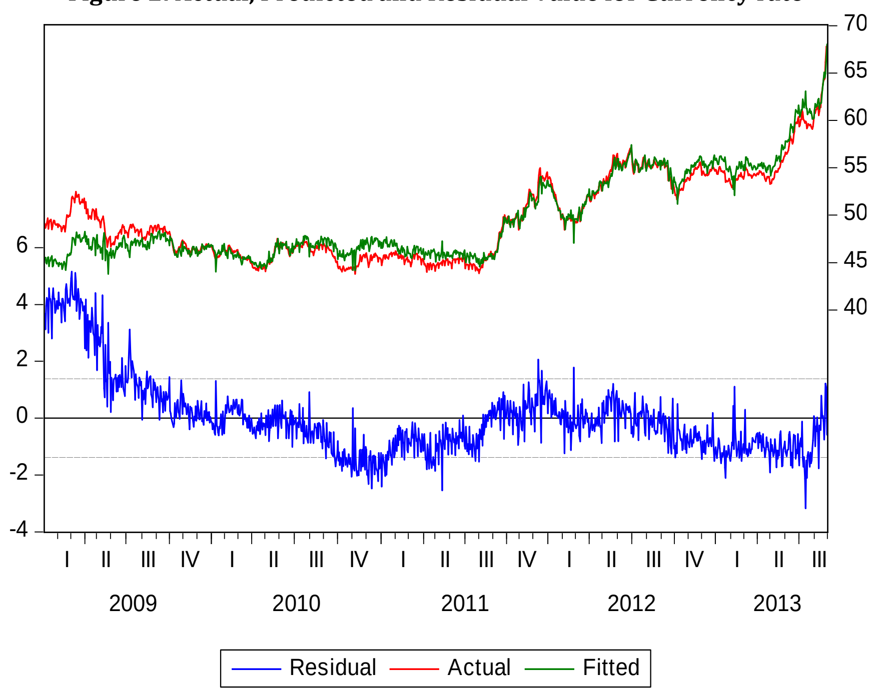
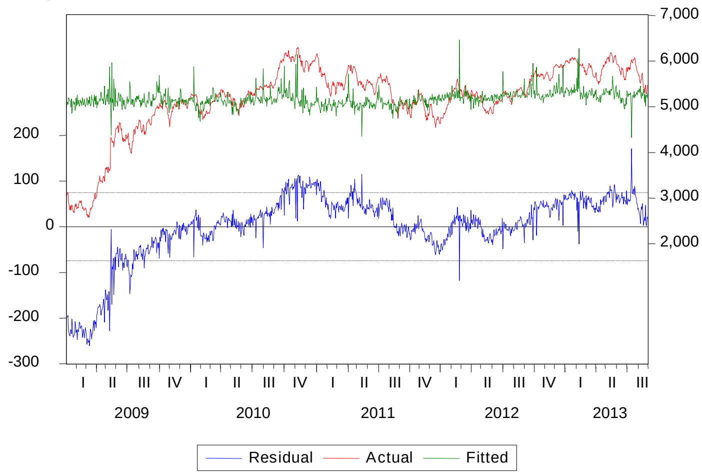


Figure II shows that predicted and actual values are perfectly match for currency rate. At the same time, residual values for the prediction of currency rate are very near to zero.

Figure III also shows that predicted and actual values are perfectly matched for Nifty50. At the same time, residual values for the prediction of Nifty50 are very small in value.

Figure 3: Actual, Predicted and Residual Value for NIFTY50



However, no study is possible without any limitations and thus current study also has following limitations:

- Data taken from only 1st January, 2009 to 31st August, 2013 due to consideration of post crisis scenario and hence may have own limitations about time line selection.
- Data available only for week days and no trading occurs on NSE for weed ends. That leads to week end effect on the NIFTY50 that is not possible to cover in the study due to model selection.
- There was only 4.94 variance explained for NIFTY50, Which is too small to get accurate prediction value, hence one can include more exogenous variable that helps in more better prediction of NIFTY50.

7. Conclusion

In present study, we proposed a model for NIFTY50 and currency rate estimation using Net FII cash flow in Indian economy. Study findings show the model fitted information; provide parameter estimation, diagnostic checking procedure, and prediction of currency rate and NIFTY50 data obtained from NSE website, and also regression is done through Net FII cash flows (data obtained from capital line). Using TSLS method of simultaneous equation modeling, model under consideration is solved and found to be significant. Result of current study clearly provides an evidence of impact of FII cash flow on currency rate and NIFTY50. Result also indicates predictability of currency rate and NIFTY50 with knowledge of FII cash flow is possible. Hence using FII data one can decide trading strategy for generating abnormal returns through trading in currency rate or NIFTY50.

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Measurement of efficiency of hospital care in terms of Patients' Health Expenses

Anirban Majumdar and Ranajit Chakraborty

1. Introduction

In the globalized and liberalized India, it has been observed that there is a rapid growth in healthcare with the increase of private participation (Shah and Mohanty, 2010). Private healthcare providers put much importance on the quality of healthcare services in order to ensure patients' satisfaction (Shabbir et.al. 2010). Private hospitals, as they are not subsidized, have to depend on income from their clients and ensure the satisfaction of their clients by providing superior quality of health care (Andaleeb et. al. 2007). The privatization of healthcare sector and the continual augmentation of quality of the service cause the rise of healthcare expenditure which has become a financial burden for Indian households (Wagstaff et.al.2003, Xu et.al.2005, Van Doorslaer et.al.2006, Berman et.al, 2010). The experience of rising health expenses has led to a serious repercussions among Indian households (Wagstaff, and Van Doorslaer 2003, Xu et.al. 2005, Van Doorslaer et.al. 2006). Most of the Indian households attain fund to finance their health expenses by selling or mortgaging their assets or borrowing money from money lenders (Sauerborn et. al.1996, Kabir et.al., 2000, Russell S. ,2005).

The efficiency of healthcare service which is an important issue related to service quality has been measured on the basis of cost effectiveness. The efficiency of health care service will be higher if the service is provided in least cost (Peacock et.al. 2001, Garber and Skinner 2008, Cromwell et.al.2011). Therefore, it is important to understand how Efficiency of Hospitals in terms of Patients' Health Expenses has been determined.

2. Literature Review

Peacock et.al. (2001) explained three concepts of efficiency - 1) productive efficiency, technical efficiency and allocative efficiency. As per their definition, technical efficiency refers to the measurement of cost effectiveness of healthcare service. Cost effectiveness of healthcare refers to the delivery of an effective service in least cost.

Garber and Skinner (2008) opined that the productive efficiency of healthcare can be increased by establishing the simultaneous improvement of quality of healthcare and reduction of cost as well.

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Edwards et.al . (2011), established the concept of triple aim for the enhancement of the efficiency of hospitals in terms of patients' value for money. As per the triple aim concepts there are three initiatives viz. improvement of health of the population, enhancement of patients' understanding of care in terms of quality, reliability and access and minimization or controlling of per capita cost of care (Edwards et. al., 2011)

Cromwell and his coworkers (2011), illustrated that the cost of treatment is a basis on which the efficiency of hospitals can be determined. They defined efficiency of healthcare in terms of the ratio of healthcare outputs and resource inputs. Healthcare outputs refers to the healthcare service or health outcome and resource inputs comprises of physical efforts viz. nursing days and financial efforts viz. cost (Cromwell et. al., 2011).

Thomas (2006) determined an indicator of hospital efficiency on the basis of some issues viz. hospital stay,events of care, early readmission rate, hospital payment and cohort-based longitudinal patient–level indicators.

Gregory and Kautter (2007), suggested a process of population based efficiency measurement by calculating the ratio of actual per-capita expenditure and predicted per-capita expenditure. The ratio is known as efficiency index. The efficiency index determines the efficiency of physicians' organization (PO) in terms of per-capita expenditure.

$$Efficiency\ Index = \frac{Actual\ Per-capita\ Expenditure}{\Pr edicted\ Per-capita\ Expenditure}$$

When the value of Efficiency index is one, then PO is neither efficient nor inefficient. When it is less than one, it indicates the actual per-capita expenditure is less than the predicted one and thereby the PO is efficient. PO is inefficient when the value of index is more than one (Thomas et.al., 2004).

The efficiency of hospitals in terms of patients' health expenditure (EHPHE) is another aspect to realize the satisfaction of patients.

3. Objectives of the Study

The discussion in the above section of literature review has pointed out that it is important to consider both the quality improvement of healthcare and reduction of actual expenses of patients with the respect of their expected expenses so that the satisfaction of patients is assured. Therefore, it has become necessary to measure both the patient satisfaction and EHPHE. The objectives of the study are

- To measure the satisfaction of patient based on the gap between their expectation and perception towards the quality of health service.
- To measure EHPHE considering the gap between the expected and actual health expenses of patient in a hospital
- To measure the relation between EHPHE and patient satisfaction

4. Research Methodology

Data Collection

In this study, primary data regarding patients' expectation and perception towards the quality of healthcare and patients' estimated and actual expenses have been collected on the basis of questionnaire survey with patient and patient party. The perception and expectation scores of patients have been obtained on the basis of Likert pattern scale considering the agreeableness of respondents against twenty two quality features of healthcare service provided by different government and private hospitals in West Bengal. The following table (Table – 1) shows the twenty two quality features of healthcare service.

Table 1: Statements Describing Features of the Quality Health Care Service Provided by an Ideal Hospital

1)	Doctors should have a wide spectrum of knowledge and should be competent
2)	Doctors should understand the specific need of patients
3)	Doctors can put sincere effort to solve patients' problems
4)	Doctors can explain thoroughly the patient's medical condition to him.
5)	Doctors and staff should provide individualized attention to each patient
6)	Patients should be treated with dignity and respect
7)	Patients can feel secure in receiving medical care.
8)	Doctors and staffs should have patient's best interests at heart
9)	Doctors and staffs should listen to patients and keep them informed
10)	Hospital staffs should always be willing to help patients
11)	Doctors and staff should be friendly and courteous
12)	Attitude and behaviour of doctors and staff should instill confidence in patients
13)	Prompt service can be provided to patients
14)	Error free documentation can be available.
15)	Services can be provided at required time.
16)	24 hours service to patients can be available
17)	Services should be carried out right at the first time
18)	The hospital's equipment should keep up-to-date and well maintained
19)	Clean, comfortable and visually attractive environment should be there in an hospital or clinic
20)	High standard of hygiene practices should always be maintained
21)	Meals should be tasty and adapted to patients' nutritious needs
22)	The hospital can be easily accessible (e.g. parking facilities, Signage)

Another set of questions have been framed to obtain data related to general information viz. patients' age, occupation, family income, expected health expenses before or two days after admission in a hospital, actual health expenses at the time of discharge from a hospital, hospital stay, travelling time from residence to hospitals, waiting time at hospitals etc. An area sampling technique has been applied to select 474 respondents on random basis from three region of West Bengal viz. Kolkata Metropolitan Area, the districts of North Bengal and South Bengal.

Data Analysis & discussions

Firstly, a factor analysis has been conducted to reduce number of twenty two components on the basis of perception score of patients. Secondly, a standard quality of healthcare service has been defined on the basis of average expected and perceived quality of patients towards healthcare service i.e. (Perceived quality + Expected quality)/2. Then patient satisfaction has been measured on the basis of a ratio of the difference of perceived and expected quality of individual patient and the standard quality i.e.

$$\text{Patient Satisfaction} = \frac{(\text{Perceived quality} - \text{Expected quality})}{(\text{Perceived quality} + \text{Expected quality})/2}$$

Patients are considered to be dissatisfied when the ratio has a value which is less than zero. When the value of the ratio is greater than zero it indicates patients' satisfaction.

In the third step of data analysis, the efficiency of hospitals in terms patients' health expenses (EHPHE) has been measured on the basis of the following method.

1) Determination of the standard health expenditure for individual patient by taking the average of the expected and actual expenditure for each individual patient i.e. (Expected Health Expenses + Actual Health Expenses)/2.
2) Calculation of the difference between expected and actual health expenses i.e. (Expected expenses – Actual expenses)
3) Determination of efficiency of hospitals by applying the following formula:

$$EHPHE = \frac{2\sum(Expected\ \text{exp}enses - Actual\ \text{exp}enses)}{\sum(Expected\ \text{exp}enses + Actual\ \text{exp}enses)}$$

Performance of a hospital is considered to be efficient when the value of EHPHE is either zero or more than zero. With the increase of the value of EHPHE, the efficiency of hospitals will also be increasing. A negative value of EHPHE indicates the inefficiency of hospitals.

A binary logistic regression model has been applied to determine the dependence of patient satisfaction on EHPHE scores by applying the following formula.

$$\mathbf{Y = \ln (p/1 - p) = a + b\,X}$$

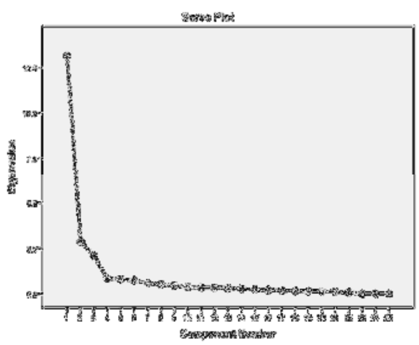
Where Y is binary number and represent the event of interest (response), coded as 0/1 for dissatisfaction/satisfaction, p is the proportion of satisfaction. 'X' is the independent variables and 'a' is an intercept and 'b' is a slope coefficient (i.e., the expected change in Y relative to one unit change in X). In this study, the patient satisfaction is a dependent variable and EHPHE is an independent variable.

Determination of dimensions of service quality

In the first step of data analysis, patients' perception scores have been considered for factor analysis in order to understand whether there is any inter correlation between twenty two parameters. The inter-correlated parameters can be reduced into a few numbers of factors which provide dimensions of service quality.

As per the scree plot in Figure – 1, there are three factors having Eigen value more than one. Three factors whose Eigen value is more than one have been considered for determining three dimensions.

Figure 1: Scree Plot based on Perception Scores



In a rotated component matrix the correlation between factors and different components has been presented. The Table –1 shows a rotated component matrix with three principal factors.

Table 1: Rotated Component Matrix

	Component		
	1	2	3
1.Doctors' wide spectrum knowledge and Competence	.236	.103	.858
2.Doctors' understanding of specific need of patients	.391	.145	.833
3.Doctors' sincere effort to solve patients' problems	.565	.193	.672
4.Doctors' thorough explanation regarding patients' medical condition	.450	.176	.631
5.Provision for individualized attention for each patient	.700	.239	.442
6.Patient treated with dignity and respect	.746	.263	.374
7.Patient's security and safety in receiving medical care	.717	.223	.338
8.Doctors and staff having patients' best interest at heart	.753	.252	.366
9. Willingness and interest of doctors and staff to listen to the patients and keep them informed	.826	.239	.235
10.Willingness to hospital staff to help patients	.839	.289	.119
11.Friendly and courteous behaviour of doctors and staff	.822	.323	.163

12.Attitude of doctors and staff instilling confidence in patients	.430	.152	.176
13.Prompt service to patients	.735	.328	.194
14.Error free documentation	.562	.181	.389
15.Providing services at required time	.372	.142	.257
16. 24 hours service to patients	.699	.163	.243
17. Providing services right at the first time	.744	.275	.263
18. Maintenance of hospital's equipment	.504	.541	.287
19. Clean, comfortable and visually attractive environment of hospitals	.339	.858	.126
20. Maintenance of high standard of hygiene	.289	.869	.164
21. Tasty meals as per patients' need	.327	.775	.215
22. Accessibility of the hospital (parking facility, signage etc.)	.207	.740	.034

As per the above rotated matrix shows high correlation amongst the parameters viz. provision for individualized attention for each patient, patients treated with dignity and respect, patients' security and safety in receiving medical care, doctors and staff having patients' best interest at heart, willingness and interest of doctors and staff to listen to the patients and keep them informed, willingness of hospital staff to help patients, friendly and courteous behaviour of doctors and staff , attitude of doctors and staff instilling confidence in patients, prompt services to patients, error free documentation, providing services at required time, 24 hours service to patients and providing services right at the first time which are grouped together to form Factor – I. Similarly, the Factor – II includes the parameters viz. maintenance of hospital equipment, clean, comfortable and visually attractive environment of the hospital, maintenance of high standard of hygiene, tasty meals as per patients' need, accessibility of the hospital (e.g. parking facility, signage etc.) as those parameters show high correlation amongst each other and the Factor – III includes the parameters viz. doctors' wide spectrum of knowledge and competence, doctors' understanding of specific need of patients, doctor's sincere effort to solve patients' problems and doctors' thorough explanation regarding patients' medical condition.

As per the theory of marketing these three factors are having certain resemblance with the three Ps of service marketing viz. physical evidence, people and process(Lovelock et. al. 2008, Ergen 2011, Mihai 2013, Masterson and Pickton 2014). The components of Factor – I have some resemblance with the process whereas Factor – II and Factor – III consists of some components which represents physical evidence and people. Therefore, the above-mentioned three factors have been identified by three dimensions viz. Process, Physical evidence and People.

As per the result presented in Table – 2 the value of KMO is 0.952 which indicates the sample is adequate to conduct factor analysis. A Bartlett's test of sphericity shows the high inter-correlation amongst the parameters. Therefore, an inference can be drawn that there is a significant inter-correlation amongst twenty two parameters of SERVQUAL. The total variance is explained in Rotation Sum of Square Loading is 75.33 %.

Table 2: KMO and Bartlett's Test-II

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.952
Bartlett's Test of Sphericity	Approx. Chi-Square	9288.003
	df	231
	Sig.	.000

In the next step of the study, Patient satisfaction has been measured on the basis of the formula given in the section of data analysis at research methodology. it has been observed that most of the patients are dissatisfied with the healthcare service in West Bengal considering all dimensions viz. Process, People and Physical evidence. The data regarding satisfaction and dissatisfaction has been presented in Table – 3.

Table 3: Category of patients based on their satisfaction with healthcare service in West Bengal

Dimensions	Satisfied patients	Dissatisfied patients	Total
Process	66	408	474
People	88	386	474
Physical Evidence	40	434	474
Overall	51	423	474

From the above table (Table – 3), it can be interpreted that patients can be categorized into two distinct classes based on their satisfaction towards service quality. These are satisfied patients and dissatisfied patients.

Measurement of the Impact of EHPHE on Patient Satisfaction

In the next step of analysis the impact of EHPHE on satisfaction has been determined by applying binary logistic regression considering the above-mentioned two categories of patients. Satisfied patients are denoted by 1 whereas dissatisfied patients are denoted by 0. Therefore, we can say that patient satisfaction, the dependent variable is expressed in binary number. EHPHE has been considered as an independent variable on which patient satisfaction depends. The result of logistic regression has been presented in Table – 4, Table – 5, Table – 6 and Table – 7. Table – 4 shows the P value corresponding to the efficiency of hospitals in terms of patients' expenses is less than 0.05. Therefore, it can be interpreted that patient satisfaction with process in both the private and government hospitals together is significantly dependent on efficiency of hospitals in terms of patients' health expenses. It has also been observed that there is a positive relation between patient satisfaction with process and the efficiency of hospitals.

Table 4: Variables in the regression equation for patient satisfaction with process

Dependent Variable :Patient Satisfaction with Process		B	S.E.	df	Sig.	Exp(B)
	EHPHE	1.868	0.349	1	0	6.475
	Constant	-1.622	0.14	1	0	0.198

Similarly, results of the association between patient satisfaction with people and efficiency, patient satisfaction with physical evidence and efficiency, overall satisfaction and efficiency have been presented in the Table – 5, Table – 6 and Table – 7 respectively.

Table 5: Variables in the regression equation for patient satisfaction with people

Dependent Variable :Patient Satisfaction with People		B	S.E.	Sig.	Exp(B)
	EHPHE	1.589	0.31	0	4.9
	Constant	-1.229	0.13	0	0.293

Table 6: Variables in the regression equation for patient satisfaction with physical evidence

Dependent Variable : Patient Satisfaction with Physical Evidence		B	S.E.	df	Sig.	Exp(B)
	EHPHE	2.135	0.42	1	0	8.461
	Constant	-2.196	0.17	1	0	0.111

Table 7: Variables in the regression equation for patient satisfaction with overall services

Dependent Variable :Patient Satisfaction with Overall Services		B	S.E.	df	Sig.	Exp(B)
	EHPHE	1.698	0.37	1	0	5.464
	Constant	-1.904	0.15	1	0	0.149

In all the above tables the P values corresponding to EHPHE indicate that patient satisfaction with people, physical evidence and overall satisfaction have significant dependence on efficiency of hospitals in terms of patients' health expenses. In each case patient satisfaction has positive relation with efficiency of hospitals in terms of patients' health expenses. It interprets that patient satisfaction considering all the three dimensions i.e. process, people and physical evidence will be increasing with the increase of the efficiency of hospitals in terms of patients' health expenses (EHPHE).

Determination of impact of EHPHE in government hospitals

In the third step of analysis the hospitals of West Bengal has been classified broadly two categories on the basis of ownership. These two categories are government hospitals and private hospitals. In both categories of hospitals patient satisfaction and EHPHE scores have been determined with help of same process that has been mentioned in the research methodology section. The results related to EHPHE of government hospitals and its effect on patient satisfaction with process, people, physical evidence and overall satisfaction has been presented in the Table – 8, Table – 9, Table – 10 and Table – 11 respectively.

Table 8: Variables in the Regression Equation for Patient Satisfaction with Process in Government Hospitals

Dependent Variable : Patient Satisfaction with Process		B	S.E.	df	Sig.	Exp(B)
	EHPHE in Government Hospitals	1.748	0.44	1	0	5.742
	Constant	-1.786	0.2	1	0	0.168

Table 9: Variables in the Regression Equation for Patient Satisfaction with People in Government Hospitals

Dependent Variable : Patient Satisfaction with People		B	S.E.	df	Sig.	Exp(B)
	EHPHE in Government Hospitals	1.322	0.39	1	0.001	3.752
	Constant	-1.528	0.19	1	0	0.217

Table 10: Variables in the Regression Equation for patient Satisfaction with Physical Evidence

Dependent Variable : Patient Satisfaction with Physical Evidence		B	S.E.	df	Sig.	Exp(B)
	EHPHE in Government Hospital	2.592	0.624	1	0	13.354
	Constant	-2.66	0.306	1	0	0.07

Table 11: Variables in the Regression Equation for Overall Patient Satisfaction in Government Hospitals

		B	S.E.		df	Sig.	Exp(B)
	EHPHE in Government Hospitals	1.503	0.512		1	0.003	4.494
	Constant	-2.318	0.245		1	0	0.098

In Table – 8, it has been observed that the patient satisfaction with process depends on EHPHE and there is positive relation between efficiency of hospitals and patient satisfaction with process of health care service. Similarly, the result of Table – 9 and Table – 10 has established high positive impact of EHPHE on patient satisfaction with people and physical evidence respectively. The result of Table – 11 has also established that the overall satisfaction of patients significantly depends on EHPHE and there is positive relation between these two variables.

Determination of Impact of EHPHE in Private Hospitals:

The impact of EHPHE on patient satisfaction has been measured by applying the same method of logistic regression mentioned in the last two sections. The result of regression analysis has been presented in the Table – 12, Table – 13, Table – 14 and Table – 15.

Table 12: Variables in the Regression Equation for Patient Satisfaction with Process in Private Hospitals

Dependent Variable: Patient Satisfaction with Process		B	S.E.	df	Sig.	Exp(B)
	EHPHE in Private Hospitals	2.316	0.637	1	0	10.139
	Constant	-1.417	0.2	1	0	0.242

Table 13: Variables in the Regression Equation for Patient Satisfaction with People in Private Hospitals

Dependent Variable : Patient Satisfaction with People		B	S.E.	df	Sig.	Exp(B)
	EHPHE in Private Hospitals	2.34	0.563	1	0	10.384
	Constant	-0.872	0.178	1	0	0.418

Table 14: Variables in the Regression Equation for Patient Satisfaction with Physical Evidence in Private Hospitals

Dependent Variable : Patient Satisfaction with Physical Evidence		B	S.E.	df	Sig.	Exp(B)
	EHPHE in Private Hospitals	2.087	0.676	1	0.002	8.059
	Constant	-1.862	0.227	1	0	0.155

Table 15: Variables in the Regression Equation for Overall Patient Satisfaction in Private Hospitals

Dependent Variable : Patient Satisfaction with Overall Services		B	S.E.	df	Sig.	Exp(B)
	Efficiency in Private Hospitals	2.474	0.668	1	0	11.864
	Constant	-1.483	0.204	1	0	0.227

In all the above tables (Table – 12, Table – 13, Table – 14 and Table – 15), it has been observed that there is significant positive impact of EHPHE on overall patient satisfaction and on patient satisfaction with process, people and physical evidence in private hospitals in West Bengal.

Effect of hospital stay of a patient on EHPHE

As per the formula of determining EHPHE given in the section of research methodology, EHPHE is affected by the actual expenses of patients. If actual expense is more than expected expenses of patients then EHPHE will be decreasing. Therefore, it is important to control the actual expenses of patients to increase the level of EHPHE of a hospital. One of the reasons of increase of actual expenses is the extension of the period of patients' hospital stay. Therefore, a study has been conducted to understand how hospital stay affects EHPHE of a hospital.

Firstly, a correlation between hospital stay and EHPHE has been determined on the basis of Pearson Correlation coefficient. The result of correlation has been presented in the Table – 16. Secondly, a Z-test has been conducted to negate the H0: zero association between EHPHE and hospital stay by applying the following formula to confirm the correlation between above mentioned variables.

$$Z = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

Table 16: Correlation between Hospital Stay and EHPHE

		Hospital stay	EHPHE
Hospital stay	Pearson Correlation	1	-.138
	Sig. (2-tailed)		.003
	N	474	474
Efficiency	Pearson Correlation	-.138	1
	Sig. (2-tailed)	.003	
	N	474	474

As per the result given in Table – 16, it has been established that there is a significant negative correlation between hospital stay and EHPHE. It can be interpreted that with the increase of hospital stay of a patient the EHPHE will be decreasing.

The Z test for non-zero correlation shows that the value of Z = 3.02709 which exceeds the critical value of Z = 1.96 at 0.05 level of significance. Therefore, the H0 i.e. zero association between EHPHE and hospital stay has been rejected. Therefore, once again it proves the correlation between EHPHE and hospital stay of patients. In this study, the hospital stay of a patient has been identified as one of the predictor variables on which the EHPHE depends.

5. Conclusion

In the modern age, rising health expenses has become monetary pressure for patients and patient parties. At present, it is important for any healthcare providers to consider the patients health expenses along with the quality of healthcare service to make their service more attractive in competitive environment. Therefore, determination of the Efficiency of Hospitals in terms of Patients' Health Expenses (EHPHE) has become a relevant issue in healthcare sector. The study has revealed that the EHPHE has a significant positive impact on patient satisfaction considering the three dimensions viz. process, people and physical evidence and all types of hospitals viz. government and private hospitals. The EHPHE has negative correlation with hospital stay of patients. It can be interpreted that if patients stay at hospital for longer period then EHPHE will be decreasing. The logic behind the above-mentioned correlation is the increase of actual expenses of patients with the extension of their hospital stay. Therefore, it can be concluded that efficiency of a hospital can be improved by shortening the hospital stay of patients.

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Store and Online Grocery Shopping- A Customer Value Perspective

R Alamelu and L Meena

Abstract

Searching product information and buying goods online are becoming increasingly popular activities, which would seem likely to affect shopping trips. Consumers are posited to make purchasing decisions based on the value they derive from a service provider. It is further argued that the value drivers of shopping for a basic need, such as groceries, are distinct from those for other goods. Within the grocery acquisition activity, it was the contention in this study that the value drivers of online grocery shopping are different than those of store grocery shopping. By relating individual value components to behavioral loyalty in these two grocery shopping formats, the study was able to verify the significance o f value in the prediction of loyalty, and compare between consumers of the two shopping mediums in terms of the importance they place on different components of value. Given the physical differences that exist between shopping in a store versus shopping online, this study specifically investigated the influence of the need to touch, smell, and see goods, and the need to interact with people in the grocery-shopping context. Overall the study found that consumers' assessments of value components do predict behavioral loyalty, and that store and online shoppers are indeed influenced by different value considerations. Store shoppers placed the most value on service quality and goods assortment, while online shoppers were most influenced by convenience, serves quality, and perceived monetary sacrifice. In addition, desire to touch and the need for social interaction were found to relate significantly to the loyalty of online shoppers, but not store shoppers. Results from this exercise suggest that a meaningful rise in online grocery usage is not likely to occur until over ten years from now. This finding relates closely with the idea that it will take a new generation of consumers to readily, and in critical mass, adopt what today seems like a "new" way o f buying groceries.

Keywords: *Store grocery shopping, Online grocery shopping, Customer value drivers*

1. Introduction

Internet grocery is a unique category of commerce and can provide very interesting insights for a number of reasons including: - Grocery shopping can be considered a routine, basic, and necessary task in consumers' daily lives. Thus, the adoption of Internet

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grocery shopping can be seen as a significant shift in consumer lifestyle. - The Internet grocery business model differs from those of other e-commerce sites. Due to the need to direct distribute to customers (for perishable goods), Internet grocers can establish a relationship with their customers through their delivery personnel. This personal interaction is generally above and beyond that which is Internet grocery is a unique category of commerce and can provide very interesting insights for a number o f reasons including: - Grocery shopping can be considered a routine, basic, and necessary task in consumers' daily lives. Thus, the adoption of Internet grocery shopping can be seen as a significant shift in consumer lifestyle. - The Internet grocery business model differs from those of other e-commerce sites. Due to the need to direct distribute to customers (for perishable goods), Internet grocers can establish a relationship with their customers through their delivery personnel. This personal interaction is generally above and beyond that which is provided by other online businesses that rely only on an electronic interface. In the continuum between brick and mortar business and e-commerce, Internet grocers are positioned somewhere in the middle. This position provides an interesting vantage point into issues faced by both ends o f the retail spectrum.

2. Purpose of the study

This study seeks to develop and test a framework from which to synthesize consumers' perceptions of value in a grocery-shopping context. It is posited that a customer's loyalty to a particular grocery provider is influenced by a set o f value components (Jones & Sasser, 1995; Zeithaml, Berry, & Parasuraman, 1996). In this case, value components are those factors that are received and given by a consumer in an exchange process such as goods and services for money and time/effort. In addition to these utilitarian value components, this study will also evaluate the effect of hedonic factors, such as touch and social contact, on customer loyalty in this context. This study will also compare value drivers pertinent to customers shopping in store versus those shopping on the Internet to confirm anecdotal evidence suggested in existing literature. It is expected that the results of this study will be theoretically sound and will provide practical and descriptive insight into consumer behavior relating to grocery shopping that would be of benefit to industry practitioners.

3. Objectives of the Study

- To find out whether the medium of grocery purchase influences customer loyalty using demographic factors
- To identify the factors act as value drivers towards customer grocery purchase
- To know the impact of the value drivers towards the grocery purchase medium through online and stores.
- To offer valuable suggestions for the online and store shoppers for achieving customer loyalty through the mentioned value drivers.

4. Review of Literature

The Grocery Shopping Context

As per research report, India is the sixth largest grocery market in the world where 41.6 per cent people are below the poverty line. The food and grocery segment constitutes about 70 per cent of the $470 billion retail market in India. While only 5-8 per cent of this market is organized, the rest are actually disorganised mom and pop shops run by family members. But the trend is fast changing. More and more food and grocery stores are falling in line and growing at a rate of 18.4 per cent year after year. Now with the growth in nuclear urban couples, internet friendly shoppers, rising disposable incomes and rising ecommerce reliability, times are changing. Grocery e-tailing has caught on as one of the new verticals and spawned many a startups, including a few mentioned above. According to a study conducted by D'Essence Consulting, 85 per cent of those who shop for groceries online are in the age bracket of 22-45. While studies show more men shop online, women e-shoppers are also growing rapidly. One main purpose of this study is to provide insight into value components of grocery shopping. To assist in an understanding of how general customer value literature relates to the context at hand, an overview o f the grocery shopping context is reviewed here. To simplify the nomenclature in this study, from henceforward the term "grocer" will be used to identify any grocery retail providing firm, whether operating a brick and mortar store or having only an online presence. The term "store" identifies a grocery provider with an actual brick and mortar storefront, or a chain of stores.

Trends in Grocery Shopping

It is generally accepted that making a trip to the grocery store is considered a basic necessity o f daily life. Recent statistics find that consumers shop for groceries twice per week on average (FMI, 2000). While this may still be the case, changing consumer lifestyles and increasing marketplace options may alter this routine practice in the future. With the rise in dual income households, consumers are increasingly reporting perceived time shortage and the need for convenience (Dailey, 2000). There are at least two strong implications of this trend. The first is the need to reduce effort in meal preparation and the second is the need to reduce effort in the procurement of groceries. Consequently, these two trends threaten the traditional grocery store in two ways: (1) meal procurement may shift from the grocery store to food service providers, both in the form of take-out and dine-in, and (2) consumers may seek to find an alternative to acquiring groceries without having to physically go to the grocery store. The growing interest in convenient meal preparation has gained significant interest in the food industry. Dubbed with the term "meal solutions", the concept suggests that consumers view meal preparation as a problem and will seek to solve that problem. Growth in meal solution seeking behavior is evidenced by increased business in food service, supermarket delis, and easy-to-use grocery items (e.g. frozen meal kits) (Harrison, 1999). The second implication of increased need for convenience is how to reduce the effort o f grocery acquisition. Internet grocers believe that they offer a solution to this need by providing a means for consumers to shop from home and have groceries delivered to the door

(Albertsons.com, 2001). While this shopping medium may seem superior to store shopping, empirical evidence suggest that consumers vary in their affinity for grocery shopping in the store. In other words, while Internet shopping may offer superior value to some consumers, many other consumers still find greater value in store shopping.

Shopping on the Internet

Although originally developed as a channel for communication and information, the Internet has rapidly become a major vehicle for commerce. And as a medium for commerce, the Internet is the epitome o f convenience. A typical transaction conducted via the Internet allows a consumer to browse, order, and pay for goods from a computer. After a certain time frame, the customer's order will typically arrive at his/her home allowing for the full sequence of a shopping process to occur in the comforts of his/her own home. The World Wide Internet Opinion Survey by Tech and Talk City suggests that Internet users are continuing to move toward fully embracing marketing and commerce on the Internet. Their study found that 58% of those surveyed stated that the Internet has changed the way they shop (Direct Marketing, 1999). About 70% of all Indian netizens are on Facebook i.e approx 61.5 Mn. (No 3 in the world). 15 Mn Indians are on Twitter. India has the 4th largest base of Twitteratis. 19 Mn Indians have a LinkedIn profile which is the 2nd highest in the world. 35 Mn unique visits in a month with a reach of almost 55% of Indian online population in 2014. This attitude affects purchase decisions using digital influence are of Global Electronics-81% Appliences-77% Books-70% Music-69% Clothing-69% Cars-68% Food/Beverage s -62% Personal Hygiene – 62% Personal Health/OTC- 61% Hair Care-60%.

Grocery Shopping on the Internet

In this study, the term Internet grocery shopping is defined as the process of ordering groceries via the Internet and having them delivered to the home. Within this definition, there were at least two business models that initially existed. The first is referred to as "pure-play". These Internet grocers were companies that were not affiliated with a brick and mortar grocery company. An example of a pure-play Internet grocer was Webvan, which maintained warehouses and a fleet of trucks to stock and deliver orders directly to their customers. The second model is a hybrid or partnered online grocer in which inventory is held by a brick and mortar store (or its warehouse) (Lorek, 2001). Thus, this type of model allows the grocer to sell its central inventory through two channels. Given the charm of the Indian consumer, the churn in the Indian online retail scenario will continue. This information report attempts to delineate key trends that are likely to define the Indian online retail sector in 2014.

What can be more exciting than a billion+ people contributing approximately $700b to $750b (FY15) retail market with a forecasted growth of about 13-16% (One of the source: India Retail sector report 2013 – Michael Page). A penetration of just 8% to 10% by the organized sector and a 200 million+ urban consumers has captured the imagination of giant corporations on either side of the Atlantic and Pacific oceans. (India Retail sector report 2013 – Michael Page).E-Commerce (B2C, C2C) revenues have been growing at a whopping ~50% year on year with ~$10b (2011). This is estimated to be around $40b (2015) if it sustains the same growth rate. (Rebirth of e-Commerce in India, 2011 – E&Y). 81% of the above e-Commerce transactions are from domestic travel segment. (Rebirth of e-Commerce in India, 2011 – E&Y).Close to 33% of organized retail market is from Clothing and Accessory segment, 22% from consumer electronics and gaming. (India Retail sector report 2013 – Michael Page).Annual household income has been increasing and in FY 15(e), of the total 246m households in India only 29% fall under the bottom of the pyramid as against 64% in FY 06 on a 204m household base. Annual household income increased from $2632 (2005) to $3823 (2015e) to $6790 (2025e). (Source: Rebirth of e-Commerce in India, 2011 – E&Y). Falling communication costs, increasing PC, broadband internet penetration, Internet is up from 5.5m (2000) to 300m in FY15e, broadband user base 51000 (2001) to 150m in FY15e. (Source: Rebirth of e-Commerce in India, 2011 – E&Y). Increasing credit (CC) and debit card (DC) penetration with higher value limits for spending. From 4.2m (CC), 0.3m(DC) in 1999 to 18m(CC), 228m(DC) in 2011 and expected to reach 73m(CC), 350m(DC) in FY15(e).(Source: Rebirth of e-Commerce in India, 2011 – E&Y).Despite the thinning out of the competitive landscape, surviving companies are continuing to grow their businesses to establish an infrastructure for future anticipated growth.

Store vs. Internet Grocery Shopping

There are a number of objective differences that generally exist between shopping for groceries in a store and through an Internet provider. While these objective differences between the two shopping environments exist, consumers may not necessarily perceive or be influenced by these differences. For example, time spent to purchase a selection of grocery items from a store generally takes longer than buying the same items online. However, a consumer may not perceive that store shopping takes materially longer. By specifically testing the relationship between the conception of value and grocery shopping, a better explanation of this phenomenon can be made. It is acknowledged that there are consumers who shop for groceries exclusively from stores and there are consumers who do most of their grocery shopping online. The approach of this study assumes that there are probably no consumers who buy 100% of their groceries online. Thus, the spectrum of shoppers actually ranges from those who never purchase groceries online to those who purchase most of their groceries online. Despite the continuum on which consumers are likely to be distributed, in this study consumers were only investigated in two groups. The two groups were divided based on each consumer's self-report of where they spend most of their grocery purchases: in store or through the Internet. While this simplification may result in minimized variations between the dichotomized groups, it is argued here that this approach will actually allow significant differences between the two groups to emerge. Given the significant differences found in past Internet shopper profiling studies (Donthu & Garcia, 1999; Fetto, 1999), it follows that consumers who regularly purchase most of their groceries online are likely to hold different perceptions and opinions of their shopping experience compared to those who regularly purchase most of their groceries from stores. In addition, since consumers were asked to provide input specifically related to their experience shopping at their respective primary providers, it was believed that these perceptions and opinions would be different enough to be revealed through statistical analysis of this study.

Components of Value in Grocery Shopping

What is given: Sacrifice = Money + Convenience (Time + Effort!.Consumers sacrifice both money and other resources, such as time and effort, to obtain products and services (Zeithaml, 1988). To some consumers, monetary sacrifice is most important, while for others it may be time. Previous investigation into the relationships between price, quality, and value (Dodds & Monroe, 1985; Monroe & Dodds, 1988) support the contention that value is a function o f quality and sacrifice. They argued that while there are a number of possible personality traits along which to classify shoppers, two dimensions in particular are most relevant to grocery operators; namely, concern for a store's pricing policy and concern for a store's customer service practices. By presenting the dimensions as dichotomous variables of high and low customer involvement, Williams et al. (1978) identified four grocery shopping orientations are described as follows: - Apathetic Shopper: These shoppers had no preference with regard to price or service, and were found to be quite loyal to their stores. - Convenience Shoppers: The most loyal of all the groups, these shoppers felt that they were receiving convenience, but at a high price. - Price Shoppers: These shoppers had lower loyalty and perceived that their favourite stores charged low prices, but at a sacrifice to quality and convenience. - Involved Shopper: These consumers held positive images of their favorite stores, feeling that they received convenience and high quality for a low price. Interestingly, this group was found to be the least loyal o f all the groups. By focusing only on dimensions that are conceptually parallel to monetary sacrifice, convenience, and service quality, Williams et al. (1978) achieved a distinct grouping of consumers. This suggests that consumption choices are driven more by convenience than by cost. Meanwhile, however, price-focused cues continue to dominate the marketing strategies of grocery stores with the aggressive use of comparative advertising, coupons and special deals. What is Received: Product = Service + Goods. Given the chosen approach of this study, while multiple dimensions may exist, emphasis is place on the conceptualization of a single factor that may serve as a proxy for perceived service quality (rather than on each of the multiple dimensions).

Using available technology, Internet grocery providers are able to customize the user interface with features such as personalized shopping lists and customizable product sorting (e.g. based on nutritional attributes, ingredients, unit price, etc.).To summarise, the present study consists of the following constructs: perceived service quality, perceived goods assortment, perceived information richness, perceived monetary sacrifice, perceived convenience, desire for sensory stimulation and need for social contact.

5. Methodology

A cross-sectional, survey sample design was employed to collect data from two grocery shopper groups (store and online). This study necessitated the collection o f data from two types of customers: 1) those who spent most or all o f their grocery dollars within stores, and 2) those who spent most o f their grocery dollars with an online grocer. The two groups had to be chosen from within the same regional markets to allow both to have the same opportunity of shopping from a store or an online grocer. In this regard, the researchers adopted area sampling method to include four major cities like Chennai, Coimbatore, Trichirappalli and Madurai. Questionnaires were to be completed voluntarily by the households' primary grocery shopper age 18 years and over. The constructs were subjected to reliability analysis using Cronbach alpha during pilot study which extended for a week covering 52 respondents. The survey consisted of 468 respondents. The survey was carried out from April 2014 to May 2014. The responses were analyzed using SPSS 20, inferences statistics, chi-square analysis and linear multiple regression.

6. Data Analysis and Interpretation

Once data was collected, it was subjected to a series of quantitative analyses procedures. In this study, analyses were divided into two major portions: 1) difference between Internet and store grocery shoppers on demographic basis and 2) impact of various customer values on the purchase medium (on store and online). Sample Description

Because the data for this study was essentially a non-randomized, convenience sample within a geographical region, its demographic properties were not expected to resemble that of the population. However, for comparison purposes, secondary demographic information of the sampled region was obtained (Scarborough Research, 2001a). Typically referred to as supermarkets, these stores are defined as full-line, self-service grocery stores and the top ten online grocer websites were contacted for their customer base. From their list, 200 respondents were contacted through mail. In total, two hundred responses from store purchasers and 128 responses from online purchasers were used for the present study.

Demographics

Table 1: Chi-square analysis between opinion about status of online and store purchaser's demographic characteristics of the respondents

Demographic variable	Classification		χ^2	Sig.
No. of adults >18 yrs. in household (Online)	1	2	77.418	0.000#
	53%	47%		
No. of adults >18 yrs. in household (Stores)	1	2		

Household income (Online)	<= Rs.10,000	10001-20000	20001-30000	30001-40000	40001-50000	More than Rs.50000	29.69	0.001#
	8%	12%	20%	28%	14%	18%		
Household income (Stores)	<= Rs.10,000	10001-20000	20001-30000	30001-40000	40001-50000	More than Rs.50000		
	12%	18%	20%	24%	18%	8%		
Education (Online)	Up to primary school level	Higher secondary level	Diploma, ITI, etc	Under graduate level	Post graduate level	Professional	49.509	0.000#
	10%	20%	10%	15%	15%	30%		
Education (Stores)	Up to primary school level	Higher secondary level	Diploma, ITI, etc	Under graduate level	Post graduate level	Professional		
	10%	10%	15%	15%	20%	20%		
Age of primary grocery shopper (Online)	18-24 years	25-34 years	35-44 years	45-54 years	55-64 years	Above 65 years	1.876	0.321
	20%	15%	30%	15%	20%	-		
Age of primary grocery shopper (Stores)	18-24 years	25-34 years	35-44 years	45-54 years	55-64 years	Above 65 years		
	10%	35%	25%	20%	10%	-		
Gender (Online)	Male	Female					2.994	0.224
	35%	65%						
Gender (Stores)	Male	Female						
	35%	65%						

(#denotes association at 5%)

Chi square tests between store and online shoppers found the two groups to be significantly different in income level. Comparison of demographic variables revealed that store and online shoppers significantly differed in the number of children less than 17 years and younger, income, and gender composition o f shoppers. Online-shopping households had a greater number of younger children, which is related to the study's findings that online shoppers place greatest importance on the convenience aspect of online grocery shopping. Theoretical and empirical evidence suggests that the number of children in a household is positively related to the amount of time spent on housework (Bianchi, Milkie, Sayer, & Robinson, 2000; Coverman, 1985; Kiger & Riley, 1996). As such, the presence of young children in a household may encourage the use of an online grocery provider in order to reduce both the time and effort necessary to procure groceries. Although it is accepted that grocery procurement is generally viewed as a domestic and thus, a feminine activity, (Bianchi et al., 2000; Otnes & McGrath, 2001) it was interesting to find that the percentage of male grocery shoppers was significantly greater in store shopping (24.9%) than it was in online shopping (11.8%). This finding is contrary to surveys o f Internet shoppers that have found time and again that men tend to “out shop” women when it comes to e-shopping (Donthu & Garcia, 1999; Li et al., 1999).

The lower participation of males in online grocery shopping relative to store grocery shopping may be attributed to the shift in gender attitudes to household work. The sample of this study had over 82% of store and 90% o f online shopping households with two or more adults. Although not specifically measured, it is presumed that these households are largely comprised of a man and a woman who are living as a couple. Past studies have found that in such households, tasks are largely specialized by gender whereby women are responsible for core housework like cooking and cleaning, while the men are responsible for yard and home maintenance (Bianchi et al., 2000). While the grocery-shopping task is still largely a woman’s burden, past works have found an increasing proportion o f men taking responsibility for this activity (Polegato & Zaichkowsky, 1999). Indeed Otnes (2001) proposes, “in general, gender roles have been influenced by urbanization, the increase of women in the workforce, the women’s movement, the introduction o f birth control, and the increase in women earning more than their spouses.” Otnes (2001) suggests that given the factors affecting gender roles in our society, a new theory of male shopping is warranted. While an increasing number o f men no longer view shopping as a necessarily feminine activity, it is suggested that men are motivated to shop in order to achieve success; as described by Otnes (2001),” ... they can get the job done where others have failed”. From this perspective, it is thus inferred that males performing the grocery shopping activity of the household perceive to be accomplishing a task that significantly contributes to the household by relieving the burden off the woman of the household. With the advent of online grocery shopping, however, the burden of grocery acquisition is greatly diminished. No longer does someone need to take on the challenge of travelling to and from a store and physically shopping for the household’s groceries.

As Otnes (2001) suggests, when a male’s ability to achieve shopping success is blocked, shopping can be very frustrating. Extending this idea, it can be speculated that since males are no longer relieving the physical burden of grocery shopping when groceries are purchased online, there is less motivation to perform the grocery-shopping task. This may explain the lower participation of males in grocery shopping online, relative to shopping in store. The finding that online shoppers in the study possess significantly higher income than store shoppers is consistent with empirical evidence indicating that consumers who shop online tend to have higher income than shoppers in general (Donthu & Garcia, 1999). Certainly the need to have the financial resources to afford access to the Internet acts as a natural barrier for the participation o f individuals with lower income in Internet consumption (US Department of Commerce, 2000).However, from a sociological perspective, Comor (2000) provides further explanation by suggesting that better-paid individuals tend to work longer hours. Consequently, those with higher incomes are more interested and more willing to utilize the Internet in order to gain free time. Those consumers who have more time but less income to spend, on the other hand, are less motivated to do their consumption online. The implication o f this line of reasoning is that Internet consumption among the affluent may continue to grow, while a true online mass market lags behind due to the trend of increasing wage disparity between the rich and the poor (Jones & Weinberg, 2000). While there are many other factors that drive the growth of Internet commerce, income and purchasing power are definitely significant factors in shifting consumption from brick and mortar to online retailers (Comor, 2000).

Although the literature suggests that, in general, online shoppers tend to be younger and higher educated (Donthu & Garcia, 1999; Li et al., 1999;), the sample o f this study did not reflect a significant difference in age and education levels between the store and online shopper groups. This occurrence may point to the fundamental need for groceries in the daily lives of people. Regardless of their demographic profiles, all households must purchase groceries in order to meet what Maslow (1970) defines as their most basic physiological need. Thus, contrary to findings in studies of online shopping for other discretionary, higher need items, such as apparel, electronics, and books, the incidence of online grocery shopping appears to not be related to age or education levels.

Given the operational difference in how transactions in the two shopping mediums are implemented, it was interesting to find that both store and online groups had the same habits with regard to shopping list preparation. Past studies have found no significant differences in shopping list usage on the basis of age, gender, and household income, and significant difference on the basis of education level and the presence of children (Thomas & Garland, 1993).

Model of status of overall consumer values formed out of opinion towards grocery store purchase

A model of status of overall consumer values has formed from opinion towards grocery store purchases such as perceived service quality, Perceived Goods Assortment, Perceived Information Richness, Desire for Sensory Stimulation, Need for Social contact, Perceived Monetary Sacrifice, Perceived Convenience as predictors.

Table 2: Model of status of overall consumer values formed out of opinion towards grocery store purchases

R	R Square	Sum of Squares	Mean Square	F	Sig.
.921	.813	1024.784	5.992	37.125	.000
		83.023	.188		
		182.623			

Estimation of status of overall physical condition $= a + b_1X_1 + b_2X_2 + \ldots\ldots\ldots + b_{15}X_{15}$

The power of the regression model is represented by the R2 is highly healthy .813 and the F test of the model shows that the significance of the model is high as the significance of F is .000 which is less than .05. To decide which variables are good explanatory variables, t-test for each variable is analysed and presented in table below.

Table 3: t-test and regression coefficients accepted by the model for store purchase

Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Mean	S. D
	B	Std. Error	Beta				
(Constant)	2.623	.191		13.756	.000		
perceived service quality	-.145	.038	-.211	-3.773	.000*	2.9615	.92700
Perceived Goods Assortment	-.227	.038	-.312	-5.934	.000*	2.9487	.87649
Perceived Information Richness,	.281	.032	.430	8.880	.000*	2.7564	.97751
Desire for Sensory Stimulation	.067	.033	.109	2.064	.040*	2.9615	1.03194
Need for Social contact	.052	.032	.068	1.624	.105	2.7051	.84433
Perceived Monetary Sacrifice	.019	.050	.019	.382	.703	3.0641	.64797
Perceived Convenience	.005	.040	.007	.130	.896	2.8846	.80119

** = significant at 5% (If the sig. of t is less than 0.05 it indicates that the concerned variable is significant in the model)*

The model's t test shows that the predictors namely, Perceived Goods Assortment, Perceived Information Richness, Desire for Sensory Stimulation and Perceived Monetary Sacrifice are significant at 5% in the estimation of consumer values towards store purchase. Further it shows that the predictors namely, physical health conditions, access to adequate food, fuel, drinking water, telecommunications, are not significant at 5% in the estimation of status of overall store purchases.

Model of status of overall consumer values formed out of opinion towards online grocery purchase

A model of status of overall consumer values has formed from opinion towards grocery store purchases such as perceived service quality, Perceived Goods Assortment, Perceived Information Richness, Desire for Sensory Stimulation, Need for Social contact, Perceived Monetary Sacrifice, Perceived Convenience as predictors.

Table 4: Model of status of overall consumer values formed out of opinion towards online grocery purchases

R	R Square	Sum of Squares	Mean Square	F	Sig.
.745	.804	789.67	6.238	31.25	.000
		78.76	.286		
		127.120			

Estimation of status of overall physical condition = $a + b_1X_1 + b_2X_2 + \ldots\ldots\ldots. + b_{15}X_{15}$

The power of the regression model is represented by the R2 is highly healthy .804 and the F test of the model shows that the significance of the model is high as the significance of F is .000 which is less than .05. To decide which variables are good explanatory variables, t-test for each variable is analysed and presented in table below.

Table 5: t-test and regression coefficients accepted by the model for online grocery shopping

Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Mean	S. D
	B	Std. Error	Beta				
(Constant)	2.623	.191	-	13.756	.000		
perceived service quality	-.227	.038	-.312	-5.934	.000*	2.9487	.87649
Perceived Goods Assortment	.019	.050	.019	.382	.703	3.0641	.64797
Perceived Information Richness,	.281	.032	.430	8.880	.000*	2.7564	.97751
Desire for Sensory Stimulation	.005	.040	.007	.130	.896	2.8846	.80119
Need for Social contact	.052	.032	.068	1.624	.105	2.7051	.84433
Perceived Monetary Sacrifice	-.145	.038	-.211	-3.773	.000*	2.9615	.92700
Perceived Convenience	.067	.033	.109	2.064	.040*	2.9615	1.03194

** = significant at 5% (If the sig. of t is less than 0.05 it indicates that the concerned variable is significant in the model)*

The model's t test shows that the predictors namely, perceived service quality, Perceived Information Richness, Perceived Monetary Sacrifice, Perceived Convenience are significant at 5% in the estimation of status of overall online purchasers. Further it shows that the predictors namely, Perceived Goods Assortment, Desire for Sensory Stimulation and need for Social contact are not significant at 5% in the estimation of status of overall physical condition.

7. Discussion and Conclusion

Within the store grocery-shopping context, only values from goods assortment and service reliability related significantly with loyalty measures. In the online grocery shopping context, however, all value drivers, except for information richness, were significantly related to loyalty. The finding that information richness (in stores or on websites) was not significantly related to customer values in either shopping medium may serve as a confirmation that out-of-store/website information (e.g. advertisements, circulars, etc) may indeed be the primary method by which grocery customers acquire most of their buying decisions (Fletcher, 1987; Thomas & Garland, 1993).The immaterial role that in-store information plays in influencing loyalty in this context has an interesting managerial implication. For grocers this evidence may signal the need to weight promotion resources more toward advertising and information dissemination in non-store settings, as opposed to in-store promotion efforts such as information kiosks and product demonstrations/sampling. Fundamentally, store shoppers valued goods assortment and reliable service the most, while online shoppers were most influenced by convenience, followed by reliable service and, interestingly, monetary sacrifice. The importance of monetary sacrifice to online shoppers can be seen as a warning for online grocers to recognize that while online shoppers may be willing to make the trade-off between convenience and monetary sacrifice, the monetary sacrifice they are willing to endure for convenience appears to be quite limited. In addition, the lower importance of goods assortment exhibited by online shoppers suggests that in their quest to reach profitability, online grocers might be well served to focus on category management efforts in order to maximize return through item reduction (i.e. reducing inventory costs).

For store shoppers, on the other hand, goods assortment, , was the most important predictor of customer loyalty. Thus, while store grocers could also benefit from proper category management efforts, a less stringent standard may need to be used with regard to product elimination. Given that retailing is essentially a service business, reliability o f service should be a priority in order to maintain the loyalty of both store and online grocery customers. Desire to touch was found to directly relate to loyalty of online shoppers. Since touching products and looking at product displays are two activities that cannot be done in an online shopping medium, these findings point to a distinct disadvantage those online grocers have in the battle to secure large numbers of highly loyal customers, at least in the short term. It has been suggested that as the generations shift, a drastic increase in the level o f comfort with online shopping will ensue. It is likely that as the teens of today (who are more computer-savvy and Internet-dependent) begin to take on food shopping duties, online grocery shopping will begin to see a growth rate that will take it to critical mass level (Lewis, 2001). Finally, the importance of tasting in the prediction of online shopper loyalty suggests an opportunity for online grocers to increase value to their customers by serving as a conduit for new product introductions and distributing product samples from manufacturers. Such an effort would be beneficial for all parties involved as the manufacturer can reduce their sample distribution costs (e.g. targeted and tracked sampling, reduced labor and postage costs), the online grocer improves its standing with its customers, and the shoppers receive the opportunity try a product they may not have tried before.

8. Implications

The findings o f this study generate a number of implications for the grocery industry, academia, and society as a whole. For online grocers, It is critical that convenience and reliable service is constantly at the top of these companies' priority lists. online grocers need to be diligent in ensuring that total grocery costs relative to the service convenience to their customers, are closer in line with those o f store shoppers. While the convenience of online shopping deserves a premium in shoppers' eyes, there is a limit as to how high the premium can go. A wide product assortment may not be necessary to secure loyalty of online shoppers. As such, this is an opportunity for online grocers to improve the bottom line by minimizing their inventory costs. The ability of online grocers to efficiently distribute product samples is a significant advantage that would benefit manufacturers, the grocer, and its customers. The absence of opportunity to touch products in an online shopping medium is a significant disadvantage that may, in the short term, be a limiting factor in the adoption of online grocery shopping. For store grocers, the primary focus of store grocers should be on goods assortment. While bigger may not be better, a sufficiently large selection may be necessary to meet the preferences of a large customer base. As with the case of any service business, reliable service should never be relaxed. Out-of-store advertising promotion efforts such as newspaper circulars and other advertising media may be a better use o f resources compared to in-store information disseminating efforts such as product demonstrations/sampling. In addition, past studies on Internet shopping have mostly explored customer value in a context of discretionary shopping. In other words, value was associated with customer opinions regarding a retail outlet whose goods are not considered a basic necessity. Shopping for groceries, on the other hand, is in most cases a routine and necessary task for a vast majority of households. Thus, findings of this study highlight value considerations in a unique shopping context, which differs from those of other shopping purposes. Finally, given the absence of published academic literature relating to Internet grocery shopping, this study may serve as a departure point for future studies on this subject.

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Segmentation Research in Tourism: Brief Literature Review

Saibal Dutta and Sujoy Bhattacharya

Abstract

Market segmentation is one of the most significant concepts in marketing literature. It has been applied extensively in tourism research. The purpose of the paper is to provide a review of the existing academic literature on segmentation research in tourism by critically looking at general segmentation bases and segmentation techniques. Specifically the review of data mining techniques in market segmentation in tourism has been done. The review is based on these five sections: (1) general segmentation bases in tourism (2) places of study (3) data source, sample size and number of items (4) methodological approach (5) identified numbered of factors and clusters. The gaps in the segmentation literature in tourism marketing are identified and directions for future research are given. The review, though extensive is not exhaustive. There is no prior study reviewing the literature using at general segmentation bases and segmentation techniques in the tourism context. The study synthesizes the research in segmentation for the tourism sector.

Keywords*: Market segmentation, Tourism, Data Mining, Literature review*

1. Introduction

In the marketing literature, the concept of market segmentation has been well explored by the research community. This broad concept emerged from a famous work on "Theory of monopolistic competition" by Economist Chamberlin (Chamberlin, 1948) and later, on came into existence as proposed by. Smith (1956) had derived the concept of market segmentation as, "the process of differentiating a large market into some groups wherein within groups, similar type of customer behavior being predicted". Now a day's, market segmentation is more pronounced among the marketing companies, since, a single product has been challenging towards satisfying the entire customer (Chaturvedi et al., 1997; Dibb & Stern, 1995). The approach to market segmentation enables the companies to get assess to the customer needs and thereby, identifies and intensifies the individual customer benefits (Lu, 2003). Market segmentation signifies itself as the deciding criteria to determine which group of customer they should target and, how to employ resources more effectively as well as how to efficiently assess the different competitive strategies (Ho et al., 2012; Aaker, 2001).

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Tourism sector has been accepted as one of the most important players of the global industries, which aids to accelerate the national economies through the development process, highlights and conserves the cultural heritage and, acts as a bridge towards the global harmony. In the recent years, the tourism industry outperformed to prosper the entire economy in a wider aspect, flourishing rapidly than other industries, such as manufacturing, financial services and retail. Tourism industry is proceeding towards to achieve the breakthrough to be among one of the world's largest industries with growth rate more than five percent per annum during the last twenty years. Globally, tourism industry has contributed 11% of the global GDP as being stated (Source: Ministry of Tourism, Govt of India 2012). Tourism sector will be highly beneficial to contribute towards eradicating the poverty and, to curtail the unemployment rates. On the other hand, Indian tourism industry has an ample scope of progressive growth, since the Indian tourism sector being proportionate to only 0.64 percent of world tourist arrival (Source: Ministry of tourism, Govt of India 2012). Most of the Asian and European countries have recognized the tourism industry, as one of the highest GDP contributors. In many of the Asian countries, a progressive tourism industry is perceived as a prospective solution to pin-point the national issues, like lower employment rates, as a source of generating foreign currencies and, as an outcome of higher government revenues.

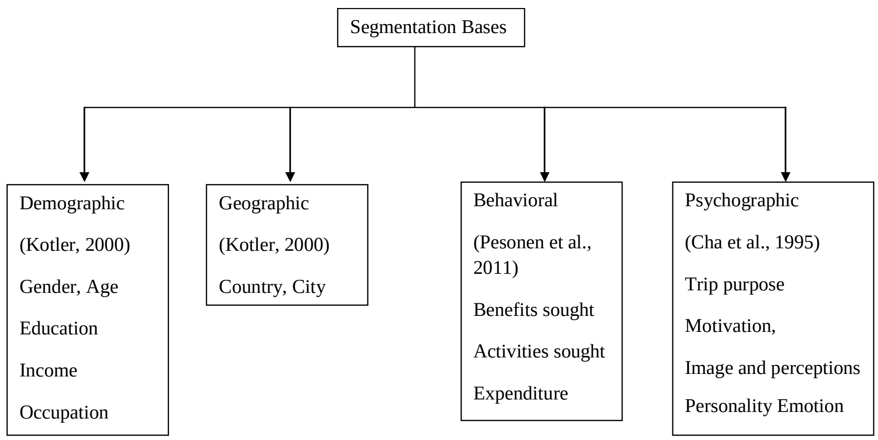
This study will review the literature of market segmentation in tourism research very elaborately on an effective basis. The organization of this study has been outlined as such, in the very first part, the literature on market segmentation research has been reviewed on a wider aspect and, in the second part, the limitations of the study and scope for future research in accordance with the Indian perspective have been discussed in addition to the concluding remarks of the said study focused on market segmentation research.

2. Literature Review

Market segmentation had been identified as one of the primary and most critical approaches to the market research. The result, as indicated by market segmentation approach is highly associated with better data mining techniques and selection of proper segmentation variables which have been highlighted in two different sub-sections (Wedel & Kamakura, 2000, Tsai & Chiu, 2004).

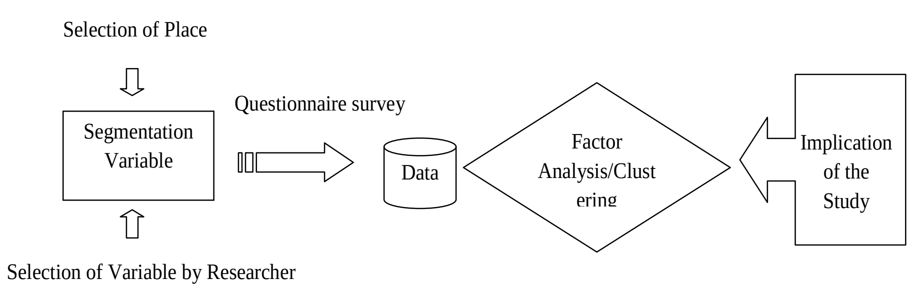
The characteristics used to differentiate a large market into groups are called segmentation bases. The market researchers apply the concept of segmentation bases as a filter that allows targeting the specific segments of customers. Four different types of segmentation bases (geographic, demographic, psychographic and behavioral) had been discussed in the literature on market research while some studies give an indication that there is no correct way to segment the market (Kotler, 2000). The various segmentation bases along with their various attributes have been illustrated in the Fig.1.

Fig.1 Segmentation Bases in Tourism



In the present scenario, tourism market segmentation has been evolved as a more prominent research area among the market researchers. The market segmentation process in the tourism sector is represented diagrammatically in the Fig.2. Many researchers have undergone through studies which are destination specific including various parts of the world, for e.g., Canada (Carmichael &Smith,2004), Spain (Molera & Albaladejo, 2007), Kenya (Beh & Bruyere, 2007), USA (Koh et al., 2009), Scotland (Frochot 2005), France (Jang et al., 2004), Gambia (Rid et al., 2014), Australia (Frochot, 2005), Finland (Pesonen et al., 2011), India (Mohsin & Ryan, 2007), etc. Earlier, so far, several research studies had been carried out to interpret the applicability of various segmentation bases for different segment tourism markets.

Fig.2 Flow Diagram of Market Segmentation Process in Tourism Sector



Most of the studies in tourism research had employed the combination of three or four segmentation bases. The various surveys in the area specific of the tourism sector for segmentation bases have been highlighted in the Table 1. Some of the researchers had preferred primary data collection while few researchers had assessed the data through secondary source (Carmichael &Smith, 2004). The guideline to determine the appropriate sample size and, the number of variables had not been specified so far, but in general, considering few variables and collection of sample 5 to 10 times the number of variables had been recommended. The number of samples collected through a primary survey varied from 200 to 700; however, few researchers had collected more than 1000 data sample also, as explored in the literature (Johns &Gyimothy, 2002, Mohsin & Ryan, 2007, Oh et al., 1995, Ryan & Glendon, 1998). The preferred numbered items had been employed to measure the tourist behavior ranging from 12 to 40 and, in the some cases; up to more than 50 items (Oh et al., 1995, Johns & Gyimothy, 2002). The 5-Point and 7-Point Likert-type scales have been incorporated into the questionnaire. The output of segmentation studies (i.e. the list of factors and clusters) in the tourism sector have been summarized in the Table.2, citing culture, rural, relax, novelty, etc., as the most crucial factors and, active, escapers, luxury seekers, etc., as the most effective clusters.

Table 1: Segmentation Surveys in Tourism Sector

Authors	Destination	Segmentation Bases				
		Tourist sample	D	G	P	B
Beh &Bruyere, 2007	Kenya	465	Yes	Yes	Yes	Yes
Carmichael &Smith, 2004	Canada	333428*	Yes		Yes	Yes
Dolnicar, 2005	Australia	430	Yes	Yes		Yes
Frochot, 2005	Scotland	734	Yes	Yes	Yes	Yes
Hsieh et al., 1992	Hong Kong	807	Yes			Yes
Jang et al., 2004	France	496	Yes	Yes		Yes
Johns & Gyimothy, 2002	Denmark	1099	Yes	Yes		Yes
Kastenholz et al., 1999	Portugal	187	Yes	Yes		Yes
Kim & Jogaratnam, 2003	USA	514	Yes	Yes		Yes
Koh, et al., 2010	USA	214	Yes			Yes
Mohsin & Ryan , 2007	India	1026	Yes	Yes	Yes	
Molera &Albaladejo, 2007	Spain	335	Yes	Yes		Yes
Loker-Murphy, 1997	Australia	690	Yes	Yes	Yes	Yes
Oh et al., 1995	Australia	1030	Yes		Yes	
Park &Yoon, 2009	Korea	252	Yes		Yes	
Pesonen et al.,2011	Finland	195	Yes	Yes	Yes	Yes
Rid et al., 2014	Gambia	430	Yes		Yes	Yes
Ryan &Glendon, 1998	UK	1127	Yes	Yes	Yes	Yes
Sarigollu & Huang, 2005	Latin America	265	Yes		Yes	Yes

Where D-Demographic, G-Geographic, P-Psychographic, B-Behavioral
** Secondary data source used.*

Table 2: Summarized View of Factors and Clusters from Segmentation Surveys in Tourism

References	No. Factors (F) /Clusters (C)	Factors	Clusters
Frochot, 2005	4F/4C	Outdoors	Actives
		Rurality	Relaxers
		Relaxation	Gazers
		Sport	Rurals
Pesonen et al., 2011	4C		Outdoors types
			Nature enthusiastic
			Sightseers
			Culturals
Johns &Gyimothy, 2002	4F/2C	Socio cultural aspect of the island-	Not Given
		including its atmosphere	
		Nature and scenery	
		Relaxation and slower pace of life	
		Enthusiastic activities	
Molera &Albaladejo, 2007	5F/5C	Nature and peacefulness	Family rural tourists
		Physical and cultural activities	Relax rural tourists
		Family	Active rural tourists
		Trip feature	Rural life tourists
		Rural life	Tourists of rural accommodation
Sarigollu & Huang, 2005	5F/4C	Fun and Sun	Adventurer
		Ecotourism	Multifarious
		Performing Arts and Events	Fun and Relaxation
		Outdoor Adventure	Urbane
		General Sightseeing	
Kastenholz et al., 1999	4F/4C	Informed, Well-Priced Independent Travel	Want-It-All Ruralist

		Culture and Tradition	Independent Ruralist
		Social and Active Hedonism	Traditional Ruralist
		Calm and Unpolluted Environment	Environmental Ruralist
Koh, et al., 2009	4F/3C	Social	Escapists
		Relaxing	Neutralists
		Healthy	Hedonists
		Rejuvenating	
Dolnicar, 2005	5C		Price-conscious safety seekers
			Luxury surfers
			Radical adventurers
			Lack of crowd
			Quality of natural environment
Jang et al., 2004	4C		Beach and Sunshine Lovers
			City Sightseers
			Culture and Nature Enthusiasts
			Visiting Friends and Relatives
Kim & Jogaratnam, 2003	4F/2C	Cultural	Not Given
		Sports	
		Leisure	
		Touring	
Carmichael & Smith, 2004	5C		Shopping vacation
			Short vacation
			Getaway and VFR
			Outdoors and sports
			Long vacation

Hsieh et al., 1992	5C		Visiting friends/relatives activity set
			Outdoor sports activity set
			Sightseeing activity set
			Full house activity set
			Entertainment activity set
Ryan & Glendon, 1998	4F/11C	Relaxation	Unimaginative Relaxers
		Social	Relaxing Moderates
		Intellectual	Relaxed Discoverers
		Mastery	Positive Holiday takers
			Intellectual Active Isolates
			Competent Intellectuals
			Mental Relaxers
			Active Relaxers
			Noisy Socializers
			Friendly Discoverers
			Social Relaxers
Loker-Murphy, 1997	3F/4C	Came to Australia	Social/Excitement seeker
		To escape other places & the pleasure of life	Escapers
		To holiday & spend time with people	Achievers
		That I care deeply about	Self developers
Mohsin & Ryan, 2007	4F/5C	Relax	Highly motivated
		Challenge	Socially averse knowledge seekers

		Discover	Bond building relaxers
		Social	Culture/knowledge explorers
			Low motivation
Oh et al., 1995	4F/4C	Sports/activity	Safety/comfort seekers
		Safety/comfort	Culture/history seekers
		Culture/novelty	Novelty/adventure seekers
		Luxury	Luxury seekers
Rid et al., 2014	4F/4C	Heritage & nature	Multi-experiences seekers
		Authentic rural experience	Multi-experiences & beach seekers
		Learning	Heritage & nature seekers
		Sun & beach	Sun & beach seekers
Park &Yoon, 2009	6F/4C	Relaxation	Family togetherness seeker
		Socialization	Passive tourist,
		Learning	Want-it-all seeker
		Family togetherness	Learning and excitement seeker
		Novelty	
		Excitement	
Beh & Bruyere, 2007	8F/3C	Escape	Escapists
		Culture	Learners
		Personal growth	Spiritualists
		Mega-fauna	
		Adventure	
		Learning	
		Nature	
		General viewing	

Table 3: Implications of Data Mining Techniques in Tourism Research

Authors	Items	Likers scale	No. Factors/Clusters	Methodology
Beh & Bruyere, 2007	49	7 point scale	8F/3C	FA/K means
Carmichael & Smith, 2004	29	Nominal Scale	5C	Hierarchical (Ward)
Dolnicar, 2005	17	Not Given	5C	SOFM
Frochot, 2005	13	5 point scale	4F/4C	FA/K means
Hsieh et al., 1992	36	Not Given	5C	Hierarchical
Jang et al., 2004	44	Not Given	4C	Hierarchical (Ward)/K means
Johns & Gyimothy, 2002	61	4 point scale	4F/2C	Hierarchical
Kastenholz et al., 1999	27	7 point scale	4F/4C	Hierarchical (Ward)
Kim & Jogaratnam, 2003	16	5 point scale	4F/2C	Not given
Koh, et al., 2009	21	5 point scale	4F/3C	Hierarchical (Ward)/K means
Mohsin & Ryan, 2007	16	7 point scale	4F/5C	FA/K means
Molera & Albaladejo, 2007	17	5 point scale	5F/5C	Hierarchical (Ward)/K means
Loker -Murphy, 1997	10	5 point scale	3F/4C	FA/K means
Oh et al., 1995	82	4 point scale	4F/4C	Not given
Park &Yoon, 2009	24	5 point scale	6F/4C	FA/ Hierarchical /K means
Pesonen et al.,2011	18	5 point scale	4C	Hierarchical (Ward)/K means
Rid et al., 2014	22	5 point scale	4F/4C	FA/ Hierarchical /K means
Ryan &Glendon, 1998	14	7 point scale	4F/11C	FA/ Hierarchical
Sarigollu &Huang, 2005	25	5 point scale	5F/4C	K means

***FA**-Factor analysis: **F**-No of Factor; **C**-No of Cluster*

Now, market segmentation is becoming more complex gradually and researchers are also working on the development of more advanced data mining techniques that can handle outlier, noise and big data related problem. The review of data mining techniques in tourism market segmentation shown in Table 3. But still K means and Hierarchical clustering are still preferred data mining techniques for segmentation in tourism. So tourism researchers may explore other techniques in their research. For example, Kernel based market segmentation approach is one of the promising techniques for robust market segmentation and also performed better than traditional techniques. However, recently tourism researcher adopted advanced data mining techniques for market segmentation (Kuo et al., 2012, Durso et al., 2013). But in general, it is recommended to choose algorithm very carefully because every algorithm has some advantages and drawbacks.

3. Limitations of the Study and Scope for Future Research

Literature of segmentation research in the tourism industry has been reviewed elaborately in this research study which tries to incorporate all the available relevant and important papers in tourism literature but very specifically. The number of domestic tourists has gone up manifold in India. However, there is a lack of studies found in Indian domestic sectors instead of higher growth rate (Madhavan &Rastogi, 2013). Hence, future researcher can focus on the segmentation study on Indian domestic tourist.

Literature review on tourism market segmentation research does not provide any conclusive result on the selection of segmentation bases and in most of the studies, selection of segmentation bases fully depends on the researcher's judgment (Tkaczynski et al., 2009). However, recent literatures suggest that tourism stakeholder perspective segmentation approach is more rational and appropriate for the same. Earlier studies have evaluated on visitor data and never try to understand which segmentation variables tourism stakeholders use to segment their markets (Tkaczynski et al., 2009). Till now, research work has not focused to understand how tourism stakeholders segment their market and hence tourism stakeholders view point help us to understand the market and help to improve the segmentation result of cluster analysis. The main reason of failure to predict actual consumer behavior is the inappropriate choosing segmentation variable which is occurring because of existing approaches (Tkaczynski et al., 2009). Hence Studies on stakeholder approach and their coordination will help planners and service providers develop offerings better adapted to the needs of Indian tourists while taking advantage of the unique characteristics and resources available in their respective tourist regions. Because of these reasons future researchers may adopt a stakeholder perspective segmentation approach for market segmentation of Indian domestic tourist.

Most of the studies in tourism segmentation had been limited to, use either K means or hierarchical clustering. However, in literature there are a sufficient number of advanced techniques available in market segmentation. It might be possible that the choice of clustering techniques is independence of data type. It means that researchers did not exploit the full potential of clustering techniques. Most of the studies in tourism literature focused only on the market segmentation. Based on the literature reviewed, there is a need to study pertaining to prediction of future tourist behavior for each of the stakeholders particularly in India.

4. Conclusion

This research study has reviewed and analyzed two important components of segmentation research (i.e. Segmentation bases and segmentation techniques) in the tourism industry. The outline of this study is projected to provide a brief summary and issues of each of the components. However, the research work itself cannot claim to be exhaustive. The assessments of this research study are such that this work provides a reasonable insight of segmentation research in the tourism sector and would portray a clear picture for those willing to work on this very specific area of research.

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ITC: The Indian Tobacco Major's Corporate Social Responsibilities and Sustainable Initiatives for Ethical Leadership

P Stella

Abstract

ITC is a global exemplar in sustainable business practices and is the only in the world, of comparable dimensions to be 'carbon positive', 'water positive' and 'solid waste recycling' positive. ITC businesses generate livelihoods for around 6 million people, many of whom represent the poorest in Rural India. The pioneering farmer empowerment initiative, ITC e-Choupal, is today the world's largest rural digital infrastructure and is a case study at the Harvard Business School besides receiving several global awards. Under the leadership of Y.C. Deveshwar, the group carried forwards this legacy and consolidated its businesses further in India while also acquiring a global footprint. ITC Group had managed to build its empire emphasizing the twin pillars of "diversification" and "sustainable development" - so much so that these had become a key aspect of the ITC brand.ITC has transformed itself from a leading cigarette manufacturer to an umbrella group which offers a diversified product mix to enhance its brand image and reduce dependency on tobacco – related products.[2]

Keywords: *Ethical leadership, Corporate Social Responsibility, Diversification Strategy, Sustainability, Triple Bottom Line*

Pedagogical Objectives

- To study how ITC Group had established a strong position in India while emphasizing on ethical leadership
- To understand the triple bottom line philosophy of ITC
- To learn about the environmental and community initiatives undertaken by ITC

Background Note

Apart from embedding into our business models a direct linkage between business objectives and societal goals, we are also engaged in implementing various other sustainable development initiatives to make a meaningful contribution towards social empowerment and genderised development."[1]

ITC was incorporated on August 24, 1910 under the name Imperial Tobacco of India Limited. As the ownership progressively Indianised, the name of the Company was changed from Imperial Tobacco of India Limited to India Tobacco Limited in 1970 and

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then to I.T.C. Limited in 1974. In recognition of the 's multi-business portfolio encompassing a wide range of businesses - Fast Moving Consumer Goods comprising Foods, Personal Care, Cigarettes and Cigars, Branded Apparel, Education and Stationery Products, Incense Sticks and Safety Matches, Hotels, Paperboards & Specialty Papers, Packaging, Agri-Business and Information Technology - the full stops in the company 's name were removed and now stands rechristened 'ITC Limited,'where 'ITC' is today no longer an acronym or an initialised form.[3]

ITC is one of India's foremost multi-business enterprise with a market capitalisation of US $ 45 billion and a turnover of US $ 7 billion. ITC is rated among the World's Best Big Companies, Asia's 'Fab 50' and the World's Most Reputable Companies by Forbes magazine and as 'India's Most Admired Company' in a survey conducted by Fortune India magazine and Hay Group. ITC also features as one of world's largest sustainable value creator in the consumer goods industry in a study by the Boston Consulting Group. ITC has been listed among India's Most Valuable Companies by Business Today magazine. The Company is among India's '10 Most Valuable (Company) Brands', according to a study conducted by Brand Finance and published by the Economic Times. ITC also ranks among Asia's 50 best performing companies compiled by Business Week.

ITC's Diversification Strategy

ITC's aspiration to create enduring value for the nation and its stakeholders is manifest in its robust portfolio of traditional and green field businesses encompassing Fast Moving Consumer Goods (FMCG), Hotels, Paperboards & Specialty Papers, Packaging, Agri-Business, and Information Technology. This diversified presence in the businesses of tomorrow is powered by a strategy to pursue multiple drivers of growth based on its proven competencies, enterprise strengths and strong synergies between its businesses.

The competitiveness of ITC's diverse businesses rest on the strong foundations of institutional strengths derived from its deep consumer insights, cutting-edge Research & Development, differentiated product development capacity, brand-building capability, world-class manufacturing infrastructure, extensive rural linkages, efficient trade marketing and distribution network and dedicated human resources. ITC's ability to leverage internal synergies residing across its diverse businesses lends a unique source of competitive advantage to its products and services.[4]

Within a relatively short span of time, ITC has established vital brands like Aashirvaad, Sunfeast, Dark Fantasy, Delishus, Bingo!, Yippee!, Candyman, mint-o, Kitchens of India in the Branded Foods space; Essenza Di Wills, Fiama Di Wills, Vivel, Vivel Cell Renew, Engage and Superia in the Personal Care products segment; Classmate and Paperkraft in Education & Stationery products; Wills Lifestyle and John Players in the Lifestyle Apparel business; Mangaldeep in Agarbattis and Aim in the Safety Matches segment. This growth has been rated by a Nielsen Report to be the fastest among the consumer goods companies operating in India.

ITC's e-Choupal Initiative

E-Choupal, the unique web-based initiative of ITC's International Business Division, offers the farmers of India all the information, products and services they needed to enhance the farm productivity, improve farm-gate price realisation and cut transaction costs. Farmers can access latest local and global information on weather; scientific farming practices as well as market price at the villages itself through this web portal – all in Hindi. E-Choupal also facilitates the supply of high quality farm inputs as well as purchase of commodities at their doorstep. Given the literacy and infrastructure constraints at village level, this model is designed to provide physical service support through a e-Choupal 'Sanchalk', who acts as the interface between the computer terminal and farmers.[5]

Present Outlook

Today, ITC is India's leading Fast Moving Consumer Goods company, the clear market leader in the Indian Paperboard and Packaging industry, a globally acknowledged pioneer in farmer empowerment through its wide-reaching Agri Business and runs the greenest luxury hotel chain in the world. ITC Infotech, a wholly-owned subsidiary, is one of India's fast-growing IT companies in the mid-tier segment. This portfolio of rapidly growing businesses considerably enhances ITC's capacity to generate growing value for the Indian economy.

ITC's Agri-Business is one of India's largest exporters of agricultural products. The ITC Group's contribution to foreign exchange earnings over the last ten years amounted to nearly US$ 6.0 billion, of which agri exports constituted 57%. The Company's 'e-Choupal' initiative has enabled Indian agriculture significantly enhance its competitiveness by empowering Indian farmers through the power of the Internet. This transformational strategy has already become the subject matter of a case study at Harvard Business School apart from receiving widespread global acclaim.[6]

As one of India's most valuable and respected corporations, ITC is widely perceived to be dedicatedly nation-oriented. Chairman Y C Deveshwar calls this source of inspiration "a commitment beyond the market". In his own words: "ITC believes that its aspiration to create enduring value for the nation provides the motive force to sustain growing shareholder value. ITC practices this philosophy by not only driving each of its businesses towards international competitiveness but by also consciously contributing to enhancing the competitiveness of the larger value chain of which it is a part." ITC group directly employs more than 31,000 people and the Company's Businesses and value-chains generate around 6 million sustainable livelihoods many of whom live at the margin in rural India.

Triple bottom line philosophy of ITC

ITC's commitment to superior triple bottom-line contribution is manifest in its globally acknowledged initiatives that create impactful societal value. ITC has sustained its position as the only enterprise in the world of comparable dimensions to be carbon positive, water positive and solid-waste recycling positive for several years now. ITC's sustainable business models today support around 6 million livelihoods across the country. ITC's Sustainability Report has been published for the 11th year now. The latest edition is in accordance with the new G4 guidelines of the Global Reporting Initiative. ITC is one of the foremost in India to report at the highest "Comprehensive" level, well ahead of the global deadline.

Acknowledged as a global exemplar in sustainability, ITC is the only enterprise in the world, a testimony to its commitment to a low carbon growth path - over 38 % of the total energy requirements of ITC is met from renewable sources. All ITC's premium luxury hotels are LEED (Leadership in Energy and Environmental Design) Platinum certified making it the "greenest luxury hotel chain" in the world. ITC's Paperboards and Paper business is an icon of environmental stewardship.

ITC's production facilities and hotels have won numerous national and international awards for quality, productivity, safety and environment management systems. ITC was the first company in India to voluntarily seek a corporate governance rating.

CSR Philosophy of ITC

Recognizing that business enterprises are economic organs of society and draw on societal resources, it is ITC's belief that a company's performance must be measured by its Triple Bottom Line contribution to building economic, social and environmental capital towards enhancing societal sustainability. ITC believes that in the strategic context of business, enterprises possess, beyond mere financial resources, the transformational capacity to create game-changing development models by unleashing their power of entrepreneurial vitality, innovation and creativity. In line with this belief, ITC will continue crafting unique models to generate livelihoods and environmental capital. Such Corporate Social Responsibility ("CSR") projects are far more replicable, scalable and sustainable, with a significant multiplier impact on sustainable livelihood creation and environmental replenishment. These initiatives are independent of the normal conduct of ITC's business. Programmes, projects and activities (collectively "CSR Programmes") carried out in this regard are the subject matter of this policy.[7]

CSR Policy of ITC

1. To direct ITC's CSR Programmes, inter alia, towards achieving one or more of the following - enhancing environmental and natural capital; supporting rural development; promoting education; providing preventive healthcare, providing sanitation and drinking water; creating livelihoods for people, especially those

from disadvantaged sections of society, in rural and urban India; preserving and promoting sports;

2. To engage in affirmative action interventions such as skill building and vocational training, to enhance employability and generate livelihoods for persons from disadvantaged sections of society;
3. To carry out CSR Programmes in relevant local areas to fulfil commitments arising from requests by government/regulatory authorities and to earmark amounts of monies towards "Enterprise Social Responsibility (ESR)" activities and to spend such monies through ESR/CSR Cells of such administrative bodies of the government and/or directly by way of developmental works in the local areas around which the Company operates;[8]
4. To provide equal opportunities to beneficiaries of the Company's CSR Programmes as vendors or employees on merit;
5. To promote sustainability in partnership with industry associations, like the Confederation of Indian Industry (CII) through the CII-ITC Centre of Excellence for Sustainable Development, in order to have a multiplier impact.

An Example of ITC's Experience in CSR

ITC invested in extensive R & D to create clonal saplings which would be disease resistant and grow much faster in relatively harsher conditions. These saplings have made the growing of pulpwood species on degraded wastelands a sustainable livelihood option, and consequently a life-changing proposition for marginal farmers and tribal's in the economic vicinity of the mill.

ITC is a willing buyer of such produce, whilst the growers are free to sell to the highest bidder in the open market. Today, this programme covers over 80,000 hectares and has provided over 35 million man days of employment. This approach has also brought with it a multiplicity of additional benefits -- creation of a green cover for carbon sequestration, ground water recharge, regeneration of biomass and the nurturing of depleted soils. The green cover created has also enabled ITC to achieve a unique distinction of being a carbon positive company for consecutive years.

Global Exemplar in Sustainability

ITC endeavours to embed the principles of sustainability, as far as practicable, into the various stages of product or service life-cycle including procurement of raw material / service, manufacturing of product or delivery of service, transportation of raw materials and finished goods, and disposal by consumers.

ITC believes that an effective stakeholder engagement process is necessary for achieving its sustainability goal of inclusive growth. ITC accordingly anchors its stakeholder engagement on the principles of:

1. Materiality -taking prioritised consideration of the environmental and social impacts identified to be important to the organisation as well as its stakeholders;
2. Completeness - understanding the stakeholders' key concerns and expectations;
3. Responsiveness - responding coherently and speedily to such issues and concerns.

ITC believes that it is necessary to represent to and engage with authorities on matters concerning the various sectors in which it operates. ITC's engagement with the relevant authorities is guided by the values of commitment, integrity, transparency and the need to balance interests of diverse stakeholders. ITC believes that it is necessary to represent to and engage with authorities on matters concerning the various sectors in which it operates. ITC's engagement with the relevant authorities is guided by the values of commitment, integrity, transparency and the need to balance interests of diverse stakeholders.ITC believes in a "No Child Labour and No Forced Labour" policy.[9]

ITC believes that diversity at the workplace creates an environment conducive to engagement, alignment, innovation and high performance. This is achieved by a policy that ensures diversity and non-discrimination across the Company.ITC provides products and services of superior quality and value by sourcing its technologies, equipment, inputs and finished goods from reputed international and Indian manufacturers and suppliers. ITC expects its business partners to establish a human rights compliant business environment at their workplace. ITC believes that its vendors and suppliers must establish processes for mapping/monitoring progress on human rights performance.[10]

Criticism

ITC was also criticized regarding some of its sustainability initiatives. According to some critics, since ITC's main business was the Cigarettes and Leaf Tobacco business which was detrimental to human health, the company's sustainability initiatives were merely a part of its strategy to downplay the reality that it would affect the health of people.[11]

Conclusion

ITC has endeavoured to build world-class Indian brands. In a relatively short span of 10 years, a vibrant architecture of popular brands has been crafted organically. Some of them are already clear market leaders in their segments. In aggregate, these new consumer brands currently represent an annualised consumer spend of over Rs.10,000 crores.[12] It is a matter of pride that ITC's brands have anchored the development of competitive value chains benefitting some of the poorest regions of the country. In conjunction with ITC's social investment programme for integrated rural development, these brands have enabled the empowerment of millions of disadvantaged in India's villages by generating sustainable livelihoods. ITC's CSR programme includes farmer empowerment through the globally acclaimed ITC e-Choupal, large-scale Watershed Development, Social Forestry, Animal Husbandry, Women's Empowerment and Primary

Education which together have transformed rural lives, winning global acclaim and recognition. [13]

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The framework and process of Indian Union Budget with reference to 2015- 2016

Vidya Suresh and Bipasha Maity

Summary
The budget documents are fascinating. When we dissect them, we understand the purpose of the government, its policies, priorities, allocation of resources and funds among different regions, sectors and industries. These are expected to bring conclusive change and progress in the growth of the economy and its people. The budget process was first introduced on 7th April, 1860, two years after the transfer of Indian administration from East-India Company to British Crown. The first Finance Member, who presented the Budget, was Mr. James Wilson. After independence, India's first Finance Minister Shri R. K. Shanmukham Chetty, presented the first Budget on 26th November, 1947. Since then, this has evolved over the past six decades to reflect the firmness of our democratic processes in framing our economy. It has come to light as a crucial tool for public finance management. In this paper, we have tried to explain the layout and activities connected with the preparation of the Annual Budget with a brief note on latest union budget of 2015-2016.

Keywords: Union budget, the planning commission, budget process, budget 2015-2016

Union Budget

The budget preparation in India is an iterative process between the Ministry of Finance/Planning Commission and the spending Ministries and a roadmap for efficient utilization of public resources. The Union Budget of India, also referred as the General Budget, is presented each year on the last working day of February by the Finance Minister of India to the Parliament (Article 112 of the Constitution of India). The Indian Constitution does not mention the term 'Budget'. It is known as the 'Annual Financial Statement', which is presented before both the Houses of Parliament, the House of People (Lok Sabha) and the Council of States (Rajya Sabha). The financial year for the Union and the State Governments in India is from April to March. Each financial year is, therefore, spread over two calendar years. It is currently presented through 14 documents, some of which are mandated by the Constitution while others are explanatory documents. It is a combination of top down approach with the Ministry of Finance and the Planning Commission issuing guidelines or communicating instructions to spending Ministries, and a bottom-up approach, wherein the spending Ministries present requests for budget allocation.

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The two basic fundamentals of any budget are the revenues and expenses. It works on what is to be achieved, how, for whom and the resources required for the same. Budget is prepared on cash basis. Whatever is expected to be actually received or paid under proper sanction during a financial year is budgeted in that year. All appropriations granted by the Parliament expire at the end of financial year and no deduction of unspent budget can be appropriated for meeting the demands in the next financial year. Thus, all unutilized funds within the year 'lapse' at the end of the financial year. Each department prepares estimates for receipts and expenditure separately. Generally one demand or grant is allocated in respect of each Ministry/Department. In case of certain large Departments/Ministries more than one demands for grants is allocated in terms of General Financial Rules.

The ministries are required to provide three different kinds of figures relating to their expenditures and receipts during this process of budget preparation. These are: budget estimates, revised estimates and actual. Let's understand this in the context of Union budget 2013-14, which was presented, as usual, on 28th of February 2013 by the Finance Minister, Shri P Chidambaram on the floor of Lok- Sabha. However, the process of its formulation would have got started in August 2012 through issuance of budget circular of the Budget Division and this process would have continued till February 2013. The approval of Parliament is sought for the estimated receipts/expenditures for 2013-14, which would be called budget estimates. At the same time, the Union government, in its budget for 2013-14, would also present revised estimates for the ongoing financial year 2012-13. The government would not seek approval from Parliament of revised estimates of 2012-13; but, these revised estimates allow the government to reallocate its funds among various ministries based on the implementation of the budget for 2012-13 during the first six months of financial year 2012-13. Finally, ministries also report their actual receipts and expenditures for the previous financial year 2011-12. Hence, the Union budget for 2013-14 consists of budget estimates for 2013-14, revised estimates for 2012-13, and actual expenditures and receipts of 2011-12.

Thus, the Annual Financial Statement shows the receipts and expenditure of Government in three separate parts under which Government accounts are maintained viz. (i) Consolidated Fund of India (ii) Contingency Fund of India and the (iii) Public Account. As per Constitutional provisions (Article 112) the Annual Financial Statement has to distinguish expenditure on revenue account from other expenditure. It, therefore, comprises of (i) Revenue budget and (ii) Capital Budget. Broad break-up of expenditure on Plan and Non Plan i.e. expenditure which is part of normal activities of the Government or maintenance expenditure, sectoral allocation of plan outlays, details of resources transferred to States and Union Territory Governments are also reflected in the budget documents. The Union Budget is presented to Parliament in two parts i.e. Railway Budget pertaining to Railway Finance and General Budget which gives an overall picture of financial position of the Government of India including the effect of Railway Budget.

Important Documents Related to Budget

The major work undertaken in the Budget Division relates to the 'Scrutiny of Receipt and Expenditure Estimates' in the process of preparation of Budget Estimates, Revised Estimates and the related Statements, Annexes of various budget documents. The detailed estimates of receipts and expenditure are prepared by the Ministries/ Departments in the prescribed forms and furnished to the concerned Sections in the Budget Division. The Budget documents presented to Parliament comprise, besides the Finance Minister's Budget Speech, the following:

a) Annual Financial Statement (AFS)
b) Demands for Grants (DG)
c) Appropriation Bill
d) Finance Bill
e) Memorandum Explaining the Provisions in the Finance Bill, 2015
f) Macro-economic framework for the relevant financial year
g) Fiscal Policy Strategy Statement for the financial year
h) Medium Term Fiscal Policy Statement
i) Medium Term Expenditure Framework Statement
j) Expenditure Budget Volume-1
k) Expenditure Budget Volume-2
l) Receipts Budget
m) Statement of Revenue Impact of Tax Incentives under the Central Tax System.
n) Budget at a glance
o) Highlights of Budget

The documents shown at Serial a, b, c and d are mandated by Article 112,113, 114(3) and 110(a) of the Constitution of India respectively, while the documents at Serial f, g, h and i are presented as per the provisions of the Fiscal Responsibility and Budget Management Act, 2003. Other documents are in the nature of explanatory statements supporting the mandated documents with narrative or other content in a user friendly format suited for quick or contextual references. Hindi version of all these documents is also presented to Parliament. A web version is hosted at *http://indiabudget.nic.in*, with hyperlinks, intended to make surfing more efficient.

In addition to the above, individual Departments/Ministries also prepare and present to Parliament their detailed Demands for Grants, Outcome Budget and their Annual Reports. The Economic Survey which highlights the economic trends in the country and facilitates a better appreciation of the mobilization of resources and their allocation in the Budget is brought out by the Economic Division of Department of Economic Affairs, Ministry of Finance. The Economic Survey is presented to Parliament in advance of the Union Budget. The web versions of these documents are normally posted by the respective Ministries/Departments on their web sites.

Budget preparation

The budget cycle typically starts towards the end of September of the current year and lasts till May of the next financial year. On the presumption that budget shall be presented at 11:00 hours on the 28th/29th of February of a year (last working day of February), the budget division prepares a comprehensive schedule for carrying out the budget preparation activities. In the year in which general elections to the Lok Sabha are held, the interim budget is presented to Parliament on any given day convenient to Government. After the general elections are over and assumption of office by the new Government, the regular budget is presented to Parliament on any date convenient to Government or as decided by the new Government. The schedule clearly indicates the division/Organization/ Ministry/Department responsible for various tasks/activities along with the timeframe therein.

Budget for a year is prepared by the Budget Division in the Ministry of Finance broadly on the basis of detailed estimates of expenditure and receipts received from various Departments/Ministries of Government of India and its own subordinate estimating authorities. The general financial rules also prescribe the broad guidelines, procedures and forms for the preparation of budget estimates of receipts and expenditure by the Ministries. The estimates of expenditure are prepared separately for Capital and Revenue as a constitutional requirement and Plan and Non Plan in keeping with the existing classification system. The estimates of Plan expenditure are made on the basis of the approved plan allocations intimated by the Planning Commission.

Budget circular: This circular is issued in the month of September. Consists of instructions on the preparation of estimates of various types of receipts and expenditure, its formats and statements in which the estimates are required to be furnished.

The revenue and capital budget: the budget must distinguish expenditure on the revenue account from other expenditures. Therefore, the budget comprises of the (a) Revenue budget and the (b) Capital budget. The Revenue Budget shows the current receipts of the government and the expenditure that can be met from these receipts. Revenue receipts are divided into tax and non-tax revenues.

Tax revenues consist of the proceeds of taxes and other duties levied by the central government. Tax revenues, an important component of revenue receipts, comprise of direct taxes – which fall directly on individuals (personal income tax) and firms (corporation tax), and indirect taxes like excise taxes (duties levied on goods produced within the country), customs duties (taxes imposed on goods imported into and exported out of India) and service tax. Non-tax revenue of the central government mainly consists of interest receipts (on account of loans by the central government which constitutes the single largest item of non-tax revenue), dividends and profits on investments made by the government, fees and other receipts for services rendered by the government. Cash grants-in-aid from foreign countries and international organizations are also included.

The estimates of revenue receipts take into account the effects of tax proposals made in the Finance Bill.

Revenue expenditure consists of all those expenditures of the government which do not result in creation of physical or financial assets. It relates to those expenses incurred for the normal functioning of the government departments and various services, interest payments on debt incurred by the government, and grants given to state governments and other parties.

Total revenue expenditure is again classified into plan and non-plan expenditure. Plan revenue expenditure relates to central Plans (the five year plans, now NITI) and central assistance for State and Union Territory Plans. Non-plan expenditure, the more important component of revenue expenditure, covers a vast range of general, economic and social services of the government. The main items of non-plan expenditure are interest payments, defense services, subsidies, salaries and pensions. Interest payments on market loans, external loans and from various reserve funds constitute the single largest component of non-plan revenue expenditure. The Capital Budget is an account of the assets as well as liabilities of the central government, which takes into consideration changes in capital. It consists of capital receipts and capital expenditure of the government. This shows the capital requirements of the government and the pattern of their financing. The main items of capital receipts are loans raised by the government from the public which are called market borrowings, borrowing by the government from the Reserve Bank and commercial banks and other financial institutions through the sale of treasury bills, loans received from foreign governments and international organizations, and recoveries of loans granted by the Central Government. Other items include small savings (Post-Office Savings Accounts, National Savings Certificates, etc), provident funds and net receipts obtained from the sale of shares in Public Sector Undertakings (PSUs).

Capital Expenditure includes expenditure on the acquisition of land, building, machinery, and equipment, investment in shares, and loans and advances by the central government to state and union territory governments, PSUs and other parties. Capital expenditure is also categorized as plan and non-plan in the budget documents. Plan capital expenditure, like its revenue counterpart, relates to central plan and central assistance for state and union territory plans. Non-plan capital expenditure covers various general, social and economic services provided by the government.

Sanction of estimates: The estimating authorities forward the budget proposals to their departmental heads for consideration and onward transmission to the ministries administratively concerned. These ministries scrutinize the estimates, make modifications where necessary, and transmit these revised estimates to the Financial Adviser for further examination and processing. The Financial Adviser ensures the correctness of accounts classification, makes modifications as may be called for in his judgment in the context of economy and other considerations, consolidates the estimates for each programme/organization to present a complete picture of their financial costs, and obtains approval of the Secretary (Expenditure) in the Ministry of Finance, wherever necessary. Departmental budgets are then forwarded to the Budget Division.

Pre-budget meetings: Preparation of revised estimates of receipts and expenditure for the current year necessarily precedes the estimation for the Budget for the subsequent year although preparation of the budget estimate for the ensuing year is also completed before the end of current financial year. The revised estimates for the current year are however prepared before the budget estimates of the ensuing year as the supplementary demands are based on the revised estimates of expenditure for the current year, which have to be obtained before the end of the current financial year. The figures of the revised estimates are finalized in the pre-budget meetings with Secretary (Expenditure) along with the Non Plan Budget Estimates, for the ensuing year. On the basis of the revised estimates of expenditure, Supplementary Demands for Grants are prepared by the Government of India under Article 115 of the Constitution.

Union Budget 2015-16: A snapshot

The statements made by the government in the budget 2015-16 provide for a concerted endeavor to move towards the socio-economic targets. This budget has laid down the roadmap for taking India to double digit growth. Government has also made attempt to move towards a more simplified tax structure by announcing a plan to justify direct tax regime for corporate. This budget aims series of incrementally affirmative steps, with the focus firmly on reviving investments in infrastructure, improving the inertia of doing business and exaggerating funds in the hands of the middle class.

Part A: Macro Overview

Major Confrontations in the near future: The union budget is primarily focusing on the agriculture sector and trying to broaden investment in infrastructure. The Make in India programme will generate new jobs for the prospective citizens in the country. The key challenging area is the fiscal discipline. They have devolved a 42% share of the divisible pool of taxes to States. The devolution to the States would be of the order of ₹5.24 lakh crore in 2015-16 as against the devolution of ₹3.38 lakh crore as per revised estimates of 2014-15. Another ₹3.04 lakh crore would be transferred by way of grants and plan transfers. Tax buoyancy was also significantly lower. Despite this the government will meet the challenging fiscal deficit target of 4.1% of GDP. Lastly national priority will be given to basic areas such as agriculture, education, health, MGNREGA and rural infrastructure including roads. Special affliction will be given to programmes aspired for the poor and the under-privileged of the country.

Fiscal Consolidation: The union government remains firm on achieving the medium term target of 3% of GDP to boost public investment. The total additional public investment over and above the RE is planned to be ₹1.25 lakh crore out of which ₹70,000 crore would be capital expenditure from budgetary outlays. The current government will complete the journey to a fiscal deficit of 3% in 3 years. Thus, for the next three years, the targets are: 3.9%, for 2015-16; 3.5% for 2016-17; and, 3.0% for 2017-18. The ultimate target is to create job, eliminate poverty and to build infrastructure and in every subsequent year to increase the tax revenues of the Union, and the State Governments. From this national perspective of public finances, aggregate annual capital expenditure of the Governments, can be expected to rise significantly, by more than 0.5% of GDP.

The fiscal deficit target for the year 2014-15 has been maintained and the fiscal deficit to GDP ratio for 2015-16 has been pegged at 3.9%. On the revenue side, the gross tax receipts are budgeted to grow by 15.8% in the year 2015-16, from 8.0% growth in 2014-15 RE. The increase in service tax rate, increase in excise duty, and higher surcharge on direct taxes is likely to support the buoyancy anticipated in the gross tax revenue. The levy of 2.0% surcharge on the super rich with a taxable income of over ₹1 crore is expected to pick up ₹9000 crore. This is much higher than the tax collection of ₹1008 crore foregone with the withdrawal of wealth tax, where the yields have not been commensurate with the administrative costs. However, the net tax receipts are budgeted to increase by only 1.3% in the year 2015-16. With regard to expenditure, the total expenditure is estimated to rise by 5.7% in 2015-16 BE, with an 8.2% increase in non-plan expenditure and 0.6% decline in planned expenditure. While the planned expenditure on revenue account is budgeted to decline by 10%, on capital account it is budgeted to increase by 33.9% in 2015-16. The subsidy bill is expected at ₹2.4 lakh crore (1.7% of GDP) in 2015-16, which is a decline by 8.6% over the revised estimates for 2014-15. The decline in subsidies comes primarily on account of lower oil bill, which is estimated to decline by 50% in 2015-16 BE. The food and fertilizer subsidy are expected to increase marginally.

Good Governance: The Union Budget for 2015-16 also committed the need to trim subsidy leakages and advance to the process of rationalizing of subsidies. The direct transfer of benefits were seen in scholarship schemes will be further expanded with a view to increasing the number of beneficiaries from the present ₹1 crore to ₹10.3 crore. Similarly, ₹6,335 crore have so far been transferred directly, as LPG subsidy to ₹11.5 crore LPG consumers.

Agriculture and Unified National Agriculture Market: In the union budget 2015-16 an ambitious Soil Health Card Scheme has been launched to improve soil fertility on a sustainable basis. In order to improve soil health, there is also Agriculture Ministry's organic farming scheme – "Paramparagat Krishi Vikas Yojana". The Pradhanmantri Gram Sinchai Yojana is aimed at irrigating the field of every farmer and improving water use efficiency. The amount of ₹5,300 crore is allocated to support micro-irrigation, watershed development and the Pradhan Mantri Krishi Sinchai Yojana. There is a plan to allocate ₹25,000 crore in 2015-16 to the corpus of Rural Infrastructure Development Fund (RIDF) set up in NABARD. The government is trying to support employment through MGNREGA.

The focal point is on improving the quality and effectiveness of activities under MGNREGA. They have made an initial allocation of ₹34,699 crore for the programme. The announcement of Unified National Agriculture Market will help to curb the inflationary pressure in case of food commodities as well as provide better prices to farmers for their produce.

Funding the Unfunded Micro Small and Medium Enterprise (MSMEs): There are some ₹5.77 crore small business units, out of which 62% of these are owned by the backward classes. These bottom-of-the-pyramids, hard-working entrepreneurs find it difficult to access formal systems of credit. The authority proposed to create a Micro Units Development Refinance Agency (MUDRA) Bank, with a corpus of ₹20,000 crore, and credit guarantee corpus of ₹3,000 crore. MUDRA Bank will refinance Micro-Finance Institutions through a Pradhan Mantri Mudra Yojana. In lending, priority will be given to SC/ST enterprises. These measures will greatly boost the spirit of young, educated or skilled workers who would now be able to aspire to become first generation entrepreneurs to lead inclusive growth. The government is trying to establish an electronic Trade Receivables Discounting System (TReDS) financing of trade receivables of MSMEs, from corporate and other buyers, through multiple financiers. This should recover the liquidity in the MSME sector significantly. Bankruptcy law reform has been diagnosed as a key priority for improving the ease of doing business. SICA (Sick Industrial Companies Act) and BIFR (Bureau for Industrial and Financial Reconstruction) have failed in achieving these objectives.

Jan Dhan to Jan Suraksha: The launch of Pradhan Mantri Suraksha Bima Yojna will cover accidental death risk of ₹2 lakh for a premium of just ₹12 per year. Similarly the launch of Atal Pension Yojana, which will provide a defined pension, depending on the contribution, and its period. To inspire people to join this scheme, the government will contribute 50% of the beneficiaries' premium limited to ₹1,000 each year, for five years, in the new accounts opened before 31st December, 2015. The third Social Security Scheme, the Pradhan Mantri Jeevan Jyoti Bima Yojana is announced which covers both natural and accidental death risk of ₹2 lakhs. The premium will be ₹330 per year, or less than one rupee per day, for the age group 18-50. There is an emphasis on the creation of a Senior Citizen Welfare Fund, in the Finance Bill, for appropriation of these amounts to a corpus which will be used to subsidize the premiums of vulnerable groups such as old age pensioners, BPL card-holders, small and marginal farmers and others. There is a new scheme for providing Physical Aids and Assisted Living Devices for senior citizens, living below the poverty line. In sum, these social security schemes reflect our commitment to utilize the Jan Dhan platform, to ensure that no Indian citizen will have to worry about illness, accidents, or penury in old age. An integrated education and livelihood scheme called 'Nai Manzil' will be launched this year to enable Minority Youth who do not have a formal school-leaving certificate to obtain one and find better employment.

Infrastructure: There is an enormous demand to increase public investment. So outlays have been on both the roads and the gross budgetary support to the railways, by ₹14,031 crore, and ₹10,050 crore respectively. The CAPEX of the public sector units is expected to be ₹3,17,889 crore, an increase of approximately ₹80,844 crore over RE 2014-15. In fact, investment in infrastructure will go up by ₹70,000 crore in the year 2015-16, over the year 2014-15 from the Centre's Funds and resources of CPSEs. The government programmed to establish a National Investment and Infrastructure Fund (NIIF), and find monies to ensure an annual flow of ₹20,000 crore to it. Fourth, the PPP mode of infrastructure development has to be revisited, and revitalised. It has been intended to establish, in NITI, the Atal Innovation Mission (AIM). It will evolve a Platform involving academics, entrepreneurs, and researchers and draw upon national and international experiences to foster a culture of innovation, R&D and scientific research in India. Initially, a sum of ₹150 crore will be designated for this purpose. India has a well regarded and world-class IT industry with revenues of about US$ 150 billion, over US$ 100 billion of exports, employing nearly 40 lakh people directly. Government is endowing a mechanism to be known as SETU (Self-Employment and Talent Utilisation). SETU will be a Techno-Financial, Incubation and Facilitation Programme to support all aspects of start-up businesses, and other self-employment activities, particularly in technology-driven areas. The government initiated to launch the e-Biz Portal which integrates 14 regulatory permissions at one source. Good States are embracing and joining this platform. The Government also suggested setting up 5 new Ultra Mega Power Projects, each of 4000 MWs in the plug-and-play mode. All clearances and linkages will be in place before the project is awarded by a transparent auction system. This should unlock investments to the extent of ₹1 lakh crore. The Government would also consider similar plug-and-play projects in other infrastructure projects such as roads, ports, rail lines, airports etc. The second unit of Kudankulam Nuclear Power Station will be commissioned in 2015-16. The government will venture to enhance allocations to MGNREGA by ₹5,000 crore; Integrated Child Development Scheme (ICDS) by ₹1,500 crore; Integrated Child Protection Scheme (ICPS) by ₹500 crore; and the Prdhan Mantri Krishi Sinchai Yojana by ₹3,000 crore; and the initial inflow of ₹5,000 crore into the NIIF.

Financial Markets: To promote investment in the infrastructure sector India, the government is expanding the Indian Bond market and to bring at level of the world class equity market. The government is planning to set up a Public Debt Management Agency (PDMA) which will bring both India's external borrowings and domestic debt under one canopy. There is proposition to conglomerate the Forwards Markets Commission with SEBI to strengthen regulation of commodity forward markets and reduce wild speculation. Capital Account Controls is a policy, rather than a regulatory, matter. There is a proposition to create a Task Force to establish a sector-neutral Financial Redressal Agency that will address grievances against all financial service providers. There is a vision of putting in place a direct tax regime which is internationally competitive on rates, is without exemptions, incentivizes savings, and does not realize tax from intermediaries. Such a direct tax regime would match the modernized indirect taxes regime we are putting in place by way of GST, and will bring greater investments. With regard to the dormant Employees Provident Fund (EPF) accounts it has been remarked that both EPF and ESI have hostages, rather than clients. Further, the low paid worker suffers deductions greater than the better paid workers, in percentage terms. With respect to the Employees Provident Fund (EPF), the employee needs to be provided two options. Firstly, the employee may opt for EPF or the New Pension Scheme (NPS). Secondly, for employees below a certain threshold of monthly income, contribution to EPF should be optional, without affecting or reducing the employer's contribution. With respect to ESI, the employee should have the option of choosing either ESI or a Health Insurance product, recognized by the Insurance Regulatory Development Authority (IRDA).

Gold Monetising: India is one of the largest consumers of gold in the world and imports as much as 800-1000 tonnes of gold each year. Though stocks of gold in India are estimated to be over 20,000 tonnes, mostly this gold is neither traded, nor monetized. The proposition is to introduce a Gold Monetisation Scheme, which will replace both the present Gold Deposit and Gold metal Loan Schemes. The new scheme will allow the depositors of gold to earn interest in their metal accounts and the jewelers to obtain loans in their metal account. Banks/other dealers would also be able to monetize this gold. It will also develop an alternate financial asset, a Sovereign Gold Bond, as an alternative to purchasing metal gold. The Bonds will carry a fixed rate of interest, and also be redeemable in cash in terms of the face value of the gold, at the time of redemption by the holder of the Bond. Such an Indian Gold Coin would help reduce the demand for coins minted outside India and also help to recycle the gold available in the country. The only way to curb the flow of black money is to discourage transactions in cash.

Investment: Alternate Investment Funds Regulations have been notified by SEBI. Such alternate investment funds provide another vehicle for facilitating domestic investments. The government proposes to allow foreign investments in Alternate Investment Funds. To further simplify the procedures for Indian Companies to attract foreign investments government proposes to do away with the distinction between different types of foreign investments, especially between foreign portfolio investments and foreign direct investments, and replace them with composite caps. The sectors which are already on a 100% automatic route would not be affected. The 'Act East' policy of the Government of India endeavors to cultivate extensive economic and strategic relations in South-East Asia. In order to catalyze investments from the Indian private sector in this region, a Project Development Company will, through separate Special Purpose Vehicles (SPVs), set up manufacturing hubs in CMLV countries, namely, Cambodia, Myanmar, Laos and Vietnam.

Safe India: The Government is committed to safety and security of women. In order to support programmes for women security, advocacy and awareness, the government have assured to provide another ₹1,000 crore to the Nirbhaya Fund.

Tourism: India has 25 Cultural World Heritage Sites. These facilities are still deficient and require restoration, including landscape restoration; signage and interpretation centres; parking; access for the differently abled; visitors' amenities, including securities and toilets; illumination and plans for benefiting communities around them. Present government has recommended to provide resources to start work along these lines for the following Heritage Sites: such as Churches & Convents of Old Goa, Hampi, Karnataka, Elephanta Caves, Mumbai, Kumbalgarh and other Hill Forts of Rajasthan, Rani ki Vav, Patan, Gujarat, Leh Palace, Ladakh, J&K, Varanasi Temple town, UP, Jalianwala bagh, Amritsar, Punjab, Qutub Shahi Tombs, Hyderabad, Telengana. After the success of VISAS on arrival issued to travelers of 43 countries, the government proposes to increase the countries covered to 150, in stages.

Green India: The present government are committed to make our development process as green as possible. Our de facto 'Carbon Tax' on most petroleum products compares favourably with international norms. With regard to coal, there is a need to find a balance between taxing pollution, and the price of power. The government is also launching a Scheme for Faster Adoption and manufacturing of Electric Vehicles (FAME). They are proposing an initial outlay of ₹75 crore for this Scheme in 2015-16. The Ministry of New Renewable Energy has revised its target of renewable energy capacity to 1,75,000 MW till 2022, comprising 100,000 MW Solar, 60,000 MW Wind, 10,000 MW Biomass and 5000 MW Small Hydro.

Skill India: India is one of the budding nations in the world with more than 54% of the total population below 25 years of age. There is the need of the young people have to be both educated and employable for the jobs of the 21st Century. Yet today less than 5% of our potential workforce gets formal skill training to be employable and stay employable. The government is devising to launch a National Skills Mission through the Skill Development and Entrepreneurship Ministry. To enhance the employability of rural youth the government has launched the Deen Dayal Upadhyay Gramin Kaushal Yojana. ₹1,500 crore has been set apart for this scheme. Disbursement will be through a digital voucher directly into qualified student's bank account. With a view to enable all poor and middle class students to pursue higher education of their choice without any constraint of funds, the government tried to set up a fully IT based Student Financial Aid Authority to administer and monitor Scholarship as well Educational Loan Schemes, through the Pradhan Mantri Vidya Lakshmi Karyakram. The government also intended to provide one major Central Institute in each State. In the fiscal year 2015-16, government proposed to set up All India Institutes of Medical Sciences (AIIMS) in J&K, Punjab, Tamil Nadu, Himachal Pradesh and Assam, Bihar. They proposed to set up an IIT in Karnataka, and upgrade Indian School of Mines, Dhanbad into a full-fledged IIT. They also planned to set up a Post Graduate Institute of Horticulture Research and Education in Amritsar. IIMs will be setup in J&K and Andhra Pradesh. In Kerala, suggestion was given to upgrade the existing National Institute of Speech and Hearing to a University of Disability Studies and Rehabilitation. The government also scheduled to set three new National Institutes of

Pharmaceutical Education and Research: in Maharashtra, Rajasthan, and Chattisgarh and an Institutes of Science and Education Research in Nagaland and Odisha. They also expected to set up a Centre for Film Production, Animation and Gaming in Arunachal Pradesh, for the North-Eastern States; and Apprenticeship Training Institute for Women in Haryana and Uttrakhand.

Digital India: An attempt has been taken towards making Digital India. The National Optical Fibre Network Programme (NOFNP) of 7.5 lakh kms. Networking 2.5 lakh villages is being further speeded up by allowing willing States to undertake its execution, on reimbursement of cost as determined by Department of Telecommunications. Andhra Pradesh is the first State to have opted for this manner of implementation.

Special assistance will be given to Bihar and West Bengal by the Government of India. As regards Andhra Pradesh and Telengana, the Government is committed to comply with all the legal commitments made to these States at the time of reorganization. In spite of the large increase in devolution to states, which implies reduced fiscal space for the Centre in the same proportion we are committed to the welfare of the poor and the neo-middle class. The amount of ₹68,968 crore allocated to the education sector including mid-day meals, ₹33,152 crore to the health sector and ₹79,526 crore for rural development activities including MGNREGA, ₹22,407 crore for housing and urban development, ₹10,351 crore for women and child development, ₹4,173 crore for Water Resources and Namami Gange. The government took the initiation in progressing for DMIC corridors: the Ahmedabad-Dhaulera Investment Region in Gujarat, and the Shendra–Bidkin Industrial Park near Aurangabad, in Maharashtra, is now in a position to start work on basic infrastructure. In the current year the initial sum of `1,200 crore have been initiated. The Government has already permitted FDI in defence so that the Indian-controlled entities also become manufacturers of defence equipments, not only for us, but for export. Government is pursuing the Make in India policy to achieve greater self-sufficiency in the area of defence equipment, including aircraft. As against likely expenditure of this year of ₹2,22,370 crore the budget allocation for 2015-16 is ₹2,46,727 crore. GIFT in Gujarat was envisaged as International Finance Centre that would actually become as good an International Finance Centre as Singapore or Dubai, which, incidentally, are largely manned by Indians.

Part B

Direct Tax Proposals

Tax Rates: The government proposed to reduce the rate of Corporate Tax from 30% to 25% over the next 4 years which will lead to higher level of investment, higher growth and more jobs. There is no change in basic exemption limit and slab rates for individuals. Surcharge has been increased from 10% to 12% on income-tax for income exceeding ₹1 crore. There is also no change in basic rate of Dividend Distribution tax (DDT) and Tax on buy-back of shares (BBT). In case of domestic companies, the rate of surcharge has been increased by 2%. {now to be levied at 7% if the total income exceeds Rs. 1 crore but does not exceed ₹10 crore and at 12% if the total income exceeds ₹10 crore} In case of foreign company, surcharge continues to remain the same. Surcharge increased by 2% and to be levied at 12% on additional income tax payable by companies on distribution of dividends and buy-back of shares, by mutual funds and securitisation trusts on distribution of income. Education cess continues at 3% on the amount of income-tax and surcharge, if any.

General Anti Avoidance Rule (GAAR): Implementation of the General Anti Avoidance Rule (GAAR) has been a matter of public debate. Further, it has also been decided that when implemented, GAAR would apply prospectively to investments made on or after 01.04.2017.

Rate of tax for technical services (FTS): The basic rate of taxing income of non-residents in the nature of royalty and FTS has been proposed to be reduced from 25% on gross basis to 10% on gross basis.

Tax Residency provision for companies – Effective Management Concept introduced: Amendment has been proposed to provide that apart from an Indian company, any company whose place of effective management at any time during the year is in India, it shall be considered to be resident of India.

Indirect transfer of assets: The share or interest of foreign company/foreign entity is deemed to derive its value substantially from Indian assets, the value of such Indian assets exceeds Rs. 10 crore and it represents at least 50% of the value of all assets owned by the foreign company or entity. The valuation of the assets to be done to get its Fair Market Value and the underlying aggregate gains to be apportioned proportionately to Indian assets as per methods. Indirect transfer provisions would not apply to the transferor shareholder of the foreign company holding the Indian assets directly and whose shares/interest are getting transferred if the transferor (along with the AEs) has neither the right to control or manage the foreign company nor holds voting power or share capital or interest exceeding five per cent therein.

Tax Incentives for backward areas: Additional investment allowance (15%) and additional depreciation (35%) proposed for new manufacturing units set up during the period April 1 2015 to March 31 2020 in notified backward areas of Andhra Pradesh and Telangana.

Abolition of wealth-tax: The cancellation of wealth tax has been proposed. The information regarding the assets which are currently required to be furnished in wealth-tax return will be captured in the income tax return. The government decided to abolish the wealth tax and replace it with an additional surcharge of 2% on the super-rich with a taxable income of over ₹1 crore.

Taxation of Real Estate Investment Trusts (REITs) and Infrastructure Investment trusts (Invits)

Capital gains on transfer of units of Invits and REITs by sponsor: At the time of disposal (under an IPO listing or sale thereafter) of the units of the REIT/Invit (i.e. business trust), the sponsor of REITs/Invit would be eligible for concessional Security transaction tax (STT) based capital gains tax regime on par with other investors (i.e. Long term capital gain on transfer of units would be exempt and Short term capital gain would be taxable @ 15%, provided STT @ 0.2% is paid on the sale of such units).

Tax treatment of the rental income arising to REIT from real estate property directly held by REIT: It has been proposed to provide that the rental income arising to REIT from the real estate property directly held by REIT eligible for pass through status. Accordingly, such income will be exempt for the REIT and chargeable to tax in the hands of the REIT unit holders on distribution. The tenant or lessee is not required to withhold tax on payment of rent to REIT, but the REIT in turn would withhold tax at 10% on distribution of such income to the resident unit holders and at applicable rates on the distribution to the non-resident unit holders.

Donation towards Clean and Drug Abuse Initiatives: Donation (other than sum expended in CSR) to Swachh Bharat Kosh, Clean Ganga Fund and National fund for Drug Abuse would be eligible for 100% deduction.

Relief from MAT to FIIs: Income from transactions in securities {other than Short term capital gains arising on which Securities transaction tax (STT) is not chargeable} arising to FII excluded from the ambit of MAT by excluding both income and corresponding expenses in the computation.

Safe harbour - for offshore funds with an Indian fund manager: To facilitate location of fund managers in India of offshore funds, it is proposed that fund management activity undertaken in India by an eligible fund manager on behalf of an eligible offshore fund will not constitute a business connection for the offshore fund in India. The key qualifying criterions for an eligible fund has also been provided.

Measures to curb black money: Amendment has been proposed in the Act to prohibit acceptance or repayment of an advance of ₹20,000 or more in cash for purchase of immovable property. Benami Transactions (Prohibition) Bill to curb domestic black money to be introduced in the current session of Parliament. In line with the amendments to Prevention of Money Laundering Act, 2002, FEMA is amended to provide that if any foreign exchange, foreign security or any immovable property situated outside India is held in contravention of provisions of FEMA, then action may be taken for seizure and eventual confiscation of equivalent value of assets in India. Such contraventions will also be liable for penalty and prosecution. It has been proposed to mandate to quote PAN for any purchase or sale exceeding ₹1 lakh. Third party reporting entities to furnish information about foreign currency sales and cross border transactions.

Concessional withholding rate for FII and QFI: The eligible period of concessional tax rate of 5% on interest income earned by FII and/or QFI on Government securities and rupee denominated corporate bonds has been proposed to be extended by two years i.e. from June 30, 2015 to June 30, 2017.

Other Proposals: Threshold for applicability of domestic transfer pricing has been proposed to be increased from ₹5 crores to ₹20 crores. Understatement of income under MAT/AMT provisions also made liable for concealment penalty. Foreign tax credit rules and procedures for granting credit for any income-tax paid in any country or specified territory outside India to be notified. Tax pass through has been proposed to SEBI registered Category I and Category II AIF, subject to certain conditions. 'Yoga' included as a specific category in the definition of 'charitable purpose'. Investment in Sukanya Samriddhi Account Scheme (SSAS) in the name of any girl child of the individual shall be eligible for deduction under Section 80C of the Income tax Act. Interest accruing on deposits in SSAS and withdrawals from SSAS proposed to be exempt from tax. Contribution to National Pension Scheme (NPS) and notified pension schemes to be increased from ₹1 lakh per annum to ₹1.5 lakhs, subject to conditions and overall limits towards specified investments. It has also been proposed to provide additional deduction of ₹50,000 per annum to be available in respect of individual's contribution to NPS. Exemption from transport allowance to be increased from ₹800 per month to ₹1600 per month. Deduction in relation to health insurance premium under section 80D of the Act has been proposed to be increased from ₹15,000 to ₹25,000. In case of senior citizens, the limit has been raised to ₹30,000.

Indirect Tax Proposals

Central Excise: The standard rate of excise duty propounded to be changed from 12 percent to 12.5 percent. Education cess and secondary and higher education cess subsumed into excise duty. Increase in excise duty on cigarettes, cigar, cheroots and cigarillos. Also, suggested increase in clean energy, cess on coal from INR 100 per tonne to INR 200 per metric tonne. The rate of excise duty on mineral water, aerated water, etc. increased from 12 percent to 18 percent. Additional excise duty of 5 percent abolished on such goods. To encourage domestic manufacture of tablet computers and mobiles: - Rate of excise duty on tablet computers and mobiles restructured to 2 percent (with no CENVAT credit) or 12.5 percent (with CENVAT credit); and - Parts, components or accessories and sub-parts used in the manufacture of tablet computers exempted from excise duty. Goods supplied against International Competitive Bidding ("ICB") are exempt from excise duty if the import of goods attracts 'nil' customs duty. For claiming excise duty exemption, conditions for availing customs duty exemption need to be cumulatively satisfied. As an important trade facilitation measure, first stage dealers, second stage dealers and registered importers permitted to send the goods to the buyers' premises directly from the manufacturer's / importer's premises, without receiving such goods in its premises.

Service Tax

Rate of Service tax: The government suggested the Service tax rate to be increased to 14 percent; education cesses to be withdrawn. Swachh Bharat cess at the rate of 2 percent on value of taxable services proposed; effective rate of service tax would increase to 16 percent. No clarity on the CENVAT credit eligibility of cess paid; absence of credit may lead to cascading effect.

Expansion in scope of levy of service tax: All services provided by Government or local authority to a business entity would henceforth be subject to tax, except few services in negative list. Service tax to be levied on contract manufacturing / job work for production of alcoholic beverages. Access to amusement facility like rides, gaming, amusement parks, water parks, etc. to be subjected to tax.

Withdrawal / restriction of exemptions: Exemptions have been withdrawn for services by way of construction, erection, commissioning etc. to Government; services by way of construction, erection, commissioning, etc. of airports or ports; and services provided by a mutual fund agent or distributor to a mutual fund or assets management company; exemption to transportation of foodstuff by rail, road or vessel has been restricted to milk, salt, food grains including flours, pulses and rice.

Valuation: Taxability of reimbursable expenses and costs incurred by the service provider in course of providing the services reiterated .Uniform abatement of 70 percent has been prescribed for service of transportation of goods by road, rail and sea. Service tax is payable on 30 percent of the value without CENVAT credit on inputs, capital goods and input services. Service tax on service of transportation of passengers by air, in any class other than economy class, to be levied on 60 percent of value as against 40 percent of the value for economy class.

Reverse charge: Specific provisions have been made for taxation of services involving aggregator using a web based software application and communication device and under the brand name of aggregator. Definitions of aggregator and brand name provided - Liability to tax is required to be discharged by the aggregator / agent - Aggregators located outside India are required to appoint an agent in India. Reverse charge liability has been extended to services provided by mutual fund agents and distributors. Services of supply of manpower or security service have been converted from partial reverse charge to full reverse charge mechanism.

CENVAT credit rules: Agreeing to the industry demand, the time period for taking credit on inputs and input services has been enhanced from six months to one year. The expression 'export goods' defined as goods sent outside India for the purpose of refund of unutilised credit. As a result, refund would not be available for supplies to SEZ units, Deemed Exports transactions (like Export Oriented Units). In a move to rationalise levy of multiple taxes, Education Cess has been subsumed into effective rate of excise duty / service tax. No clarity on the ability of the taxpayer to utilise, unutilised credit balance of

Education Cess. As a trade facilitation measure, credit to a taxpayer extended in following job-work situations: Where the inputs are sent directly to a job-worker's premises. Credit would be admissible even if the goods are sent by one job worker to another for further processing and the taxpayer receives back the processed goods. Where the capital goods are sent directly to a job-worker's premises. The time limit for receiving back the capital goods from job-worker enhanced from 180 days to two years. Credit of services tax paid under partial reverse charge now available on payment of service tax. Going forward, the availability of credit not linked with the payment of value of service to vendor CBEC circular has been issued to clarify 'place of removal' for export goods for claiming credit on transportation service.

Customs: The Median rate of Basic Customs Duty ("BCD") has been retained at 10 % and effective customs duty rate increased on account of increase in Countervailing Duty ("CVD") rate of 12.5 percent. An offence related to false declaration / false documents, etc. under the customs law would now be considered an offence under the Money Laundering Act. Customs duty reductions with actual user condition, with an aim to: Address inverted duty structure on account of BCD on finished product being lower than BCD on raw material or intermediate goods, to reduce cost of raw materials for manufacturing in India and Reduce CENVAT credit accumulation especially on account of Special Additional Duty of Customs ("SAD"). Government reduced customs duty for certain organic chemical, products required under Digital India, specific healthcare products, and for specific renewable energy products. Exemption have been done to High Density Polyethylene for manufacture of telecommunication grade optical fibres or optical fibre cables to promote National Optical Fibre Network Programme of 7.5 lakh kms for connecting 2.5 lakh villages, under the Digital India programme. Specific digital video cameras and parts and accessories of these digital video cameras would now attract nil rate of BCD. There has been increase in CVD rate on import of tablet computers and mobile phones from 6 to 12.5 percent on account of corresponding change in excise rate. BCD on commercial vehicles increased to 40 percent; however, exemption provided: For Completely Knocked Down imports are containing all the necessary components, parts or sub-assemblies, for assembling a complete vehicle with engine, gearbox and transmission mechanism not in a pre-assembled condition, leading to effective BCD of 10 percent.

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Key Features of Budget 2015-2016, released on February 28, 2015

Mid-Year Economic Analysis, 2014-2015, released by Ministry of Finance Department of Economic Affairs Economic Division

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