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CONTENTS

Sr. No.	TITLE & NAME OF THE AUTHOR (S)	Page No.
1.	AWARENESS AND RISK PERCEPTION OF ATM CARD USERS: AN EMPIRICAL INVESTIGATION <i>PRIYODARSHINI DHAR & SAMIRENDRA NATH DHAR</i>	1
2.	BRAND LOYALTY AND CUSTOMER SATISFACTION OF INTERNET SERVICE PROVIDERS <i>R.MUTHUKUMAR & DR. V. VIJAYALAKSHMI</i>	7
3.	LINKAGE BETWEEN ATTITUDE, PERCEIVED DESIRABILITY AND THE ROLE OF SELF EFFICACY AS A MODERATING VARIABLE OF SUBJECTIVE NORM ON INTENTION OF ENTREPRENEURSHIP <i>SYAHRAN, MUGI HARSONO & TULUS HARYONO</i>	12
4.	ESTIMATION OF DAILY EXCHANGE RATE VOLATILITY: A COMPARATIVE STUDY OF INDIAN CURRENCY WITH TOP TRADABLE CURRENCIES OF THE WORLD <i>NISCHITH. S & DR. MAHESH.R</i>	17
5.	INVESTOR SAFEGUARDS ACTIONS IN CAPITAL MARKET <i>DR. K.VS.N.JAWAHAR BABU & K. GIRIDHAR</i>	24
6.	A STUDY ON CUSTOMER SATISFACTION TO BSNL 3G MOBILE SERVICES IN MYSORE <i>KIRANA D.V & SRI RANJINI S</i>	28
7.	COMMITMENT OF INDUSTRIAL HOUSES TO NEIGHBOURING WORLD <i>DR. MARIYA T CHEERAN, GEORGE JOSEPH & RENJITH T A</i>	32
8.	IMPACT OF ANNUAL INFLOW OF FOREIGN DIRECT INVESTMENT WITH SELECTED ECONOMIC GROWTH FACTORS <i>R.MAHESH & A.PALANISAMY</i>	35
9.	FUNDAMENTAL ANALYSIS OF OLD GENERATION PRIVATE SECTOR BANKS IN INDIA <i>R. CHANDRASEKARAN & C. KANDASAMY</i>	39
10.	A COMPARATIVE ANALYSIS OF EMPLOYEES WORK VALUES OF GEN X AND GEN Y IN COMPANIES <i>DR. BHAGIRATHI NAYAK & DR. PRATIMA SARANGI</i>	44
11.	A STUDY ON PERCEPTION OF PU STUDENTS TOWARDS EATING JUNK FOOD WITH SPEICAL REFERENCE TO BANGALORE CITY <i>ASHA RANI.K</i>	49
12.	INCLUSIVE GROWTH IN INDIA: ISSUES AND CHALLENGES <i>PADALA SANDYA RANI</i>	56
13.	EVALUATION OF THE REALIZATION OF SCIENTIFIC SPECULATIONS ON FUTURE ADVANCEMENT IN COMPUTER TECHNOLOGY <i>FITHANEGET KASSA DAGNEW</i>	61
14.	PROBLEMS AND PERFORMANCE OF SHGs IN SHIVAMOGGA DISTRICT <i>SHIVAPRASAD D T</i>	64
15.	ONLINE BUYING AND CONSUMER BEHAVIOUR: AN ANALYSIS OF FLIPKART.COM SHOPPERS <i>RAMYA R & JYOTHI A N</i>	72
16.	A COMPARATIVE STUDY ON PHARMACEUTICAL COMPANIES' SHARE PRICES <i>PRATHYUSH VISWANATH & VIDHYA AVADHANI</i>	77
17.	CUSTOMERS' PERCEPTION TOWARDS e-BANKING SERVICES OF THE COMMERCIAL BANKS IN KOLLAM DISTRICT <i>DR. PRADEEPKUMAR, K.S</i>	81
18.	THE IMPACT OF THE INTERNET NETWORK TECHNOLOGY ON ACCOUNTING INFORMATION SYSTEMS <i>CARLITO BILI CAEIRO</i>	85
19.	EFFICIENCY OF THE SUGAR MANUFACTURING FIRMS OF INDIA <i>RAMA RANI</i>	88
20.	A STUDY ON CUSTOMER SATISFACTION OF FASTRACK WATCHES IN MYSORE <i>PRAVEEN KUMAR L</i>	98
	REQUEST FOR FEEDBACK & DISCLAIMER	104

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AWARENESS AND RISK PERCEPTION OF ATM CARD USERS: AN EMPIRICAL INVESTIGATION**PRIYODARSHINI DHAR****M. TECH. STUDENT**

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ABSTRACT

From the very advent of ATMs, security issues have been a major concern. Due to lack of awareness and technological advancements, ATM frauds like skimming, shoulder surfing, PIN interception, pin security, etc, have accelerated through the years. This paper investigates into the level of awareness and risk perception of bank customers who use ATMs for financial transactions, regarding the types of possible frauds and precautionary and preventive measures. The awareness level and risk perceptions is measured using appropriate scaling techniques after making reliability tests and carrying out an extensive field survey of a random sample of about 500 ATM users of different private and public sector banks in districts of North Bengal.

KEYWORDS

ATM, Bank Technology, Frauds, Risk Perception, Awareness.

JEL CLASSIFICATION

D18, G21, O32.

1. INTRODUCTION

Information technology has been the most important catalysts for the transformation of the Indian banking industry in terms of outreach, efficiency and financial inclusion. The Automated Teller Machine (ATM) was first commercially introduced in the 1960s. There were over 1.5 million ATMs installed worldwide by 2005. ATM technology based services which has been growing rapidly is being used as a means of reaching out to the customers at lower transaction costs and offering hassle free services and has become a 'public technology'. With the advent of ATM services, banking has become a 24 X 365 hour service and has done away with the constraints of limited banking hours and generation and validation of paper documents for deposit or withdrawal transactions. Other than withdrawal and deposit transactions customers are getting multi function benefits to transfer funds, book air and train tickets, mobile recharge, and even cheque deposits.

Since the introduction of ATM facilities by HSBC Bank in Mumbai, the number of ATMs have been growing at a galloping rate. The table given below, which depicts the data from April 2011 to April 2015 speaks of the facts of growth of ATMs in India.

TABLE 1: GROWTH OF AUTOMATED TELLER MACHINES OF PUBLIC AND PRIVATE SECTOR BANKS IN INDIA

Year	No of ATMs onsite	No of ATMs offsite	Total ATMs	Additions over previous year	Annual Rate of Growth %
April 2011	41268	34377	75,645	-----	-----
April 2012	47914	48828	96,742	21,097	27.89
April 2013	57090	59288	1,16,378	19,636	20.29
April 2014	85134	77409	1,62,543	46,175	39.67
April 2015	90819	91661	1,82,480	19,937	12.26

Source: Compiled from ATM and POS statistics, Reserve Bank of India for different years

The distinguishing fact that emerges from the above table is that the number of ATMs have more than doubled in a span of five years in India recording a compounded annual growth rate (CAGR) of 19.35%. It is not only the ATMs (physical facilities) which have increased, but it is also the customer interaction which has rapidly increased as evidenced from the growth in number and value of transactions. The following table speaks out the facts.

TABLE 2: GROWTH OF NUMBER AND VOLUME OF TRANSACTIONS IN ATMS IN INDIA

Year	Total Debit Card Transactions in ATMs	Annual Rate of Growth %	Amount of Transactions (Rs. Million)	Annual Rate of Growth %
April 2011	399553342	-----	1061653.47	-----
April 2012	452614082	13.28	1280330.654	20.59
April 2013	473418167	4.59	1565538.06	22.28
April 2014	554034275	17.03	1773477.07	13.28
April 2015	615527057	11.09	2000398.2	12.79

Source : Compiled from ATM and POS statistics, Reserve Bank of India for different years

However, use of this technology is susceptible to a number of risks as a variety of fraudulent techniques can be perpetrated against ATM users to fleece them of cash during transactions. EAST (European ATM Security Team) in European Fraud Update 2014 has reported that in Europe, losses caused by ATM skimming are estimated at more than 350 million Euros a year. More than 3 million victims reported ATM skimming crime, with a cash average loss of \$1000 per incident. The study has also reported a 69% increase in ATM related fraud attacks, primarily driven by a surge in reported cash trapping activity across eleven countries. "The problem of ATM frauds is global in nature and its ramifications have been felt in India as well. It is a big threat and it requires a coordinated and cooperative action on the part of all the stakeholders" said Pravin Dalal, cyber security expert. (Information Security Education and Awareness <http://infosecawareness.in/infosec-news/>). In the following paragraphs, a brief description is made of the most common types of ATM frauds.

2. ATM FRAUDS: A BRIEF DESCRIPTION

(i) *Shoulder Surfing*

In this case the cheater usually positions himself close to the ATM to clandestinely watch as the ATM user enters their PIN and records the information manually or by installing miniature video cameras discretely on the fascia close to the PIN pad, to record the PIN entry information and the number of the card. These information are later used to carry out transactions on the internet.

(ii) *Card Theft*

In this technique the actual ATM card is trapped by using a card trapping device, often encased in a plastic transparent film, inserted into the card reader throat. The card is prevented from being returned to the consumer at the end of the transaction by attaching hooks to the probes. The cheater who stays close to the customer makes a suggestion for re-entering the PIN, which he quickly memorizes. After the consumer leaves the area, believing their card to have been captured the cheater takes out the card with a probe and withdraws money.

(iii) *Skimming Devices*

Skimmers are contraptions used by cheaters to encapsulate the data stored in the magnetic strip of a card. Small card readers are installed on the top of actual card readers and can trick the consumer into believing that the device is part of the ATM. Sometimes signs are given instructing ATM users to swipe cards through the additional reader "for security purposes" before performing a transaction. Information can be captured and retained the information from more than 500 cards, including account numbers, balances and verification codes. The device is then removed, allowing the downloading of the recorded data.

(iv) *Counterfeit PIN Pad Overlay*

In this technique a counterfeit PIN pad is placed over the original keypad. This superimposed transparent overlay captures the PIN data and stores the information into its memory. The transparent overlay cannot be normally detected by the ATM user. After the user enters the information, the counterfeit PIN pad is removed and all information are downloaded. Counterfeit PIN pads can be almost identical in appearance and size as the original. This method when administered in combination with card theft provides the cheater with the information needed to loot an unwary users bank account.

(v) *PIN Interception*

In this fraud technique, the information of the PIN is captured in electronic format through an electronic data recorder as soon as the ATM PIN is entered. The PIN is usually captured as the PIN is transmitted to the host computer for the online PIN check. The cheater usually accesses the communication cable of the PIN pad inside the terminal. It is easier for ATM technicians to administer this technique than outsiders.

There are other sophisticated methods being contrived with rigor as engineers are trying to plug these problems. However, it is more important to delve into the issue as to whether ATM users are aware of these techniques and take adequate care while handling ATMs. With this background it would be pertinent to find out whether researchers have been giving serious thought to the risk perceptions and awareness of users. The review of literature given below highlights some relevant findings.

3. REVIEW OF LITERATURE

Adepoju. A. S. and Hassan, M.E. (2010) opined that 'there have been a proliferation of ATM frauds in the country even and across the globe. Managing the risk associated with ATM fraud as well as diminishing its impact is an important issue that face financial institutions as fraud techniques have become more advanced with increased occurrences. The ATM is only one of many Electronic Funds Transfer (EFT) devices that are vulnerable to fraud attacks.' Regarding ATM frauds, Diebold (2002) found that the major form of ATM fraud is PIN theft which is carried out by various means; skimming, shoulder surfing, camera, key pad recorder etc. This study elucidates that the common type of fraud perpetuated is PIN theft which is mostly as a result of congestion at ATM points. Brunner et al. (2004) in their study concluded that the location of ATM is a high determinant to fraud or crime carried out at ATM point. From this research over 75% of the respondents affirm that the location of ATM in secluded place contribute to the fraud perpetuated at ATM point. ATM within the banking premises is more secure than ATMs outside the bank premises. Ho and Ng (1994) suggested that one of the major reasons why cash is still the main medium for the payment of goods and services is that consumers perceive other payment media as inherently risky. In a well cited study Lockett and Littler (1997) empirically demonstrated that the use of electronic banking involves risk and suggested that consumers perceived that an existence of risk was present with the use of e-payments. In another oft cited article, Gan et al (2006) examined the relationship between perceived risk factors and customers use of e-banking and demonstrated that there existed a negative relationship between these variables. Pikkarainen et al., (2004) in their empirical investigations pointed out that despite the fact that e-payments facilitate customers in doing their banking activities, they are still reluctant in adopting the new technology because they do not have full control over their own behaviour and system processes. Okeke (2013) carried out empirical survey of e-banking customers from different segments in Nigeria with questionnaire as the instrument for data collection to ascertain which of the perceived risk/security factors of psychological risk, quality risk, time-loss risk, financial risk, physical risk and security that are dominant in classifying e-banking customers on the basis of high and low involvement. The results show that the ATM/debit/credit cards command high involvement. In fact researchers have been trying to gauge the use of ATM services from the angle of consumer behaviour. Lo'pez and Castillo (2008) argued that perceived risk in customer behaviour lead to unpleasant consequences and the same logic is applicable to ATM services where customers may shy away from these machines if they perceive that risks are too high. Zeithaml (1981) argued that services are riskier than products because services are intangible, non-standardized, and often offered without guarantees or warranties. Some service like ATM facilities are so technical or specialized that consumers possess neither the knowledge nor the experience to evaluate whether they are satisfied, even after they have consumed the service. Achumba (2006) suggested that affective component is what the individual feels about the object –whether it is pleasant or unpleasant. Adverts that encourage people to experience the feelings and sensations associated with products like ATM or other e-payments stimulate affective involvement. Sellapan and Hariharan (2013) identified that there are 4 factors that help customers to getting awareness on ATM service and there are 10 factors that help customers to getting awareness on Online Banking Services.

However, not much work has been done on the awareness and risk perception of ATM users in India. Considering the growth rate of ATMs in India, studies to gauge these parameters are essential for taking up policies and strategies for ATM security and making operations more user friendly. Efforts have been made to fill up this research gap in the discussions that follow.

4. OBJECTIVES OF THE STUDY

On the basis of the literature reviewed and the identified research gap, the study attempts to

1. To assess the overall risk perception of ATM users
2. To assess the overall risk perception of ATM users based on their demographic characteristics and location in rural and urban areas.
3. To assess the perception of ATM users based on their transactions carried out.
4. To assess the awareness level of ATM users of different fraud techniques and find the association between different demographic profiles and education levels.

5. METHODOLOGY

The study has been based on primary data collected by means of self administration of structured questionnaires to ATM users in different urban rural and semi-urban areas in West Bengal. The questionnaire was were pilot tested on 50 respondents. Reliability tests carried out and Cronbach's alpha for multi item constructs was calculated to be 0.798. Questionnaires were administered to 508 respondents who were intercepted on a random basis after they had used ATMs of any banks in different localities. The questionnaire was administered to only those respondents who had used the ATM for at least five times. This was done to avoid first time ATM users and gauge the perception of users who had certain experience with this technology. 20 filled in questionnaires had to be rejected due to faulty insertions and the final sample size stood at 488 respondents. The profile of the sample respondents are given below:

TABLE 3: PROFILE OF RESPONDENTS (N=488)

Basis	Categories	Number	% of total
Gender	Male	284	58
	Female	204	42
Location	Urban	184	38
	Rural	147	30
	Semi-Urban	157	32
Age	18 to 25 years	73	15
	25 to 35 "	109	22
	35 to 45 "	119	25
	45 to 55 "	105	21
	55 and above	22	17
Education	Post Graduate and above	118	24
	Graduates	159	33
	High School	107	22
	Below High School	104	21
Occupation	Professionals	87	18
	Businessmen/women	84	17
	Salaried persons	142	29
	Housewives	64	13
	Students	111	23
Income per annum (Rs. Lakhs)	Upto 2.5	112	23
	2.5 to 5	134	27
	5 to 10	163	34
	Above 10	79	16

However, while collecting information for assessing risk perception transaction-wise, it was found that not all the respondents had carried out all types of transactions. For example only 94 respondents out of 488 had used ATMs for bill payments, 118 respondents had used ATMs for fund transfer, 102 respondents had carried out online transactions. In these cases, analysis was done on the basis of number of responses available.

The questionnaires were structured using different types of scales. For measurement and quantification of the risk perception of the ATM users a seven point semantic differential scale with the left pole designated as *highly risky* and anchored with a score of (-3) and the right pole designated as *absolutely no risk* and anchored with a score of (3) was used and overall responses recorded.

Risk perception information was also analysed according to age, gender, education and according to transactions. The need for such analysis was drawn from findings of previous researchers like Bashir et.al (2014) who found out that age and education have a highly significant positive relationship with risk perception and income and gender have a significant but negative relationship with risk perception. In a previous study too Bashir et.al (2013) found that females are more reluctant to take on risk than males. Younger as well as better-educated people are also willing to take more risk. Earlier Sitkin and Pablo (1992) studied risk behaviour and different cognitive factors and found that gender has an indirect impact on risk perception through risk propensity and overconfidence.

For measurement and quantification of the awareness levels of the respondents a five point Likert Scale was used with the following anchors :- Highly aware (2), Somewhat aware (1), No response (0), Very little aware (-1), Not at all aware (-2). Scores were calculated for individual statements as well a composite score for awareness was calculated

6. DATA ANALYSIS AND FINDINGS

The findings of the study are reported in the tables below. The overall risk perception of the ATM users has been reported in table 4.

TABLE 4: OVERALL RISK PERCEPTION OF BANK CLIENTS USING ATM CARDS

Category of Respondents	Mean Score	N	z values
Overall risk perception of using ATM cards	1.344	488	14.63*
Perception of Urban Respondents	1.626	184	18.06*
Perception of Rural Respondents	0.879	147	7.92*
Perception of Semi-Urban Respondents	1.448	157	13.62*
Perception of Male Respondents	1.437	284	19.26*
Perception of Female Respondents	1.214	204	11.44*

Note: N denotes the number of Respondents in each category. The mean scores have been calculated on the basis of a seven point semantic differential scale (*highly risky* (-3) to *absolutely no risk* (3)). * denotes significance at 1% level.

The mean scores shown in the table are self explanatory. The overall risk perception of the respondents shows that the ATM users do not consider the technology to be risky. However, the score show that they do not also consider the system to be absolutely risk free. There are a difference in scores of rural and urban respondents and the risk perception of rural respondents are higher (as represented by lower mean score). Similarly on gender basis female ATM users have a slightly higher risk perception than their male counterparts. The risk perception of female ATM users are quite in consonance with the risk behaviour pattern as found by Bashir et.al (2013 and 2014) and sitkin and Pablo (1992). In the next table, the risk perceptions of ATM users have been depicted according to the age category of respondent

TABLE 5: OVERALL RISK PERCEPTION OF BANK CLIENTS (ACCORDING TO AGE) USING ATM CARDS

Category of Respondents (age wise)	Mean Score	N	z values
18- 25 years	2.140	73	18.45*
25- 35 years	1.828	109	14.22*
35 -45 years	1.414	119	9.43*
45 -55 years	1.082	105	8.67*
55 years and above	(-) 0.882	22	-2.38**

N denotes the number of Respondents in each category. The mean scores have been calculated on the basis of a seven point semantic differential scale (*highly risky* (-3) to *absolutely no risk* (3)). * denotes significance at 1% level and ** denotes significance at 5% level.

This table shows interesting facts. As depicted by the mean scores, the risk perceptions rise with increasing age. Younger respondents in the age category of 18 to 25 years have a mean score more than 2, nearly edging towards the right pole which depicts *absolutely no risk*. However, users above 55 years have a much higher risk perception as evident from the negative mean score. In the next stage of analysis, risk perceptions of the respondents have been gauged on the basis of the transactions undertaken by them. In this case not all the transactions listed in the table were made by all the respondents. Therefore the table shows

variance in the number of respondents according to transactions. For example only 94 respondents out of 488 have made bill payments through ATMs. The mean scores for each type of transaction is given in the table below

TABLE 6: TRANSACTION WISE RISK PERCEPTION OF ATM USERS

Statements	Mean Score	N	z values
1) Using Cards for cash withdrawals from ATMs	1.867	488	10.41*
2) Using cards for depositing cash in ATMs	(-) 0.968	216	-7.56*
3) Using cards for bill payments through ATMs	(-) 1.202	94	-1.54
4) Using cards for fund transfer through ATMs	(-)0.924	118	-1.94**
5) Using cards for PIN change through ATMs	1.334	406	3.77*
6) Using cards for payment in shops/malls/ petrol pumps	(-) 0.878	328	-2.32**
7) Using cards for online transactions	(-) 1.464	102	-11.01*
8) Using cards for Balance Enquiry & Mini statements	1.422	464	13.24*
9) Disclosing PIN to others	(-) 1.164	488	-3.47*
10) Keeping PIN unaltered after receiving PIN from bank	(-) 0.628	488	-1.46

Notes: N denotes the number of respondents who have actually carried out the transactions or know how to carry out these transactions. The mean scores have been calculated on the basis of a seven point semantic differential scale (highly risky(-3) to absolutely no risk (3).. * denotes significance at 1% level and ** denotes significance at 5% level.

The risk perception score for cash withdrawals are quite low as depicted by the high mean scores. This is probably due to the fact that when one is receiving the cash automatically, the perception of risks tends to be low. Moreover, when some of the respondents who gave high scores for this statement were asked about their awareness of cash trapping or blockage of cash, they replied in negative and said they had never experienced these incidents. The ATM users also responded positively when queried about PIN change through ATM or balance enquiry showing that these were quite harmless transactions. However, a high degree of risk was perceived by the respondents when transactions like depositing cash, or making online transactions, bill payments and fund transfers. When questioned in details, most of the respondents reported that they did not know the details of how these transactions took place and therefore felt that problems in debiting their accounts with incorrect account or disclosure of their bank account details may occur. They reported that they undertook these transactions on the advice of their friends or families, who were not also very conversant with the transactional intricacies. Moreover, instructions and advice from the bank was rarely available. It can be inferred that lack of financial literacy in these respects lead to a feeling of uncertainty and give rise to higher risk perceptions.

Drawing from the above statements, it can be presumed that a sense of insecurity can develop in an individual if the person is not aware of the problems that can occur while transacting through ATMs. Moreover, a person with low awareness will always hesitate to take up different types of transactions that are available in these machines, which reduces the involvement of the customers with the financial institutions. These people can even be unaware of the fraudulent attacks which may be perpetrated on them while executing transactions with which they are familiar and once they are subject to these attacks the possibility of alienation from this banking technology can increase. In the next stage of investigation the level of awareness of the ATM users were measured on a Likert's scale. The findings are given below:

TABLE 7: AWARENESS OF ATM USERS OF VARIOUS TYPES OF FRAUDS (N=488)

Statements	Mean Score	z values
1) Skimmers can be placed in the slot for inserting ATM card	-1.278	-5.66*
2) Skimmers can take your details of cards and bank account	-1.278	-5.66*
3) Hidden cameras can be placed for recording your PIN	-0.979	-2.12**
4) Key Overlay pads can be used to get your PIN when you use the keypad	-1.141	-3.66*
5) Other persons in the ATM chamber can surf over your shoulder to know the PIN	0.402	7.88*
6) Trapping devices can block your cash when it comes out of the cash dispenser	-1.217	-2.46**

Note: A Five point Likert Scale was used with the following anchors Highly aware (2), Somewhat aware (1), No response (0), Very little aware (-1), Not at all aware (-2). * denotes significance at 1% level and ** denotes significance at 5% level.

It is to be mentioned here that in the table above, only the statements which were found to be statistically significant have been reported. The table shows that the awareness levels regarding the major types of frauds are quite low. There is only an exception in the 5th statement where a positive degree of awareness can be noticed.

In the next stage the composite awareness scores for each individual respondent was calculated using the following methodology. Theoretically a respondent can be highly aware of all six statements and can score 2 for each response. Therefore the total score of the respondent can be $2 \times 6 = 12$. Similarly a respondent can be totally unaware of all the statements administered to him/her. The total score in this case will be $-2 \times 6 = -12$. Therefore the composite score of each individual respondents can vary from 12 to -12. To find whether there was any association between gender and Composite awareness scores, age and composite awareness scores, education levels and composite awareness scores the following null hypotheses were framed:

H₁: There would be no association between gender and composite awareness scores.

H₂: There would be no association between age and composite awareness scores.

H₃: There would be no association between education levels and composite awareness scores.

On the basis of the composite calculated above, Chi Square (χ^2) tests were made to test the hypotheses. The results are reported in the following tables.

TABLE 8: CONTINGENCY TABLE SHOWING ASSOCIATION BETWEEN GENDER AND COMPOSITE AWARENESS SCORES

Gender \ Composite Scores	12 to 7	6 to 0	-1 to -6	-7 to -12	Total
Male	38	58	54	134	284
Female	17	26	38	123	204
Total	55	84	92	257	488

$\chi^2 = 10.96$ significant at 5 % level

The null hypothesis H₁ being rejected at 5% level shows that there is significant association between gender and level of awareness. The contingency table shows that to some extent female users are less aware than their male counterparts.

TABLE 9: CONTINGENCY TABLE SHOWING ASSOCIATION BETWEEN AGE AND COMPOSITE AWARENESS SCORES

Age \ Composite Scores	12 to 7	6 to 0	-1 to -6	-7 to -12	Total
18 to 25 years	21	32	13	7	73
25 to 35 "	17	22	32	38	109
35 to 45 "	10	17	20	79	119
45 and above	7	13	27	140	187
Total	55	84	92	257	488

$\chi^2 = 132.57$ significant at 1% level

The Chi Square figures show that the null hypothesis H_2 is rejected at 1% level and therefore the association between age and awareness is highly significant. The contingency table speaks for itself. It shows that people in the younger age groups are more aware of the risks than the ATM users at the higher age groups. This is probably their higher exposure to electronic gadgets, internet and interaction with social media.

TABLE 10 : CONTINGENCY TABLE SHOWING ASSOCIATION BETWEEN EDUCATION AND COMPOSITE AWARENESS SCORES

Age \ Composite Scores	12 to 7	6 to 0	-1 to -6	-7 to -12	Total
Post Graduate and above	19	28	34	37	118
Graduates	16	23	21	99	159
High School	11	19	20	57	107
Below High School	9	14	17	64	104
Total	55	84	92	257	488

$\chi^2 = 32.66$ significant at 1% level

In this case also the null hypothesis is rejected at 1% level of significance showing that there is an association between the level of education and awareness levels. The contingency table speaks very clearly that the higher the education levels, the higher is the awareness levels. This seems quite natural as educated ATM users can gather information from the media, internet and read and follow instructions issued by banks.

7. CONCLUSION AND POLICY IMPLICATIONS

The findings of this study have deep policy ramifications. Recalling the arguments Lo'pez and Castillo (2008), that perceived risk in customer behaviour would lead to unpleasant consequences and is applicable to ATM services where customers may shy away from these machines if they perceive that risks are too high, it can be logically placed that if ATM users are unaware and afraid, the reasons why these machines were installed would get defeated. ATMs facilitate withdrawal, deposit and other transactions off the counter and relieve pressure on banks to put up more personnel at teller counters. Moreover, with transactional ease over 24 X 365 hours motivate higher number of deposit and withdrawal transactions. However, if the arguments put forward by Ho and Ng (1994) are to be carried, bank customers would prefer dealing in cash physically rather than risking their transactions through ATMs. This can be viewed in the context of financial inclusion programmes like Pradhan Mantri Jan Dhan Yojana where millions of ATM cards have been issued to people at 'the bottom of the pyramid'. A large number of these people have the minimum level of education and paltry savings. An atmosphere of insecurity would not induce in them the habit of making transactions through these machines. The vision of 100% financial inclusion in India would therefore get a set-back. Moreover, use of ATMs cuts off direct interaction with the bank staff. As Okeke (2013) opines with 'extensive use of ATMs, the absence of direct interaction with bank staff has increased customers' apprehensions about the perceived risk/security. To reduce the customers concerns about perceived risk as well as of security and privacy concerns, banks should improve the quality of interaction with the customers to alleviate these apprehensions'.

In this context it is important that the banks should come up with the following measures to alleviate risk in ATM transactions.

- Frequent awareness campaigns need to be carried out by banks and government agencies on ATM frauds and prevention. In some cases security tips are put up on notice boards inside the ATM rooms and in some cases security measures are prescribed in the banks' websites. However, with the financial inclusion drive on, a large number of people with low literacy levels do not have the ability to read and comprehend such tips. Bank personnel need to frequently interact with the ATM users to increase their awareness levels.
- Awareness campaigns need to be intensified and frequent for women, specially in the rural areas, persons with lower educational levels and persons in higher age groups.
- Some banks like State Bank of India has set up TLCs (Tech Learning Centres) for educating customers in banking technology. This can be emulated by other banks as well increase technological financial literacy of users.
- Moreover, the technical precautions like setting up alarm devices when anything other than a card is placed and generating error codes should be activated.
- Regarding the infrastructural aspects of ATM rooms, camera Surveillance, Mirror Self Surveillance systems should be installed so that shoulder surfing can be checked.
- Banks also need to issue Chip Based Cards and Biometric devices for user identification

These measures can reduce the actual occurrences of frauds, perception of risk and create higher involvement of the bank customers with the banks.

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BRAND LOYALTY AND CUSTOMER SATISFACTION OF INTERNET SERVICE PROVIDERS**R.MUTHUKUMAR****RESEARCH SCHOLAR****KOVAI KALAIMAGAL COLLEGE OF ARTS & SCIENCE
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COIMBATORE****ABSTRACT**

Internet usages are emerging like a boon quench for providing facilities, which are beyond the common man's imagination. The internet is growing at an incredible pace with no sign of a slowdown. Internets are a pervasive new communication technology, especially among young people. The youth have a unique behavior compared to the older generation, with research showing that a lot of what they purchase represents their self-expression. Internets are a part of their personal selves and are a vital component which connects them with the world and the people around them. The present study focused on the customer satisfaction and brand loyalty on different demographic variables. A total number of 500 respondents in Coimbatore were surveyed and their responses were analyzed using SPSS 20. The study indicated that Airtel is the most popular brand among the various demographic factors.

KEYWORDS

Internet, Brand loyalty, Customer satisfaction.

INTRODUCTION

Telecommunication is the transmission of information over significant distances to communicate. In earlier times, telecommunications involved the use of visual signals, such as beacons, smoke signals, semaphore telegraphs, signal flags, and optical heliographs, or audio messages via coded drumbeats, lung-blown horns, or sent by loud whistles. In the modern age of electricity and electronics, telecommunications include the use of electrical devices such as telegraphs, telephones, and teleprompters, the use of radio and microwave communications, as well as fiber optics and their associated electronics, plus the use of the orbiting satellites and the Internet. A revolution in wireless telecommunications began in the first decade of the 20th century with pioneering developments in wireless radiocommunications by Nikola Tesla and Guglielmo Marconi, Nobel Prize winner in Physics in 1909.

It head way back in the 1950's, when the US military were researching methods for better communication networks. This ultimately led to a project called "ARPANET" in the late 1960's by the United States Defense Advanced Research Project Agency (DARPA). The idea of this was to create new networking technologies to allow research centers and universities to link to each other.

INTERNET

The Internet is a global system of interconnected computer networks that use the standard Internet Protocol Suite (TCP/IP) to serve billions of users worldwide. The Internet can also be defined as a worldwide interconnection of computers and computer networks that facilitate the sharing or exchange of information among users. The Internet carries a vast range of information resources and services, such as the inter-linked hypertext documents of the World Wide Web (WWW) and the infrastructure to support electronic mail.

BROAD BAND

The term broadband refers to a telecommunications signal or device of greater bandwidth, in some sense, than another standard or usual signal or device. Different criteria for "broad" have been applied in different contexts and at different times. Its origin is in physics, acoustics and radio systems engineering, where it had been used with a meaning similar to wideband. However, the term became popularized through the 1990s as a vague marketing term for Internet access.

Broad band internet access is a high data rate internal access—typically contrasted with dial-up access using a 56k modem. Dial-up modems are limited to a bit rate of less than 56kbit/s (kilobits per second) and require the full use of a telephone line where as broadband technologies supply more than double this rate and generally without disrupting telephone use.

STATEMENT OF PROBLEM

In the present world nothing is possible without internet. Every individual here is lamed without internet. It has become a better part of everyone's life. It is a boon as avail services like online shopping, net banking, online reservations, online recruitments and E-Commerce. However bane is the steady growth in the cyber-crimes. The study was taken up to find the reach of the broadband and broadband service providers.

The internet has become inevitable part of individual life. Today the trade is done through E-Commerce where, all the purchase of goods and availing of service are done through internet.

SIGNIFICANCE OF THE STUDY

Broadband can overcome geographical and financial barriers to provide access to a widerange of educational, cultural and recreational opportunities and resources. Broadband can promote economic development and revitalization through electronic commerce by creating new job and attracting new industries. Through this study, the service providers maybe able to know the views of rural people towards broadband services. The service providers can improve facilities based on their requirements. The Government can recognize through this study that raising broadband penetration would translate into higher GDP per capita, in addition to promoting social well-being faster and widely available broadband is considered an important opportunities to improve education, communication and public participation in civic affairs. One key to strengthening education, entrepreneurship, and innovation in community is to harness the full power of the internet and that means faster and more widely available broadband. Therefore, the Government can formulate necessary policies to spread the broadband services in rural areas.

OBJECTIVES OF THE STUDY

1. To study the awareness towards the broadband service providers.
2. To study the influencing factors towards the broadband service providers.
3. To offer suggestion based on the findings.

LIMITATIONS

1. The study is restricted to Coimbatore city.
2. The survey to be conducted among five hundred respondents only.
3. The suggestions and recommendations to be given based on the respondents opinion and cannot be generated.

LITERATURE REVIEW

Bernhard, Frank J. this article discusses the two issues that exist at the heart of deploying today's broadband reality: efficiency of managing the service creation itself and the perception of customer experience tied to the service. Sanjay Castelino, vice president of product marketing at Motive Inc., speaks frankly about the challenges facing carriers in delivering on customer experience at a profitable clip. The frightening complexity of end users, coupled with the cascading expectations of voice and data services, is setting the higher for achieving success. Carriers need to embrace service modeling technology and explore new paths of deployment if the end goal is to create profit alongside a satisfying experience.

Goldie, Luan article reports on a research by price comparison Web site, Moneysupermarket.com which reveals only 21% of broadband service subscribers in Great Britain receive the speed they subscribed for. Jason Lloyd, the company's head of broadband, explains that the study aims to raise the issue for operators to improve their service. In fairness to operators, Money supermarket considers factors affecting operators' services such as distance from telephone exchanges, location and number of households sharing a provider.

OysteinFors and Bjorn Hansen consider a two-stage game between two competing ISPs. The firm offer access to the internet access is assumed to be vertically and horizontally differentiated. Our model exhibits network externalities. In the first stage the two ISPs choose the level of compatibility (i.e., quality of a directed interconnect link between the two networks). In the second stage the two ISPs compete a-la Hotelling. They find that the ISPs can reduce the stage two competitive pressures by increasing compatibility due to the network externality. The firm will thus agree upon a high compatibility at stage one. When it is costly to invest in compatibility, they find that the firms over invest, as compared to the welfare maximizing investment level.

METHODOLOGY

This research is a micro-level study based on primary data to be collected from a sample of broadband users with special attention to the services in rural areas. The whole of the Coimbatore is the universe for the study. A representative sample of broadband service is selected by a stratified, multistage sampling method. Secondary data for selecting the sample were also available.

METHOD OF ANALYZING DATA

For analyzing the data, Chi-square Test, Two-way Anova, and Factor Analysis method were used with the help of SPSS 20.

CHI-SQUARE TEST

ANALYSIS

COMPARISON BETWEEN PERSONAL FACTORS AND SOURCE OF ADVERTISEMENT

Hypothesis: There is no significant relationship between Personal factors and source of advertisement.

TABLE 1

Personal factors	Chi – Square values	P values	Significant/Not Significant
Age group	16.506	0.011	S
Gender	1.659	0.436	NS
Educational Qualification	26.206	0.001	S
Number of members in family	16.706	.000	S
Number of earning members	7.754	0.257	NS
Annual income	11.378	0.077	NS
Occupational status	27.898	0.000	S

Note: S – Significant (p value < 0.05); NS – Not Significant (p value > 0.05)

From the table, Chi square test revealed that the relationship between personal factors and source of advertisement, hypothesis is accepted (not significant) in three cases and the hypothesis is rejected (significant) in four cases.

It is concluded that the Educational Qualification, Number of members in family and occupational status is significant influence in source of advertisement.

COMPARISON BETWEEN PERSONAL FACTORS AND THE DEVICE

Hypothesis: There is no significant relationship between personal factors and the device.

TABLE 2

Personal factors	Chi – Square values	P values	Significant/Not Significant
Age group	56.192	0.000	S
Gender	13.095	0.000	S
Educational Qualification	22.758	0.030	S
Number of members in family	5.790	0.447	NS
Number of earning members	14.530	0.105	NS
Annual income	18.726	0.028	S
Occupational status	27.604	0.001	S

Note: S – Significant (p value < 0.05); NS – Not Significant (p value > 0.05)

From the table, Chi square test revealed that the relationship between personal factors and the device, hypothesis is accepted (not significant) in two cases and the hypothesis is rejected (significant) in five cases.

It is concluded that the Age group, Gender, Educational Qualification, Annual income and occupational status is significant influence in device used to connect.

COMPARISON BETWEEN PERSONAL FACTORS AND THE SERVICE PROVIDER

Hypothesis: There is no significant relationship between personal factors and the service provider.

TABLE 3

Personal factors	Chi – Square values	P values	Significant/Not Significant
Age group	33.152	0.000	S
Gender	9.830	0.020	S
Educational Qualification	40.769	0.000	S
Number of members in family	26.604	0.000	S
Number of earning members	24.331	0.004	S
Annual income	12.300	0.197	NS
Occupational status	43.559	0.000	S

Note: S – Significant (p value<0.05); NS – Not Significant (p value>0.05)

From the table, Chi square test revealed that the relationship between personal factors and the service provider, hypothesis is accepted (not significant) in only one case and the hypothesis is rejected (significant) in six cases.

It is concluded that the Age group, Gender, Educational Qualification, Number of members in family, Number of earning members and occupational status is significant influence in the service provider.

COMPARISON BETWEEN PERSONAL FACTORS AND THE DATA DOWNLOAD

Hypothesis: There is no significant relationship between personal factors and the data download

TABLE 4

Personal factors	Chi – Square values	P values	Significant/Not Significant
Age group	39.725	0.000	S
Gender	1.619	0.655	NS
Educational Qualification	29.425	0.003	S
Number of members in family	33.621	0.000	S
Number of earning members	20.916	0.013	S
Annual income	32.644	0.000	S
Occupational status	29.693	0.001	S

Note: S – Significant (p value<0.05); NS – Not Significant (p value>0.05)

From the table, Chi square test revealed that the relationship between personal factors and the data download, hypothesis is accepted (not significant) in only one case and the hypothesis is rejected (significant) in six cases.

It is concluded that the Age group, Educational Qualification, Number of members in family, Number of earning members, Annual income and occupational status is significant influence in the data download.

COMPARISON BETWEEN PERSONAL FACTORS AND THE OFFERS

Hypothesis: There is no significant relationship between personal factors and the offers.

TABLE 5

Personal factors	Chi – Square values	P values	Significant/Not Significant
Age group	8.957	0.176	NS
Gender	0.690	0.708	NS
Educational Qualification	22.315	0.004	S
Number of members in family	1.875	0.759	NS
Number of earning members	7.436	0.282	NS
Annual income	0.838	0.991	NS
Occupational status	10.777	0.096	NS

Note: S – Significant (p value<0.05); NS – Not Significant (p value>0.05)

From the table, Chi square test revealed that the relationship between personal factors and the offers, hypothesis is accepted (not significant) in six cases and the hypothesis is rejected (significant) in only one case.

It is concluded that the Educational Qualification is significant influence in the offers.

TWO-WAY ANOVA ANALYSIS

1. Comparison Between hours spending per day and age group.

Hypothesis: There is no significant relationship between hours spending per day and age group.

TABLE 6

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	16.193	3	5.398	5.456	0.001
Intercept	844.026	1	844.026	853.22	0
age	16.193	3	5.398	5.456	0.001
Error	193.887	196	0.989		
Total	1604	200			
Corrected Total	210.08	199			

In the above table we infer that the main effect is Age is significant because the p-value is less than the level of significant.

POST HOC TESTS

AGE

MULTIPLE COMPARISONS

How many hours you will spend in browsing per day.

TABLE 7

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.
Below 25years	25-35 years	-0.41	0.171	0.076
	35-45 years	-0.4	0.2	0.191
	Above 45years	-1.3	0.342	0.001
25-35 years	Below 25years	0.41	0.171	0.076
	35-45 years	0.02	0.18	1
	Above 45years	-0.89	0.332	0.039
35-45 years	Below 25years	0.4	0.2	0.191
	25-35 years	-0.02	0.18	1
	Above 45years	-0.9	0.347	0.048
Above 45years	Below 25years	1.3	0.342	0.001
	25-35 years	0.89	0.332	0.039
	35-45 years	0.9	0.347	0.048

From the above multiple comparison table significant difference were found that in below 25 years, above 45 years are significant, in 25-35 years above 45 years are significant, in 35-45 years below 25 years and above 45 years are significant and above 45 years all the age group are significant.

2. COMPARISON BETWEEN HOURS SPENDING PER DAY AND EDUCATIONAL QUALIFICATION.

Hypothesis: There is no significant relationship between hours spending per day and educational qualification

TABLE 8

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	43.588	4	10.897	12.763	.000
Intercept	524.882	1	524.882	614.758	.000
Edu.Qua	43.588	4	10.897	12.763	.000
Error	166.492	195	.854		
Total	1604.000	200			
Corrected Total	210.080	199			

In the above table we infer that the main effect is educational qualification is significant because the p-value is less than the level of significant.

Post Hoc Tests

Educational Qualification

Multiple Comparisons

How many hours you will spend in browsing per day.

TABLE 9

(I) Educational qualification	(J) Educational qualification	Mean Difference (I-J)	Std. Error	Sig.
School level	Diploma	0.27	0.502	0.983
	Under Graduate	1.11	0.479	0.143
	Post Graduate	-0.03	0.476	1
	Professional	0.14	0.478	0.998
Diploma	School level	-0.27	0.502	0.983
	Under Graduate	0.84	0.234	0.004
	Post Graduate	-0.3	0.228	0.672
	Professional	-0.13	0.232	0.981
Under Graduate	School level	-1.11	0.479	0.143
	Diploma	-0.84	0.234	0.004
	Post Graduate	-1.14	0.171	0
	Professional	-0.97	0.176	0
Post Graduate	School level	0.03	0.476	1
	Diploma	0.3	0.228	0.672
	Under Graduate	1.14	0.171	0
	Professional	0.17	0.169	0.841
Professional	School level	-0.14	0.478	0.998
	Diploma	0.13	0.232	0.981
	Under Graduate	0.97	0.176	0
	Post Graduate	-0.17	0.169	0.841

FACTOR ANALYSIS

The factor analysis is used for two purposes. One is to identify the important factors and other for data reduction. In this study, the factor analysis using the extraction method of principal component analysis is adopted to identify the important factors. The important factors are identified with the extraction value when it is more than 0.5.

LEVEL OF SATISFACTION RELATING TO DIFFERENT ASPECTS OF BROADBAND SERVICE PROVIDER.

TABLE 10

Communalities		
	Initial	Extraction
Price	1	0.658
Speed	1	0.497
Offers	1	0.583
Customer services	1	0.698
Bill payment	1	0.625

It is understood from the above table that "Cost" (0.500) has a high extraction value.

It is concluded that among the four different aspects, "Cost" (0.500) is considered as very important as the others because of its high extraction values.

FINDINGS**FINDINGS OF CHI SQUARE ANALYSIS**

- There is no significant relationship between Personal factors and source of advertisement.
- There is no significant relationship between personal factors and the device.
- There is no significant relationship between personal factors and the service provider
- There is no significant relationship between personal factors and the data download
- There is no significant relationship between personal factors and the offers.

FINDINGS OF TWO WAY ANOVA

- There is no significant relationship between age and education of the respondents and amount spend per month for branded fuels.
- There is no significant relationship between Occupation and Monthly income of the respondents and amount spend per month for branded fuels.

FINDINGS OF FACTOR ANALYSIS

- ❖ It is concluded that among the four different aspects, "Cost" (0.500) is considered more very important than the others because of its high extraction values.

SUGGESTIONS**➤ MORE ADVERTISEMENT**

Awareness has to be created among the public about the internet through advertisements and awareness program. Most of the respondents using internet for education, but how ever there are other services like online reservation, net banking, etc., which awareness among customers, so broadband service provider need should take initiative to explore the possible usages of internet.

➤ CYBER CRIME

There must be a strict law imposed on the cyber crime which is growing threat in the present internet situation. The law to be imposed must ensure that it restrict the growth of the cyber crimes.

➤ SERVICE IN RURAL AREAS

Broadband service provider has to be providing services to potential customers in areas of low population density. Several rural broadband exist, through its own pit falls and limitation. Some choices are better than others, but depend on how proactive the local communication company is about upgrading their rural technology.

➤ REDUCE MONTHLY COST

Broadband service providers should take attempts to reduce monthly costs by establishing Wi-Fi network. Some customers are planned to discontinue because of high billing and after sales services is not good. Though it is small percentage the service providers should focus on these to keep the brand image in the minds of people.

➤ PROVIDE DETAIL BILLING

The detailed billing is provided as a value added service. It will help the customer to clear their doubts about billing, and hence to improve their satisfaction level. If any complaint is observed from the customers, it should be dealt quickly. This will reduce the choice for dissatisfaction.

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LINKAGE BETWEEN ATTITUDE, PERCEIVED DESIRABILITY AND THE ROLE OF SELF EFFICACY AS A MODERATING VARIABLE OF SUBJECTIVE NORM ON INTENTION OF ENTREPRENEURSHIP

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ABSTRACT

This study is aimed to examine the relationship between Attitudes, perceived desirability, subjective norm, and the role of self-efficacy as a moderating variable on the intention to become entrepreneurs. The research method was in a survey design involving sample of 200 student of economics faculties of universities in Jogjakarta. The results showed that the perceived desirability, attitude, subjective norm had a positive effect on intention to entrepreneurship, self-efficacy variable as a variable moderating influence of subjective norms on intentions to become entrepreneurs

KEYWORDS

perceived desirability, attitude, subjective norm, self-efficacy, intention of entrepreneurship.

INTRODUCTION

Entrepreneurial growth in Indonesia is very slow compared to other countries (www.Smeccda.com). Based on data from the General entrepreneur Monitoring (GEM) 2009, the number of entrepreneurs in Indonesia is around 0.24 percent of the total population, to build a developed economy takes a minimum of 2 percent or 4.8 million entrepreneurs from Indonesia's current population. As a comparison, Singapore has 7.2 percent of entrepreneurs; Malaysia 2.1 percent; Thailand 4.1 percent; South Korea 4.0 percent; and the United States 11.5 percent of its population. As an illustration of the economic progress of the country such as Singapore, Malaysia, Thailand, South Korea and the United States are determined by the number wirausahawannya ranging from 2.1 percent to 11.5 percent of the country's population (Ministry of Cooperatives and SMEs of the Republic of Indonesia)

It is necessary to accelerate the creation of new entrepreneurs increase employment opportunities and to encourage long-term economic growth. The efforts made by the Indonesian government to encourage entrepreneurship in an effort emergence of creative and innovative businesses that are competitive in the global market (Ministry of Cooperatives and SMEs in the Republic of Indonesia). Therefore, the government launched the National Entrepreneurship Movement (GKN) in order to achieve a number of entrepreneurs at least 2 percent of the population in Indonesia in 2014 (Ministry of Cooperatives and SMEs of the Republic of Indonesia)

GKN shows the government's commitment to reduce unemployment and poverty. It's also the government's efforts to achieve performance targets Second United Indonesia Cabinet, which targets the decrease of unemployment from 7 percent in 2011 to 5-6 percent in 2014, then economic growth of 6.5 percent in 2011 to 7.7 percent in 2014 and poverty fell from 12.5 percent to 8-10 percent in 2014 (Ministry of Cooperatives and SMEs of the Republic of Indonesia). The government made some efforts to increase the number of new entrepreneurs through stages of increasing motivation, spirit and intention of entrepreneurship. Some one with a spirit and intention to start a business, will have the readiness and progress better in carrying out a business rather than someone with no intention to start a business (Indarti and Rosiana, 2008). Bird (1988) stated that the intention of entrepreneurship is essential for business success.

REVIEW OF LITERATURE

A theory most often used to estimate an intention to behave is the theory of planned behavior (TPB) (Ajzen, 1991; Segal, Borgia and Schoenfeld (2005). Ajzen (1991) expressed the intention as a desire within the individual that refers to the desire to do certain behaviors. Boyd and Vozikis (1994) stated that the intention to behave influenced by three variables: (1) attitude toward the behavior (2) subjective norms (3) perceived behavioral control. However, according to Shapero Entrepreneur Event (SEE) developed by Shapero and Sokol (1982), not all entrepreneurs are born and developed following the path of systematic and planned from the beginning. The intention of entrepreneurs emerges due to changes in the lives of individuals for example: being fired from a job, just getting out of prison, dropping out of school, divorced, retirement, or the influence of other parties, for example partners, customers, and mentors (Kruger, Reilly, dan Casrud (2000)). Kruger et al. (2000) said that the intention of entrepreneurship is influenced by the perceived desirability, perceived feasibility and propensity to act.

Kruger, Reilly, and Casrud (2000) conducted a comparison between TPB model and SEE model and found that the model was better in explaining intention of entrepreneurship. Furthermore Kruger et al. (2000) concluded that one of the TPB variables, SEE models and models of perceived behavioral control and perceived feasibility, these two variables are the same variables with self-efficacy variables defined by Bandura (1982). Bandura (1982) defines self-efficacy as a perception of a person's ability to perform a behavior (Prasad and Raud, 2000); Segal, et al. (2005); Farzier and Niehm (2008)

NEED/IMPORTANCE OF THE STUDY

This study presents a theoretical approach by combining behavioral approaches Shapero Entrepreneurial Event model and the Theory of Planned Behavior.

STATEMENT OF THE PROBLEM

Formulation of the problem is to be answered in a study (Sekaran, 2010). Statement formulation of the problem in this research is that there are still low gap phenomenon growth of entrepreneurship in Indonesia. Problems in this study is whether Attitude, Perceived desirability And Intention Of Subjective Norm influence Entrepreneurship. Is Self Efficacy As A Moderating Variable Of Subjective Norm On Intention Of Entrepreneurship

OBJECTIVES

This study aimed to test the intentions of entrepreneurs using Theory of Planned Behavior approach by combining existing variables in enterpreneur Shapero Event Model (seem)

HYPOTHESIS DEVELOPMENT

Krueger et al. (1993) stated that the events of entrepreneurship is the result of interaction of situational, social and cultural factors. Entrepreneurship occurs as a result of a dynamic process that provides a situational momentum that has an influence on individual perceptions and values are determined by the influence of social, cultural and previous experience. The model proposed by Krueger et al. (1993) focuses on the model and the model TPB SEE models and focuses on the factors that shape entrepreneurship. According to Krueger (1993) attitude affects the perceived desire on the perception of the consequences of behavioral outcomes. The results of the behavior of the possibility that being an entrepreneur is an action that is beneficial or detrimental (Krueger, 1993)

A previous research of Scott and Twomey (1988) reported that 24.6 percent of students in America are interested in self-employment because of the financial benefits. Doh et al. (1996) conducted a survey of post-year undergraduate students and found that 61.8 percent of the 359 students was interested in starting a business as a career option. Ghazali et al. (1995) conducted a survey on 2,486 graduates in Singapore and found 8.6 percent of them were interested in becoming self-employed. Similarly, research conducted by Volery et al. (1997) who studied entrepreneurship intention of a number of students in Australia. The research result showed that students were interested in becoming entrepreneurs as a promising career option. One research conducted by Wong and Wang (2002) to a number of students in Singapore showed that entrepreneurship is influenced by ethnic and regarded as a career option. A survey conducted by Chow and Wong (2004) for military retirees in Singapore, the results showed that retirees are interested in becoming entrepreneurs because of the financial benefits, the satisfaction of autonomy, and entrepreneurship as a next career option. Based on the aforementioned descriptions, some hypothesizes can be formulated as follows:

Hypothesis 1: attitude has positive effect on the perceived desirability for entrepreneurship

Kruger (2003) said that the intention of entrepreneurship arise due to changes in the lives of individuals such as being fired from a job, divorce, boredom during work, just releasing out of prison, fresh graduate from school. This situation makes them seemed to be in a new environment and the middle of a different world, but they still have to fight to maintain the continuity of his life, they come out to be an entrepreneur because they are working with self-reliant (Kruger, 2000).

Fitzsimmons and Douglas (2011) explored the perceived feasibility of an interaction effect between perception and perceived desirability in the formation of individual entrepreneurial intentions. Krueger et al (2000) comparing TPB SEE models and models and found a perceived desirability to explain more than half of the variance in entrepreneurial intentions. Krueger, (2000) found a positive relationship between the perception perceived desirability intention to start a business, this is due to factors to meet the needs of family.

Regulatory focus theory says that people will bring harmony in their intentions (Brockner, Higgins, Murray, 2004). This theory discusses the importance of two focus orientations on various stages of entrepreneurial process, namely the promotion focus and prevention focus (Brockner et al., 2004). Based on the regulatory focus theory, Fitzsimmons and Douglas (2011) found an evidence of a positive impact on the interaction between perception perceived desire in their intention to become self-employed. Promotion focus is more profitable during the initial stage in which individuals tend to seek an easier solutions to problems. In a Prevention focus, individuals are induced to filter business idea or to form an entrepreneurship. This happened because of their attention to the risks associated with entrepreneurship and thus they act in a way more careful.

A research of carsul et al. (2007) stated that the intention of being an entrepreneur because entrepreneurship may become as an attractive career choice in financial gain. Ngugi, Gakure, Waithaka, Kiwara (2012) conducted a Shapero model on a number of business students in Kenya, and found a positive relationship between the desire for entrepreneurship to entrepreneurial intentions. Furthermore, the results of the study concluded that the economic opportunities and autonomy are very important in making choices for entrepreneurship. The results also suggested that educational institutions and government may develop entrepreneurship programs so that learners have knowledge of entrepreneurial activity. Based on these descriptions, some hypotheses can be formulated as follows:

Hypothesis 2: The perceived desirability on entrepreneurship has positive effect on entrepreneurial intentions

Segal et al. (2005) stated that the most important determinant of a person's behavior is the intention to behave. Individual intention to show a behavior is influenced by attitudes to display such behavior. Individual attitudes toward behaviors include evaluation of behavioral outcomes. In the context of entrepreneurial attitude as favorable or unfavorable evaluation of the self-employed (Yang, 2013). Thus, the attitude towards entrepreneurship intentions will show a specific response that the intention of entrepreneurship as a favorable or adverse action (Yang, 2013).

Previous research found that every intention of entrepreneurship as measured greatly influenced the attitude of entrepreneurs (gird and Bagraim 2008) this was due to financial gain factor, autonomy and lifestyle. Similar results were also found by Gelderen et al. (2008). Venesaar, Urve, Ene Kolbre, and Toomas Piliiste (2006) conducting a study on student attitudes to entrepreneurship intention in Tallin University of Technology. The attitude of the students towards entrepreneurship was assessed through their motivation to start a business. This research reveals ambitions for autonomy to seek opportunities to earn better income influencing entrepreneurial intentions. Veciana, José Aponte, and Urbano (2005) compared the attitudes of students towards entrepreneurship in Catalonia and Puerto Rico, using, each sample of 837 and 435 students. The survey revealed that students both in Puerto Rico and in Catalonia has a positive attitude perception toward entrepreneurship intention (92.2% in Puerto Rico and 74.0% in Catalonia). Further research revealed each sample 28.7% in Puerto Rico and 12.1% considering entrepreneurship as a career option. Based on these descriptions, a hypothesis can be formulated as follows:

Hypothesis 3: entrepreneurship Attitude has a positive effect on entrepreneurial intentions

Subjective norm is a function of the perceived importance of normative beliefs derived from the opinions of others, such as family, friends, and coworkers (Hartono, 2007). Subjective norm reflects the influence of organizational culture or society and provides guidance to decide whether an act of support for the other side (Yang, 2013). The norms and social culture is emphasized as the main force of entrepreneurial intentions and as a differentiating factor that increases the activity of entrepreneurship in different country (Minniti and Bygrave, 2000). Entrepreneurial activity is influenced by cultural and social (Reynolds, 1992). The closest environment of an individual has ability to shape their perceptions through encouragement and support (Giagtzis 2013). Engle et al. (2010) evaluated the Ajzen models of planned behavior to predict entrepreneurial intention in twelve countries. The finding showed that social norms were proven be a significant predictor of intention in all countries.

Scott and Twomey (1988) reported that students whose parents had a small business showed the highest preference to become entrepreneurs. Brown (1990) also observed a similar phenomenon in the UK. Furthermore, Brown (1990) conducted a training program to help students start their own business and found 38 percent of students who came from businessmen families were very interested in starting their own business. Ghazali et al. (1995), conducted a research in Singapore, by comparing student residence. Students who lived within the urban business were intending to entrepreneurship than those who lived within private housing. Ghazali et al. (1995) reported similar observations on the choice of graduate entrepreneurship in Singapore.

The most detailed analysis conducted by Matthews and Moser (1996) which used a longitudinal investigation for graduate students in the United States. They found the family background factors to be significant in the two surveys, the first one was conducted after graduation and, two years after graduation, but it was not significant within 5 years after graduation. Kickul and Krueger (2004) revealed one of the problems during measuring the effect of subjective norm that is subjective norms tend to vary. Davidsson and Wiklund (1997) found that in the United States, being an entrepreneur is a measure of achievement and personal

success. Carsrud et al. (2007) revealed that in Finland found to be entrepreneurs generate more diverse reactions, being an entrepreneur is considered personal success, and cause admiration and envy. Yang (2013), examining the theory of planned behavior to predict entrepreneurial intentions to 1,300 students in China. The results showed that subjective norm had an effect on entrepreneurial intentions. In Chinese culture places a great emphasis on collectivism (Hofstede, 2001). Therefore, people see the important things of an individual will have a strong impact on individuals for entrepreneurship. If the people who are important for Chinese students, as teachers and their parents, believe that students must build a new business, or if these people support the entrepreneurial process of students, then students will increase entrepreneurial motivation (Yang 2013). Based on these descriptions can be formulated hypotheses as follows:

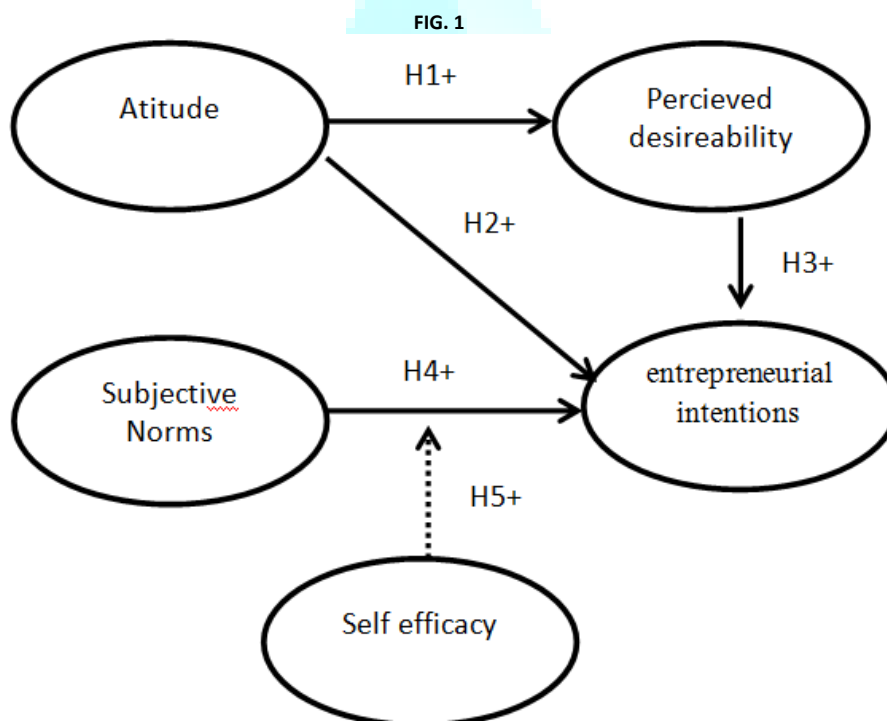
Hypothesis 4: Subjective Norms positive effect on entrepreneurial intentions

According to Clement and Wang, (2002), there are two models to explain the influence of family roles: role of parents and family support. The role of parents asserted that an entrepreneur who comes from a family of entrepreneurs will become entrepreneurs because of the example of their parents. Another challenge while measuring the social norm is to identify group reference. Group Reference for potential employers is not only family and friends, but also co-workers and business partners (Carsrud et al., 2007).

A research conducted by Gird and Bagraim (2008); Joao, et al. (2012); Marina, et al. (2012), Renner, et al. (1991) finding that subjective norm was found has no support to intention of entrepreneurship. Prabhu et al. (2012) proposed that the relationship of subjective norms on entrepreneurial intentions can be moderated by self-efficacy variable. In the case of a family company Hadjimanolis and Poutziouris (2011) said that the previous generation when it will choose his successor is not based on order of oldest child, but choosing based on high self efficacy owned by child to run business founded by his parents, it is for the company's survival who have high self-efficacy, the support for entrepreneurship is also high (Schunk, 2001). Based on the description, a hypothesis can be formulated as follows:

Hypothesis 5: Self-efficacy as a variable moderating subjective norms on entrepreneurial intentions

RESEARCH MODEL



RESEARCH RESULT

Questionnaires distributed were 200 copies. This questionnaires were directly spread to facilitate researchers to explain respondents if there is a list of questions that are less understood. In this research, respondents addressed by the researcher were students of economic faculty bachelor program obtained from a variety of existing campus in Yogyakarta. Total questionnaire distributed directly was 200. The profile of respondents can be seen in Table 1

TABLE 1: PROFILE OF RESPONDENTS

Profile	category	total	Percentage
Gender	-Man	160	80%
	- Woman	40	40%
Age	17	2	1%
	18	6	3%
	19	59	29.5%
	20	80	40%
	21	20	10%
	22	19	9%
	23	10	5%
	24	2	1%
	27	2	1%

Reliability testing is conducted by using Cronbach's alpha. Cronbach's alpha coefficient of more than 0.60 is acceptable (Nuanlly., 1978). The results of reliability testing Cronbah's Alpha on all the larger construct was 0.60 because each construct Alpha value was above 0.60 it means that all constructs have met the reliability test. In other words, the internal consistency of the items in the questionnaire questions are acceptable.

RESULTS AND DISCUSSION

To answer this hypothesis, a hierarchical regression analysis method was used. In the first section, it will discuss testing hypotheses related to influence of attitudes towards desire. In the second part, it will discuss the influence of hypothesis testing attitudes, desires and subjetiif norm on intention to entrepreneurship. The third section will discuss the influence of self-efficacy hypothesis testing as moderating variable relationship of subjective norm on intention of entrepreneurship. Moderated regression analysis (MRA) is a test that is designed in a hierarchical regression to determine the relationship between the two variables moderated by a third variable (Hair et al. , 1998). Significant moderating influence will be seen from the increase of R^2 value.

TABLE 2: RESULTS

Hypothesis	Result				
	β	t	R^2	P-Val	Result
Attitude to entrepreneurship has an effect on entrepreneurship desirability	0.291	9.825	0.192	0.000	support
Perceived desirability of entrepreneurship has an effect on intention of entrepreneurship	0.391	8.462	0.467	0.000	support
Attitude to entrepreneurship has an effect on intention of entrepreneurship	0.229	2.569		0.010	support
Subjective norm has an effect on entrepreneurial intentions	0.348	5.143		0.000	support
Self-efficacy as a moderating variable of subjective norms on entrepreneurial intentions	0.226	6.150	0.536	0.000	support

Hypothesis 1: attitude affects the desire of entrepreneurship: Regression Test results obtained value of 0.291 and the regression coefficient t value for 9825 > t table 1.98, and the value of R^2 of 0.272, and a p-value of 0.000. It can be concluded that hypothesis 1 is supported. The results of this study are consistent with previous studies conducted by Kruger et al., 2000, Carmen and Joaquin, 2010, Jessica et al., 2003. An individual will intend to show a certain behavior when s/he judge it positively (Ajzen 1991).

Attitude toward the behavior, there are two main aspects, namely: a belief that an individual display or not certain behaviors will result in consequences or certain outcomes, and an aspect of the individual's knowledge about an object. Attitude can be either individual opinions that do not necessarily correspond to reality. Attitude is the evaluation of trust (belief) or feeling (Affect) positive or negative on the individual if they have to perform certain behaviors desired. The more positive the individual belief as the result of an object, individual attitudes toward the object will be positive too, and vice versa (Fishbein and Ajzen, 1975).

Hypothesis 2: The desire of entrepreneurship effects on intention to entrepreneurship. Results of regression test was coefficient value 0.391 and t value of 8462, and the p-value 0.000. It can be concluded that hypothesis 2 is supported. This study is consistent with the previous studies conducted by Kolvereid, 1996, Marina et al., 2008, Gery et al., 2010, showing the perceived desire has positive effect on intention of entrepreneurship. Fishbein and Ajzen (1975) expressed the intention as a component within the individual that refers to the desire to do a particular thing. Theory of planned behavior and entrepreneurial intention models are widely used to predict intentions and entrepreneurial behavior

Hypothesis 3: Attitudes have positive effect on entrepreneurial intentions. The value of regression coefficient was 0.391 and the regression coefficient t value was 8462, and p-value was 0.010. It is concluded that hypothesis 3 is supported. In the case of entrepreneurship, attitudes towards entrepreneurship refers to the personal judgment whether being an entrepreneur is an action that is beneficial or detrimental (Kolvereid, 1996). Therefore, high expectations and their confidence reflect a favorable attitude towards entrepreneurship. It depends on the expectations and beliefs about the personal impact of the results generated from the behavior. Conversely, if the low expectations and confidence reflects a negative attitude to entrepreneurship.

Hypothesis 4: subjective norm has positive effect on intention of entrepreneurship. The regression coefficient value was 0.348 and t value was 5143, and the p-value was 0.000. The inferential hypothesis 4 is supported. Subjective norm refers to the individual's perception of social pressure to perform or not perform the behavior (Ajzen, 1987). It is called as subjective norms since it is related to perceived normative prescriptions, namely the perception or perceptions of social pressure (trust the opinions of others) which will affect the intention to perform or not perform the behavior.

In the subjective norm, there are two main aspects, namely: belief in hope, hope of referents norms, the belief in hope was the views of others that are considered to be important by individuals who advise people to show or not to show a certain behavior and motivation to comply with the normative expectations referent is the willingness of individuals to implement or not implement or opinion of others that are considered important that individuals should or should not perform certain behaviors.

Research conducted by Carr and Sqerra (2006) discussing the previous business experience will expose his business experience to the next generation. Davidson (2003), which conducted a research on family social capital among business beginners, a new research has shown that 75% of a businessman who comes from a family of entrepreneurs will get the support of the family to do business than non-family businesses, in the form of support, access to capital, access to raw materials, the potential market information, and information resources.

Hypothesis 5. Self-efficacy as a moderating variable has an effect of subjective norm intention to entrepreneurship. The change of R^2 0.563, concluded that Hypothesis 5 is supported. According to Schunk (2001) self-efficacy affects a person in choosing activities. Individuals with low self-efficacy may avoid things that involve many tasks, especially for challenging tasks, while individuals with high self-efficacy has a great desire to motivate him to perform tasks that are considered challenging.

Bandura (1997) promoted, that the individual in self-efficacy beliefs also influences the selection task, effort, perseverance, endurance, and achievement. Perception of feasibility consistently predict where the goal is directed to problematic control (Ajzen 1991). The most important, related feasibility perception of journey of options career, including self-employment as an entrepreneur. For instance gender and ethnic differences in career preferences seems entirely are fully moderated by differences in self-efficacy

Individuals who have high self-efficacy will race more on the obstacles they face and consider the failure made is as the result of a lack of effort made (Schunk, 2001). On the other hand, individuals with low self-efficacy tend to face difficulty and heavy to carry out a task (Schunk, 2001). This assumption causes stress and inhibit the use of self ability optimally so that the obtained failure is the result of the low ability owned.

FINDINGS

The role of self-efficacy as one moderating relationship variable of subjective norm on intention of entrepreneurship was proven to be successful. This can be seen in the analysis result. This result is based on measurement and representative evaluation of relation of the constructions. Entrepreneurship education in families or in educational institutions like college is important to emerge a positive attitude toward entrepreneurship. It is important to increase self-efficacy in entrepreneurship in families or colleges.

CONCLUSION

This study presents a theoretical approach by combining behavioral approach Theory of Planned Behavior and Entrepreneurial Event Shapero models. The study found that the theory of planned behavior models and Shapero Entrepreneurial Event models interconnected both models when applied to the study of entrepreneurship.

LIMITATIONS AND RESEARCH SUGGESTION FOR FUTURE RESEARCH

This study has methodological limitations such as presented in the previous section. They are:

1. The number of samples collected at several universities are deemed to be small in number so it is considered not reflect the real condition. Therefore, for the next study, the amount of samples collected at each college can be added so that the large sample would approach the real situation
2. Samples were taken only from student of bachelor program of economic faculty, so it resulted a high homogeneity. It is necessary for future study to take samples from other faculties, such as the faculty of engineering, fisheries, and agriculture, so that the data collected will be more varied.
3. This experiment tries to present a comprehensive model. However, there are some weakness therein, especially on the subjective norm variable, the real form of family support which is in the only form of moral support. The future research should observe the real form of family support, such as capital support, support of raw material resources and potential market information, and this research can also be developed by using theory of family social capital.

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ESTIMATION OF DAILY EXCHANGE RATE VOLATILITY: A COMPARATIVE STUDY OF INDIAN CURRENCY WITH TOP TRADABLE CURRENCIES OF THE WORLD

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ABSTRACT

The increasing volatility of exchange rates after the fall of Britton Woods's agreements has been a constant source of concern for trade for every nation. Since the adoption of a floating exchange-rate regime in 1973, the effects of exchange-rate volatility on the volume of international trade have been the subjects of both theoretical and empirical investigations. Since international trade is the main focus of concern to rate anything including the determination of currency value and other macro-economic variables. The demand and supply of international currencies depend on the process international trade will fix the rate of currency and every day it will differs. The fluctuation of exchange rate volatility which is incurred by this result not only exerts pressure on trade but also in charting the policy and safeguards the currency values. Since Indian currency has been in constant depreciation and also devalued two times has opened the face of concern for study. Hence this paper highlighted the worth of the currency in respect of fluctuation in one year period of time with that of other top tradable currencies of the world. In this paper the volatility has been measured by taking the top tradable currencies of the world with that of the Indian currency. GARCH model is used with the help of Excel and daily rates have been taken to evaluate and long run volatility measures have been evaluated by GARCH method.

KEYWORDS

Exchange rate volatility, top tradable currencies, long run variance.

INTRODUCTION

Business is the core source of development of any nation. Finance which follows the tradable activity can measure economy of the nation. At the same time if trade depreciates the total business collapse and it influence the currency rates of that particular nation. Here exchange rate play very important role. Exchange rate volatility refers to the demand of one currency with respect to other and leads to tendency for foreign currencies to appreciate or depreciate in value, thus affecting the profitability of foreign exchange trades. The volatility is the measurement of the amount that these rates change and the frequency of those changes. Exchange-rate risk increases transaction costs and reduces the gains to international trade. There are many circumstances when exchange rate volatility comes into play, including business dealings between parties in two different countries and international investments. Although this volatility is difficult to avoid in such circumstances, the use of futures to lock in exchange rates can mitigate the effects of price change. Volatility can occur in any security that rises or falls in value. The term is most often used in conjunction with the stock market, but foreign currencies can be volatile as well. When exchange rates are floating exchange rates, as opposed to fixed exchange rates, they are likely to go up and down in value depending upon the strength of the economies involved. As a result, volatility is something that affects any business undertaking involving two different countries.

In this paper the work has been constructed on the basis of GARCH model where the currencies are compared by estimating exchange rate volatility. Top tradable currencies have been taken into consideration as per the rating of world bank. Top currencies such as US dollar, Briton Pound, Japanese yen, Swiss franc and Australian Dollar have been taken for the studies. European Euro has been kept apart considering that it is the common currencies of many European nations.

TOP TRADABLE CURRENCIES OF THE WORLD

- **US dollar (The Almighty Dollar):** Created in 1913 by the Federal Reserve Act, the Federal Reserve System (also called the Fed) is the central banking body of the U.S. The system is itself headed by a chairman and board of governors, with most of the focus being placed on the branch known as the Federal Open Market Committee (FOMC). The FOMC supervises open market operations as well as monetary policy or interest rates.
- **European Euro (EUR) (The Dollar's Nemesis):** Headquartered in Frankfurt, Germany, the European Central Bank is the central bank of the 17 member countries of the Eurozone. In similar fashion to the United States' FOMC, the ECB has a main body responsible for making monetary policy decisions, the Executive Council, which is composed of five members and headed by a president. The remaining policy heads are chosen with consideration that four of the remaining seats are reserved for the four largest economies in the system, which include Germany, France, Italy and Spain. This is to ensure that the largest economies are always represented in the case of a change in administration. The council meets approximately 10 times a year.
- **Briton Pound (The Queen's Currency):** As the main governing body in the United Kingdom, the Bank of England serves as the monetary equivalent of the Federal Reserve System. In the same fashion, the governing body establishes a committee headed by the governor of the bank. Made up of nine members, the committee includes four external participants (appointed by the Chancellor of Exchequer), a chief economist, director of market operations, committee chief economist and two deputy governors.
- **Japanese yen (Technically Complex, Fundamentally Simple):** Established as far back as 1882, the Bank of Japan serves as the central bank to the world's second largest economy. It governs monetary policy as well as currency issuance, money market operations and data/economic analysis. The main Monetary Policy Board tends to work toward economic stability, constantly exchanging views with the reigning administration, while simultaneously working toward its own independence and transparency. Meeting 12-14 times a year, the governor leads a team of nine policy members, including two appointed deputy governors.

- **Swiss franc (A Banker's Currency):** Different from all other major central banks, the Swiss National Bank is viewed as a governing body with private and public ownership. This belief stems from the fact that the Swiss National Bank is technically a corporation under special regulation. As a result, a little over half of the governing body is owned by the sovereign states of Switzerland. It is this arrangement that emphasizes the economic and financial stability policies dictated by the governing board of the SNB. Smaller than most governing bodies, monetary policy decisions are created by three major bank heads who meet on a quarterly basis.
- **Australian Dollar (Always a Carry Favourite):** Offering one of the higher interest rates in the major global markets, the Reserve Bank of Australia has always upheld price stability and economic strength as cornerstones of its long-term plan. Headed by the governor, the bank's board is made up of six members-at-large, in addition to a deputy governor and a secretary of the Treasury.

LITERATURE REVIEW

Blinder (1996) offers a good definition blending four characteristics which encompasses the three classical functions of money (a medium of exchange, a unit of account, and store of value): an international currency accounting for a preponderant share of the official reserves of central banks; a currency used "hand-to-hand" in foreign countries; a currency in which a disproportionate share of international trade is denominated; and a dominant currency in international financial markets. This paper mainly focuses on the currency volatility in exchange rate.

Exchange rate regime of any country is one of the major macroeconomic factors which determine the worth of nation's economy. The countries, which follow floating exchange rate regime, are supposed to face more volatility in exchange rates which results in more variability of cash flows for the firms. There are various determinants of exchange rates starting from Differentials in Inflation, Differentials in Interest Rates, Current-Account Deficits, Public Debt, Balance of Payments, and Relative strength of other currencies, Terms of Trade, Political Stability & Government Intervention and Economic Performance in the macroeconomic level and performance of firms and its subsidiaries in relation to international trade or in short Sensitivity of firms in the microeconomic level.

In micro economic scenario, the sensitivity of firms' cash flows to the fluctuations in exchange rate is known as *Foreign Exchange Exposure*. This exposure could be conventionally classified into three categories as mentioned by Eun and Resnick. First, *Transaction Exposure* which is defined as the sensitivity of "realized" domestic currency values of the firm's contractual cash flows denominated in foreign currencies to unexpected exchange rates. Second, *Economic Exposure* can be defined as the extent to which the value of the firm would be affected by unanticipated changes in exchange rates. Any anticipated changes in exchange rates would have been already discounted and reflected in the firm's value. Third, *Translation exposure* refers to the potential that the firm's consolidated financial statements can be affected by changes in exchange rates.

In macro-economic scenario, the status of a national currency is usually enforced by a set of legal restrictions. However, the use of currencies as international medium of exchange is largely determined by the "invisible hand". Recent work shows multiple reserve currencies can coexist because of multiple equilibria in the use of an international currency (Krugman 1984). Matsuyama et al. (1993), in the framework of random matching games for a two-country model of the world economy, also find multiple equilibria. In one equilibrium, the two national currencies circulate only locally; in another, one currency becomes an international currency. There is also an equilibrium in which both currencies are accepted internationally. The different roles of an international currency confer varied benefits (Cohen 2012). The use of a currency in foreign-exchange trading, trade invoicing, or for official intervention purposes generates some measure of gain at the microeconomic level. Cohen further adds that only the store-of-value role, which by definition implies some level of foreign accumulation, will generate any amount of seigniorage or macroeconomic flexibility for the issuing country.

Cohen (2012) argues that a currency's role in trade impacts the reserve preferences of the foreign central banks. The currency composition of the central banks' reserves generally reflects the currency choice of the international commercial relationship. The currency denomination of trade plays a vital part in determining which among several investment currencies will emerge as a favoured reserved currency. Frankel (2011) summarizes why most empirical studies of international currency choice have usually focused on the currency composition of foreign exchange reserves as the main indicator of the international use of currencies. Chinn & Frankel (2007, 2008) identify output and trade, financial markets, confidence in the value of the currency, network externality as critical factors that determine the status of international reserve currency. Lee (2010) uses the following demand function to estimate economic determinants of international currency.

The exchange rate in a given economy often plays a prominent role than the interest rate in the transmission mechanism of monetary policy (Vitale, 2003). Especially for developing countries, it has been assumed that depreciation is an appropriate macroeconomic fundamental to support the export sector.

GARCH and Exchange rates: Generalized autoregressive conditional heteroskedastic (GARCH) models have received ample attention in recent years, especially with regard to financial applications. This class of models, introduced by Bollerslev (1986), has been used to forecast fluctuations in commodities, securities and exchange rates. The aim of this paper is to assess the volatility of the top tradable currencies with that of Indian currency. It is well established that the volatility of asset prices displays considerable persistence hence large movements in prices values to be followed by large moves producing positive correlation in square returns. Thus current and past volatility can be used to predict future volatility.

OBJECTIVES

1. To estimate daily exchange rate volatility.
2. To estimate the fluctuation of top tradable currencies with Indian currency.

RESEARCH METHODOLOGY

The study has been conducted on the top currencies of the world against Indian Rupee. The study is both qualitative and quantitative. Top currencies has been taken for the study which are as follows.

1. US dollar,
2. Briton Pound,
3. Japanese yen,
4. Swiss franc and
5. Australian Dollar

DATA SOURCES AND COLLECTION

Secondary data has been used. The sources includes many reports including world bank report and IMF report, research bulletins and other accessible sources.

ESTIMATING EXCHANGE RATE VOLATILITY – THE MODEL

The methods of measuring volatility have evolved over time to reflect new advances in econometric techniques. There has not yet emerged a clearly dominant approximation for uncertainty. The volatility variable may be constructed as the standard deviation of a rate of change, or the level, of a variable; a moving standard deviation, or a within-period one (Mohsen & Hegerty, 2007). The most popular model for estimating volatility however is the GARCH (1,1) Model proposed by Bollerslev in 1986. The GARCH model has been used to characterize patterns of volatility in U.S. dollar foreign exchange markets (Baillie and Bollerslev 1989 and 1991) and in the European Monetary System (Neely, 1999)

The variance rate (σ_n^2) is calculated from a long-run average rate, V_L as defined in the equation;

$$\sigma_n^2 = \gamma V_L + \alpha u_{n-1}^2 + \beta \sigma_{n-1}^2$$

This equation can also be written as

$$\sigma_n^2 = \omega + \alpha u_{n-1}^2 + \beta \sigma_{n-1}^2$$

Where ω is set equal to γV_L

When $\alpha + \beta < 1$, the variance process displays mean reversion to the unconditional expectation of σ_n^2 , $\omega / (1 - \alpha - \beta)$. That is, forecasts of volatility in the distant future will be equal to the unconditional expectation of σ_n^2 , $\omega / (1 - \alpha - \beta)$. The parameters are as follows:

- σ_n = Defined as the Volatility of exchange rate at day "n" estimated at the end of day "n-1"
- σ_n^2 = Defined as the variance rate
- Un = Defined as the percentage change in the exchange rate between the end of day "n-1" and the end of day "n" between Rs and USD
- V_L = Long - run average variance rate
- ω, γ, α and β = Constant

ESTIMATING VOLATILITY

$$\sigma_n^2 = 0.000000576 + 0.0848016 u_{n-1}^2 + 0.138794 \sigma_{n-1}^2$$

$$\text{From } \gamma + \alpha + \beta = 1$$

$$\text{Therefore } \gamma = 1 - (\alpha + \beta) = 0.013190$$

$$\text{Further, } \omega = \gamma V_L, \text{ Therefore, } V_L = 0.000000576 / 0.013190 = 0.0000436694$$

Thus, the long run average variance implied by the model is 0.0000436694. This corresponds to volatility of $\sqrt{0.0000436694} = .0066 = 0.66\%$ per day. Therefore, the Long-term volatility equals 0.66% per day.

The Long-term volatility of the year equals $0.66\% \times \sqrt{313} = 11.67\%$

The rest of the calculations are done by using Excel and the following results are shown for 5 top currencies in below table 1, 2, 3, 4 and 5.

FINDINGS AND ANALYSIS

- The trading days are different, where 2009 to 2014 has greater than previous years ranging from 290s to 315s because Saturdays are added as working days. But the weighted average is taken for calculations.
- When the long run variance is zero the fluctuation of rupees is very little.
- When the long run variance is little means it doesn't indicate that the rupee value is appreciated or depreciates but ranged from the rise and fall for shorter values. For example the fluctuation existed if the rupee value rises for 2 to 5 rupees or decreases for 2 to 5 rupees.
- When omega results in zero and Gamma value is negative the long run variance is zero.

US DOLLAR/INDIAN RUPEE

- 1995, 1997, 1999, 2001, 2002, 2003 showed very little fluctuation in the currency rates hence volatility showed zero. It showed the fluctuation of Rs.2 or Rs.3 only rise and fall. The Gamma value of these years were negative as well resulting negligible long run variance
- 2004 was the year where rupee appreciated from Rs.45 of 2003 to Rs.43 in 2004. But lot of fluctuations was showed in this year in appreciation.
- 2008 was the year which showed much fluctuation because of recession.
- 2014 the fluctuation is minimised when compared to previous year even though the Rupee price gone more than expected which is up to Rs. 63.67 per dollar.

BRITISH POUND/INDIAN RUPEE

- British pound showed lot of fluctuation from 1995 to 2014.
- 2008 was the year which showed much fluctuation because of recession. In this year with US dollar pound also showed lot of fluctuation. In 2007 it was Rs.87 per pound and Rs.78 per pound in 2008. Since the decrease in trade with this currency the rupee value appreciated in 2008 but showed lot of fluctuation.

JAPANESE YEN/INDIAN RUPEE

- Even though the Japanese yen is lesser than the rupee value, the fluctuation is shown much in these currencies
- Year 2004 showed fluctuation in the currency value of yen where yen appreciated but remained constant with few variations. Hence long run variance is 9.86%
- 2009 was the year which shown more fluctuation because of depreciation of US dollar and also it saw a period of increase in the value of yen.

SWISS FRANC/INDIAN RUPEE

- 2009 was the year which shown more fluctuation because of depreciation of US dollar and also it saw a period of increase in the value of Swiss franc.
- 1999 and 2011 showed second level of fluctuation of 21.78% and 27.29%
- 2002 and 2014 showed less fluctuation which resulting in the fall of Swiss franc worth to Indian rupee when compared to previous year

AUSTRALIAN DOLLAR/INDIAN RUPEE

- Australian Dollar has also showed more fluctuation and this is the only currency which has constant rate of raise in its worth with that of Indian rupee.
- Year 1996, 1998, 2004, 2008 and 2013 has showed more fluctuation where 1997, 2002, 2005 and 2014 showed less fluctuation.

CONCLUSION

The international trade became complicated from 1973 till present. The worth of Indian rupee appreciated in small quantum and depreciated in large quantum. In this paper the volatility has been calculated from 1995 to 2014 where we have found that the volatility fluctuation over a period of year. When there is small variation the volatility is negligible but when there is large variation the volatility is high. In all 5 cases the volatility has shown high when the rupee value appreciated and also volatility has shown low when the rupee value remained constant. From the study it has been found that Japanese yen and Australian dollar has shown more volatility when compared to US dollar, British pound and Swiss Franc. And also in both Australian Dollar and Japanese yen high variation resulted in Appreciation of Indian rupee value. Hence from the study it can be conclude that Appreciation of Indian Rupee resulted in High long run variance which interprets as high exchange rate volatility.

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ANNEXURE

TABLE 1: US DOLLAR

USD/INR - US Dollar Indian Rupee										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	
(Trading) Days per Year	260	261	260	260	260	260	260	260	260	261
Unconditional Variance	1.29E-05	2.01E-05	5.71E-06	1.31E-05	1.64E-06	3.14E-06	1.31E-06	4.19E-07	2.11E-06	
Unconditional Variance ann.	0.003341	0.005246	0.001485	0.003405	0.000427	0.000815	0.00034	0.000109	0.000551	
Unconditional Volatility ann.	0.057802	0.07243	0.038532	0.058353	0.02067	0.028557	0.018452	0.010441	0.023476	
Estimated Omega	0	2.5E-07	0	5.1E-07	0	1.28E-07	0	0	0	
Alpha	0.544153	0.844155	0.888768	0.844155	0.781821	0.844155	0.729138	0.844155	0.874165	
Beta	1.294361	0.138794	0.180498	0.138793	0.328225	0.138793	0.463115	0.138793	0.161572	
Log-Likelihood	3080.222	2646.931	3148.985	2736.455	3255.649	3073.5	3262.288	3514.042	3134.104	
Gamma	-0.83851	0.017051	-0.06927	0.017052	-0.11005	0.017052	-0.19225	0.017052	-0.03574	
Alpha + Beta + Gamma	1	1	1	1	1	1	1	1	1	
Long-run variance	0.00%	6.18%	0.00%	8.82%	0.00%	4.41%	0.00%	0.00%	0.00%	

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
262	260	260	261	262	292	306	311	314	313	313
4.09E-05	2.55E-05	2.51E-05	2.65E-05	9.24E-05	7.12E-05	3.66E-05	2.78E-05	3.14E-05	6.4E-05	1.85E-05
0.010725	0.006634	0.006514	0.006905	0.024202	0.020782	0.0112	0.008646	0.00987	0.02003	0.005799
0.103559	0.081449	0.08071	0.083094	0.155571	0.144161	0.10583	0.092982	0.099347	0.141527	0.076148
1.47E-06	1.2E-06	1.08E-06	1.05E-06	4.31E-07	1.98E-06	1.38E-06	1.21E-06	4.27E-06	1.42E-06	9.09E-07
0.844155	0.844155	0.844155	0.844155	0.869543	0.864356	0.844155	0.844155	0.863139	0.860717	0.844155
0.138793	0.138793	0.138793	0.138793	0.129734	0.103457	0.138793	0.138793	0	0.115405	0.138793
2368.153	2462.333	2475.421	2475.41	2226.46	2511.109	2809.154	2935.93	2922.139	2771.939	3070.685
0.017052	0.017052	0.017052	0.017052	0.000723	0.032187	0.017052	0.017052	0.136861	0.023878	0.017052
1	1	1	1	1	1	1	1	1	1	1
15.02%	13.55%	12.84%	12.66%	39.51%	13.42	15.76%	14.68%	9.90%	13.66%	11.67%

TABLE 2: BRITISH POUND

GBP/INR - British Pound Indian Rupee										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	
(Trading) Days per Year	260	261	260	260	260	260	259	260	260	
Unconditional Variance	4.41E-05	3.67E-05	3.14E-05	3.33E-05	2.08E-05	3.32E-05	2.67E-05	1.77E-05	2.7E-05	
Unconditional Variance ann.	0.011461	0.009585	0.008162	0.008647	0.005404	0.008627	0.006928	0.004599	0.007028	
Unconditional Volatility ann.	0.107056	0.097904	0.090346	0.092991	0.073515	0.092881	0.083233	0.067819	0.083834	
Estimated Omega	2.04E-06	9.86E-07	4.17E-06	2.58E-06	1.15E-06	1.19E-06	1.2E-06	7.96E-07	1.19E-06	
Alpha	0.844155	0.847752	0.867533	0.872067	0.844155	0.852083	0.854152	0.847443	0.844155	
Beta	0.138793	0.138793	0	0.044537	0.138793	0.13939	0.137057	0.138793	0.138793	
Log-Likelihood	2332.975	2424.78	2416.881	2416.56	2503.185	2401.763	2425.612	2560.379	2448.186	
Gamma	0.017052	0.013455	0.132467	0.083396	0.017052	0.008527	0.008791	0.013764	0.017052	
Alpha + Beta + Gamma	1	1	1	1	1	1	1	1	1	
Long-run variance	17.64%	13.83%	9.05%	8.96%	13.22%	19.05%	18.82%	12.26%	13.46%	

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
262	260	260	261	262	292	306	311	314	313	313
4.09E-05	2.55E-05	2.51E-05	2.65E-05	9.24E-05	7.12E-05	3.66E-05	2.78E-05	3.14E-05	6.4E-05	1.85E-05
0.010725	0.006634	0.006514	0.006905	0.024202	0.020782	0.0112	0.008646	0.00987	0.02003	0.005799
0.103559	0.081449	0.08071	0.083094	0.155571	0.144161	0.10583	0.092982	0.099347	0.141527	0.076148
1.47E-06	1.2E-06	1.08E-06	1.05E-06	4.31E-07	1.98E-06	1.38E-06	1.21E-06	4.27E-06	1.42E-06	9.09E-07
0.844155	0.844155	0.844155	0.844155	0.869543	0.864356	0.844155	0.844155	0.863139	0.860717	0.844155
0.138793	0.138793	0.138793	0.138793	0.129734	0.103457	0.138793	0.138793	0	0.115405	0.138793
2368.153	2462.333	2475.421	2475.41	2226.46	2511.109	2809.154	2935.93	2922.139	2771.939	3070.685
0.017052	0.017052	0.017052	0.017052	0.000723	0.032187	0.017052	0.017052	0.136861	0.023878	0.017052
1	1	1	1	1	1	1	1	1	1	1
15.02%	13.55%	12.84%	12.66%	39.51%	13.42	15.76%	14.68%	9.90%	13.66%	12.92%

TABLE 3: JAPANESE YEN

JPY/INR - Japanese Yen Indian Rupee										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	
(Trading) Days per Year	260	261	260	260	260	260	260	260	260	260
Unconditional Variance	9.36E-05	4.65E-05	6.16E-05	0.00012	7.27E-05	4.17E-05	4.38E-05	3.8E-05	2.74E-05	
Unconditional Variance ann.	0.024325	0.012136	0.016022	0.031235	0.018896	0.010843	0.011381	0.009882	0.007116	
Unconditional Volatility ann.	0.155966	0.110163	0.126577	0.176733	0.137462	0.104128	0.10668	0.09941	0.084359	
Estimated Omega	8.14E-06	2.04E-06	2.74E-06	1.94E-05	4.33E-06	2.04E-06	2.04E-06	2.04E-06	2.87E-06	
Alpha	0.868	0.844155	0.851649	0.618937	0.846923	0.844155	0.844155	0.844155	0.868083	
Beta	0.049187	0.138793	0.127228	0.248441	0.128056	0.138793	0.138793	0.138793	0.028815	
Log-Likelihood	2140.203	2345.472	2238.637	2098.678	2195.858	2336.794	2324.881	2351.489	2453.441	
Gamma	0.082813	0.017052	0.021123	0.132623	0.025021	0.017052	0.017052	0.017052	0.103101	
Alpha + Beta + Gamma	1	1	1	1	1	1	1	1	1	
Long-run variance	15.99%	17.68%	18.37%	19.48%	21.22%	17.64%	17.64%	17.64%	8.51%	

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
262	260	260	261	262	292	306	311	314	313	313
3.8E-05	2.46E-05	2.62E-05	5.54E-05	0.000173	0.000117	7.43E-05	4.52E-05	6.02E-05	0.000105	3.53E-05
0.009952	0.006387	0.006811	0.014453	0.04537	0.034116	0.022738	0.014048	0.018897	0.032975	0.011049
0.099757	0.079922	0.082527	0.120222	0.213003	0.184705	0.150791	0.118525	0.137467	0.18159	0.105114
2.54E-06	1.23E-06	1.25E-06	1.45E-06	2.42E-06	3.34E-06	3.37E-06	2.04E-06	2.47E-06	4.08E-06	2.62E-06
0.870668	0.844155	0.844155	0.848896	0.868463	0.891827	0.844155	0.844155	0.85961	0.844155	0.86095
0.060783	0.138793	0.138793	0.140043	0.116985	0.096706	0.138793	0.138793	0.12026	0.138793	0.069989
2394.808	2467.045	2457.023	2289.938	2066.756	2339.615	2617.881	2779.632	2714.137	2567.462	2895.561
0.068549	0.017052	0.017052	0.011061	0.014552	0.011467	0.017052	0.017052	0.020131	0.017052	0.069061
1	1	1	1	1	1	1	1	1	1	1
9.86%	13.68%	13.80%	18.48%	20.88%	29.16%	24.60%	19.29%	19.61%	27.37%	10.90%

TABLE 4: SWISS FRANC

CHF/INR - Swiss Franc Indian Rupee										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	
(Trading) Days per Year	260	261	260	260	260	260	260	260	260	260
Unconditional Variance	0.0001	5.02E-05	5.26E-05	5.34E-05	4.59E-05	5.58E-05	5.49E-05	3.74E-05	5.59E-05	
Unconditional Variance ann.	0.026125	0.013114	0.013683	0.013896	0.011936	0.014507	0.014278	0.009711	0.014525	
Unconditional Volatility ann.	0.161632	0.114516	0.116974	0.117881	0.109251	0.120443	0.119492	0.098545	0.12052	
Estimated Omega	1.08E-05	2.04E-06	3.85E-06	3.14E-06	1.79E-06	3.61E-06	2.77E-06	2.8E-06	1.53E-06	
Alpha	0.82124	0.844155	0.847141	0.852217	0.862842	0.85529	0.856718	0.871825	0.871539	
Beta	0.075771	0.138793	0.11013	0.116298	0.127365	0.103436	0.116936	0.051132	0.115226	
Log-Likelihood	2123.16	2319.489	2274.259	2277.913	2308.233	2257.183	2270.456	2379.609	2257.17	
Gamma	0.102989	0.017052	0.04273	0.031485	0.009793	0.041274	0.026347	0.077043	0.013235	
Alpha + Beta + Gamma	1	1	1	1	1	1	1	1	1	
Long-run variance	16.54%	17.68%	15.30%	16.11%	21.78%	15.09%	16.54%	9.72%	17.34%	

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
262	260	260	261	262	292	306	311	314	313	314
6.01E-05	3.51E-05	3.12E-05	3.02E-05	0.000111	7.04E-05	4.34E-05	9.32E-05	3.46E-05	6.65E-05	2.76E-05
0.015742	0.009133	0.008112	0.007883	0.029079	0.02056	0.013288	0.02899	0.01086	0.020818	0.008666
0.125468	0.095568	0.090064	0.088784	0.170526	0.143389	0.115274	0.170266	0.104209	0.144283	0.093094
1.72E-06	1.78E-06	1.34E-06	1.12E-06	4.36E-06	1.92E-06	1.73E-06	4.08E-06	4.37E-06	1.42E-06	3.6E-06
0.871098	0.845269	0.844155	0.852962	0.854345	0.859747	0.846181	0.844155	0.872286	0.853891	0.863253
0.113088	0.138528	0.138793	0.138686	0.10879	0.13941	0.138624	0.138793	0.004173	0.130717	0.004516
2265.581	2371.347	2418.526	2424.73	2128.741	2504.461	2742.044	2587.584	2892.206	2774.185	2957.391
0.015813	0.016203	0.017052	0.008352	0.036864	0.000843	0.015196	0.017052	0.123541	0.015392	0.132231
1	1	1	1	1	1	1	1	1	1	1
16.86%	16.91%	14.29%	18.75%	17.60%	81.60%	18.68%	27.29%	10.54%	16.98%	9.25%

TABLE 5: AUSTRALIAN DOLLAR

AUD/INR - Australian Dollar Indian Rupee										
	1995	1996	1997	1998	1999	2000	2001	2002	2003	
(Trading) Days per Year	260	260	260	260	260	260	260	260	260	260
Unconditional Variance	3.89E-05	3.7E-05	3.89E-05	7.58E-05	3.49E-05	6.04E-05	7.01E-05	3.24E-05	4.13E-05	
Unconditional Variance ann.	0.010116	0.009609	0.010101	0.019709	0.009063	0.015692	0.018219	0.008437	0.010742	
Unconditional Volatility ann.	0.100577	0.098027	0.100506	0.140389	0.095201	0.125269	0.134978	0.09185	0.103646	
Estimated Omega	2.04E-06	1.06E-06	2.11E-06	3.32E-06	1.72E-06	4.75E-06	3.45E-06	2.02E-06	1.69E-06	
Alpha	0.844155	0.851891	0.862507	0.844155	0.849324	0.842598	0.856651	0.867352	0.855261	
Beta	0.138793	0.141419	0.078539	0.138793	0.136929	0.109537	0.115382	0.068135	0.126673	
Log-Likelihood	2363.328	2401.286	2392.283	2196.716	2370.195	2237.035	2208.813	2426.668	2333.211	
Gamma	0.017052	0.00669	0.058954	0.017052	0.013747	0.047865	0.027967	0.064513	0.018065	
Alpha + Beta + Gamma	1	1	1	1	1	1	1	1	1	
Long-run variance	17.64%	20.28%	9.64%	22.51%	18.02%	16.06%	17.92%	9.02%	15.60%	

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
262	260	260	261	262	292	306	311	314	313	313
7.18E-05	3.08E-05	3.05E-05	6.11E-05	0.000291	9.99E-05	4.66E-05	4.85E-05	3.74E-05	6.63E-05	2.76E-05
0.018809	0.007997	0.007919	0.015948	0.076114	0.029169	0.014245	0.015074	0.011733	0.020749	0.00864
0.137144	0.089423	0.088991	0.126285	0.275887	0.170789	0.119351	0.122778	0.10832	0.144045	0.092953
1.91E-06	3.89E-06	1.11E-06	2.04E-06	2.23E-06	3.57E-06	2.04E-06	1.84E-06	2.04E-06	2.79E-06	3.97E-06
0.863433	0.873466	0.844155	0.844155	0.832439	0.844155	0.844155	0.844155	0.844155	0.845832	0.857341
0.126658	0	0.138793	0.138793	0.160328	0.138793	0.138793	0.138793	0.138793	0.138366	0
2221.683	2421.556	2433.223	2273.645	2028.306	2418.858	2737.27	2782.142	2855.494	2731.374	2945.049
0.009909	0.126534	0.017052	0.017052	0.007233	0.017052	0.017052	0.017052	0.017052	0.015802	0.142659
1	1	1	1	1	1	1	1	1	1	1
22.47%	8.94%	13.02%	17.68%	28.44%	24.73%	19.14%	18.33%	19.39%	23.52%	9.33%

FIG 1: MULTIPLE GRAPHS – TIME SERIES OF FIVE TOP TRADABLE CURRENCY

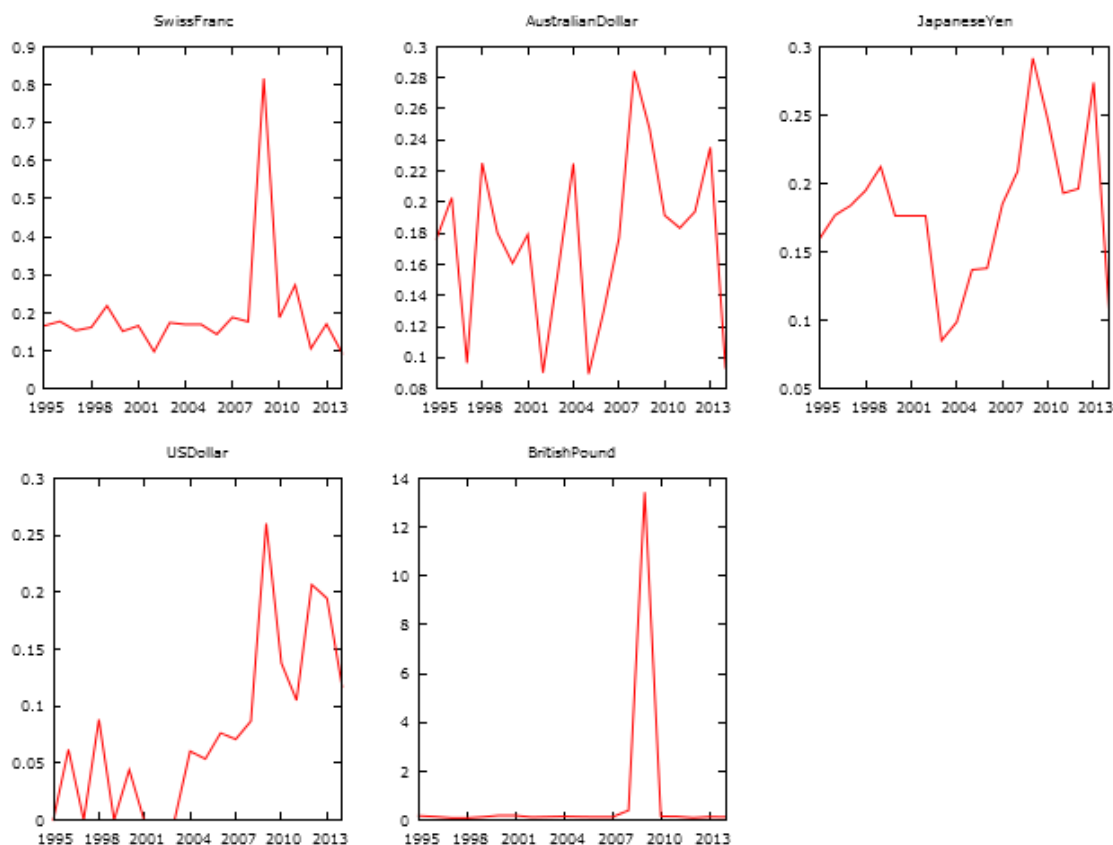
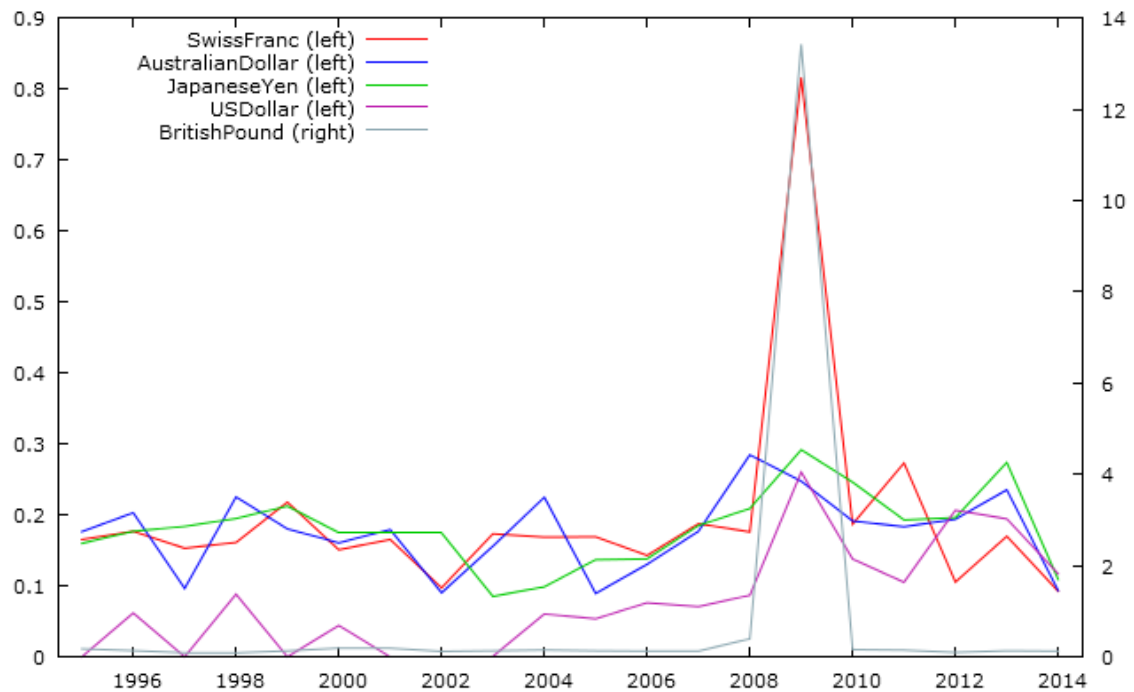


FIG 2: MULTIPLE GRAPHS – TIME SERIES OF FIVE TOP TRADABLE CURRENCY



INVESTOR SAFEGUARDS ACTIONS IN CAPITAL MARKET

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ABSTRACT

The present study shows that SEBI has left no stone unturned for the safeguard of investors from the malpractices and fraudulent practices of Issuers and market Intermediaries. SEBI is redressing the investors' grievances by carrying out investigation and action has been taken in case the grievances are not redressed by the concerned quarter within the time frame. SEBI has issued various guidelines which are amended from time to time to cope with the problems arises during the course to ensure that the savings of investors may remain safe and to maintain the investors 'confidence across the country. However, SEBI is not fully successful in its mission as evident from the report of Swaroop committee report which states that the investor population in our country has declined from 20 million in the 1990s to just over 8 million in 2009. The main reasons for this steep fall in investor population can be attributed to the rampant malpractices observed in the capital market, the short changing of investors at various levels and the absence of any mechanism for expeditious and satisfactory disposal of investor complaints in a time bound manner.

KEYWORDS

capital market, investor safeguards

INTRODUCTION

The Securities and Exchange Board of India Act, 1992 (the SEBI Act) was amended in the years 1995, 1999 and 2002 to meet the requirements of changing needs of the securities market and responding to the development in the securities market. The Primary function of Securities and Exchange Board of India under the SEBI Act, 1992 is the protection of the investors' interest and the healthy development of Indian financial markets. No doubt, it is very difficult and herculean task for the regulators to prevent the scams in the markets considering the great difficulty in regulating and monitoring each and every segment of the financial markets and the same is true for the Indian regulator also. But what are the responsibilities of the regulators to set the system right once the scam has taken place, especially the responsibility of redressing the grievances of the investors so that their confidence is restored? The redressal of investors' grievances, after the scam, is the most challenging task before the regulators all over the world and the Indian regulator is not an exception. SEBI had issued guidelines for the protection of the investors through the Securities and Exchange Board of India (Disclosure and Investor Protection) Guidelines, 2000.

REGULATION OF THE CAPITAL MARKET

The securities market is regulated by various agencies, such as the Department of Economics Affairs (DEA), the Department of Company Affairs (DCA), the Reserve Bank of India (RBI) and the SEBI. The Activities of these agencies are coordinated by a high level committee on capital and financial markets.

THE SECURITIES AND EXCHANGE BOARD OF INDIA (S.E.B.I)

With the announcement of the reforms package in 1991, the volume of business in both the primary and secondary segment of the capital market has been increased enormously till now. A Multi crore securities scam rocked the Indian financial system in 1992 (Harshad Mehta scam). The then existing regulatory framework was found to be fragmented and inadequate and hence, a need for an autonomous, statutory, and integrated organization to ensure the smooth functioning of capital market was felt. To fulfill this need, the Securities and Exchange Board of India (S.E.B.I), which was already in existence since April 1988, was conferred statutory powers to regulate the capital market.

The SEBI got legal teeth through an ordinance issued on 30 January 1992. The ordinance conferred wide- ranging powers on the SEBI, including the authority to prohibit 'insider trading and regulate substantial acquisition of shares' and takeover of business'. The function of market development includes containing risk, board basing, maintaining market integrity and promoting long-term investment. The SEBI Act, 1992 which establishes the SEBI with four-fold objectives of protection of the interests of investors in securities, development of the securities market, regulation of the securities market and matters connected therewith and incidental thereto.

The capital market, i.e., the market for equity and debt securities is regulated by the Securities and Exchange Board of India (SEBI). The SEBI has full autonomy and authority to regulate and develop the capital market. The government has framed rules under the securities contracts (regulation) Act (SCRA), the SEBI Act and the Depositories Act.

The SEBI has framed regulations under the SEBI Act and the Depositories Act for registration and regulation of all market intermediaries, for prevention of unfair trade practices, and insider trading. As everyone could know that these i.e. the Government and the SEBI issue notifications, guidelines and circulars which need to be complied with by market participants. All the rules and regulations are administered by the SEBI.

REVIEW OF LITERATURE

Many scholars and researcher have done a lot of valuable work near to the title. Some of the significant references have been taken before this study.

Babu Jawahar, KVS.N. Naidu Damodahr, S. (2012) has studied investor protection measures taken by SEBI. It is pointed out in the study that SEBI vide different guidelines had make it sure that no stone remains unturned in the path of the mission of protecting the investors. Investors' education campaigns have been yielding positive results to some extents; still more needs to be done. Indian investors have been steadily fleeing the market, despite the apparent spread of 'equity cult' which calls for immediate attention of the apex body to frame and effectively implement the measures to protect the interests of investors and restore their confidence in the stock market.

Sabinathan, S. (2010), has reviewed SEBI's performance in the eighteen years since its establishment in its current incarnation as an adequately empowered and independent regulator indicates that there has been all round improvement in the institutional framework in which the securities trade in India is conducted. In terms of the functioning of the market, SEBI has mandated an enormous increase in the flow of information at the time of listing, after listing and related to the

trade. The long history of the functioning of the capital market and securities industry in India suggest that voluntary disclosure may not have become a pervasive trend and that without a regulatory push, there would have been underproduction of information.

The cost of transaction and the risk of settlement have been minimized making Indian Stock Exchanges one of the safest and lowest cost securities market in the world. The Indian mechanism for securities issuance is among the more sophisticated in the world with the introduction of the guidelines for book building of issue. The study suggests that SEBI has achieved considerable progress in terms of detecting and disposing of instances of non-compliance or infractions.

Giri Savita, R. (2014) in her study found that SEBI surmounted several obstacles on the way to development of capital market with due care for investor's interest and greater transparency in the affairs of organization and stock exchanges, though not to the extent of hundred percent. SEBI tried hard to make it sure that no stone remains unturned in the path of the mission of protecting the investors. Investor's education campaigns have been yielding positive results to some extent, still lot more needs to be done.

OBJECTIVES OF THE STUDY

The present study is undertaken to fulfill the following objectives

1. To know about the quantum of grievances received and redressed by SEBI during the period of study.
2. To know about the investigations taken up by SEBI.
3. To know about the nature of investigation taken up by SEBI and action taken by SEBI in these cases.
4. To know about the measures taken by SEBI for investors protection.

SCOPE OF THE STUDY

This study was mainly planned to evaluate the performance SEBI, relating to supervision of securities market of various intermediaries registered with SEBI, and to know what kind of

Investor Protection measures taken by SEBI for the benefit/to safeguard the interest of investors in India since 1992

TOOLS OF DATA COLLECTION

Primary data : The data is collected by interviewing small investors

Secondary data: The data is collected from Text Books, Websites, Brochure and financial press reports.

INVESTOR PROTECTION MEASURES BY SEBI

INVESTOR PROTECTION

An investor is a person who is an individual or a corporate legal entity investing his capital in another venture or business but does not do the business himself or itself. The investor has no role to play in the day-to-day management of the business or its control except as permitted by the law. Investor carries on business when they buy and sell assets, arranges for other to buy and sell assets, manages assets belonging to others, or operates collective investment schemes. An investor engages these activities, but they are not having any control over the day-to-day activities of any corporate. Normally, an investor is a blind person; they do not know any activities made by the company. Investor cannot guide the fate or destiny of the money invested. An investor to that extent is quite fragile and is exposed to certain risks because the utiliser of his money can commit mistakes. Normally they are contributing the funds for productive purpose of the company, and they are exposing him to the business decisions that the company has taken or will be taking. There are no doubt laws some of which are adequate but some are not. An investor obviously needs some protection.

VIEWS

For the Investor, Protection in the Indian Securities Market was the first empirical verification. Neelamegam R. & Srinivasan R. examined the adequacy of various protective measures offered under the existing Companies Act 1956, Securities Contracts (Regulation) Act 1956, and Securities and Exchange Board of India Act 1992 and also examined the trading activities of primary market and secondary market in India. They have found from their study, regulators through the legislative system took various protection measures. The investors have lost their confidence, which is revealed in the increasing trend of grievances and complaints even after the establishment of the SEBI and administrative system of securities market.

REGULATORY FRAMEWORK

At present, the five main Acts governing the securities markets are:

- a) The SEBI Act, 1992
- b) The Companies Act, 1956, which sets the code of conduct for the corporate sector in relation to issuance, allotment, and transfer of securities, and disclosures to be made in public issues.
- c) The Securities Contracts (Regulation) Act, 1956, which provides for the regulation of transactions in securities through control over stock exchanges.
- d) The Depositories Act, 1996 which provides for electronic maintenance and transfers of ownership of demat (dematerialized) shares.
- e) The Prevention of Money Laundering Act, 2002.

LEGISLATIONS

The SEBI Act, 1992: The SEBI Act, 1992 was enacted to empower SEBI with statutory powers for:

- a) Protecting the interests of investors in securities,
- b) Promoting the development of the securities market, and
- c) Regulating the securities market. Its regulatory jurisdiction extends over corporate in the issuance of capital and transfer of securities, in addition to all intermediaries and persons associated with the securities market.

It can conduct enquiries, audits, and inspection of all concerned, and adjudicate offences under the Act. It has the powers to register and regulate all market intermediaries, as well as to penalize them in case of violations of the provisions of the Act, Rules, and Regulations made there under. SEBI has full autonomy and the authority to regulate and develop an orderly securities market.

Securities Contracts (Regulation) Act, 1956: This Act provides for the direct and indirect control of virtually all aspects of securities trading and the running of stock exchanges, and aims to prevent undesirable transactions in securities. It gives the Central Government regulatory jurisdiction over:

- (a) Stock exchanges through a process of recognition and continued supervision,
- (b) Contracts in securities, and
- (c) The listing of securities on the stock exchanges.

RULES AND REGULATIONS

The Government has framed rules under the SCRA, the SEBI Act, and the Depositories Act. SEBI has framed regulations under the SEBI Act and the Depositories Act for the registration and regulation of all market intermediaries, and for the prevention of unfair trade practices, insider trading, etc. Under these Acts, the Government and SEBI issue notifications, guidelines, and circulars that the market participants need to comply with. The SROs, like the stock exchanges, have also laid down their own rules and regulations

INVESTORS PROTECTION FUND (IPF)

The Government has established an Investor Education and Protection Fund (IEPF) under Sec. 205 C of the Companies Act, 1956 under which unclaimed funds on account of dividends, matured deposits, matured debentures, share application money etc. are transferred through the IEPF to the Government by the company on completion of seven years. The Government is required to utilize this amount through an Investor Education and Protection Fund.

For this purpose, the proceeds from the companies are credited to the Consolidated Fund of India through this fund. The Fund may then be entrusted with full fledged responsibility to carry out activities for education of investors and protection of their rights.

BSE is the first Exchange to have set up the 'Stock Exchange Investors Protection Fund (IPF)' in the interest of the customer's of the defaulter members of the Exchange. This fund was set up on 10th July, 1986 and has been registered with the Charity Commissioner, Government of Maharashtra as a Charitable Fund. The maximum amount of Rs. 10, 00,000 payable to an investor from Investor Protection Fund in the event of a default by a Trading Member has been revised to Rs. 15, 00,000; which shall be applicable to the clients of the Trading Member of the Exchange, who will be declared Defaulter after 5th December, 2009. (This has been progressively raised by BSE from Rs.10, 000 in 1988 to the present level).

BSE is the only Exchange in India, which offers the highest compensation of Rs.15lacs in respect of the approved claims of any Investor against the defaulter Trading Members of the Exchange.

The Trading members at present contribute 1 paisa per 1lakh of gross turnover. The Stock Exchange contributes 2.5% of the listing fees collected by it. Also the entire interest earned by the Exchange on 1% security deposit kept by with it by the companies making public / rights issues is credited to the Fund.

INVESTOR AWARENESS PROGRAM

Investor Awareness programs are being regularly conducted by stock exchanges to educate the investors and to create awareness among the Investors regarding the working of the capital market and in particular the working of the Stock Exchanges. These programs have been conducted in almost all over the country.

The Investor Awareness program covers extensive topics like Instruments of Investment, Portfolio approach, Mutual funds, Tax provisions, Trading, Clearing and Settlement, Rolling Settlement, Investors' Protection Fund, Trade Guarantee Fund, Dematerialization of shares, information on Debt Market, Investors' Grievance Redressal system available with SEBI, BSE & Company Law Board, information on Sensex and other Indices, workshops and Information on Derivatives, Futures and Options etc.

Further, for the benefit of the investors' the Bombay stock exchange has

BSE Training Institute which organizes Training programs periodically on various subjects like comprehensive programs on Capital Markets, Fundamental Analysis, Technical Analysis, Derivatives, Index Futures and Options, Debt Market, etc. Further, for the Derivatives market BSE also conducts the compulsory BSE's Certification on Derivatives Exchange (BCDE) certification for Trading Members and their dealers to impart basic minimum knowledge of the derivatives markets.

COMPENSATION TO THE INVESTORS

Capital market includes investment into risk bearing instruments. In such cases, the investor is required to make his own assessment of risk and reward. No compensation could be visualized for such investors whose investments were in risk bearing instruments. Similarly, investment in a fixed return instrument necessitated a careful review of the borrowing entity. Such actions would also be subjected to known or declared risks. Besides, the capital market also provides an opportunity for an investor to exit. The need therefore, is to ensure proper and healthy market operation so that investors could exercise their exit options in a reasonable and equitable environment. However, there may be situations where such a frame work is distorted through frauds. There may be provisions for compensation in the event of fraud by companies being established in securing funds from investors. For this purpose lifting of corporate veil may be enabled by the law.

BSE is the only Exchange in India, which offers the highest compensation of Rs.15Lacs in respect of the approved claims of any Investor against the defaulter Trading Members of the Exchange

SEBI REFORMS ON STOCK EXCHANGES

The reforms are briefly summarized below:

1. Compulsory audit and inspection of stock exchanges and their member brokers and their accounts.
2. Transparency in the prices and brokerage charged by brokers by showing them in their contract notes.
3. Board of Directors of stock exchanges has to be reconstituted so as to include non-brokers, public representative, and Govt. representatives to the extent of 50% of the total number of members.
4. Regulation of Portfolio management Schemes (PMS1): SEBI has already tightened PMS norms by making it mandatory for portfolio managers to keep separate accounts of clients rather than keeping their investments in pool account. Earlier, PMS providers used to open 'pool PMS' as a common account under one head, put money received from a set of clients in it and then invest the same on behalf of the whole group. This move is aimed at ensuring that portfolio managers handled clients' money in a transparent manner.
5. Capital adequacy norms have been laid down for members of various stock exchanges separately and depending on their turnover of trade and other factors.
6. Applications Supported by Blocked Amount (ASBA) in case of IPO: SEBI has introduced a supplementary process of applying in public issues, viz. ASBA process. ASBA is an application for subscribing to an issue, containing an authorization to block the application money in a bank account with a bank which offers the facility of applying through the ASBA process. The bank shall then block the application money in the bank account specified in the ASBA, on the basis of an authorization given by the account holder. The application money shall remain blocked in the bank account till finalization of the basis of allotment in the issue or till withdrawal / failure of the issue or till withdrawal / rejection of the application.
7. Contents of Offer Document: In addition to the disclosures specified in Schedule II of the
8. Companies Act, 1956, the prospectus shall also contain all material information which shall be true and adequate so as to enable the investors to make informed decision on the investments in the issue.
9. IPO grading/credit rating2: Grading of all IPO of equity shares or other securities convertible into equity shares is mandatory. Grading shall be obtained from at least one credit rating agency registered with SEBI and shall be disclosed in the Prospectus or Red Herring Prospectus.
10. Promoters' contribution and the lock in requirements: SEBI has also plugged loop holes in the computation of promoters' contribution and the lock in requirements thereof. Henceforth, securities pledged by the promoters with banks and financial institutions as collaterals, will not be eligible in the computation of promoters' contribution, thus upholding the spirit of the legislation. Further, the promoters' locked in securities can now be pledged with bank or financial institutions only if the purpose of the loan is to finance one or more objects specified in the issue thereby preventing misapplication of pledging for any other purposes.

LIMITATIONS OF SEBI

Finally, in our observation as regulator SEBI has playing immense role for development of capital market from the last more than one and half decade as a genuine autonomous body.

Though it has started as a watchdog in protecting investors' interests, regulating the working of

Stock Exchanges and promoting capital market, still it faces a number of problems/ limitations.

Some of these are as follows:

1. The Central Govt. has authorized SEBI to frame its rules and regulations for actively monitoring capital markets. These rules and regulations will have to be approved by the government first. This will cause unnecessary delays and interference by the Ministry of Finance. The bureaucratic delays in clearing the rules will hamper the working of SEBI. The government should direct SEBI to frame or change the rules as per the demand of the situation so that it is able to achieve professional efficiency.
2. Sometimes SEBI will have to get prior approval for filing criminal complaints for violations of the regulations. This will again cause delays at government level.

3. The SEBI, as a regulator, proved to be ineffective in the series of scams that took place in the last decade. The SEBI has been accused of shutting the stable door after the horse had bolted. For instance, the SEBI had occasions to review the affairs of CRB capital markets but took a lenient view and as a result, huge investors lost crores of rupees.
4. The SEBI has gone more than half away to help out potential defaulters to avoid a major payments crisis. Whenever the real racketeers get up to new tricks, surveillance takes a long time to catch up.
5. The SEBI banned badla system in India in 1993, but it banned badla without providing an alternative mechanism. Of course, various committees like G.S.Patel Committee, Jayant Verma Committee had given alternative solution. But these trails were failed. The SEBI introduced rolling settlement after the ban of Automatic Lending and Borrowing Mechanism (ALBM) and borrowing and Lending of Securities Scheme (BLESS). The ban on deferral products killed liquidity in the markets which, in turn, dampened the market sentiments.
6. The SEBI is perceived to be more corporate-friendly than investor-friendly. It not only failed penalize fraudulent companies, but remained a spectator when same companies re-entered the market with new issues.
7. The SEBI does not have the requisite number and a competent staff to regulate and develop the capital market. There are very few officers who are involved in surveillance, investigation and prosecution, as compared to a large army of over 1000 in the Securities Exchange Commission (SEC) of the USA.

CONCLUSION

SEBI has left no stone unturned for the safeguard of investors from the malpractices and fraudulent practices of Issuers and market Intermediaries. SEBI is redressing the investors' grievances by carrying out investigation and action has been taken in case the grievances are not redressed by the concerned quarter within the time frame. SEBI has issued various guidelines which are amended from time to time to cope with the problems arises during the course to ensure that the savings of investors may remain safe and to maintain the investors' confidence across the country. However, SEBI is not fully successful in its mission as evident from the report of Swaroop committee report which states that the investor population in our country has declined from 20 million in the 1990s to just over 8 million in 2009. The main reasons for this steep fall in investor population can be attributed to the rampant malpractices observed in the capital market, the short changing of investors at various levels and the absence of any mechanism for expeditious and satisfactory disposal of investor complaints in a time bound manner.

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A STUDY ON CUSTOMER SATISFACTION TO BSNL 3G MOBILE SERVICES IN MYSORE

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ABSTRACT

Indian telecom industry is growing at a high pace primarily because of the explosive growth witnessed by the wireless segment. At the end of 2003, the total telephone subscriber base in India was around 70.5 million (with a tele density of 7.0) out of which mobile phone subscriber base was 28.2 million and fixed line subscriber base was 42.0 million. The number of telephone subscriber base in India has reached 861.48 million at the end of April 2011 with one overall teledensity of 72.08. It comprises of wire line subscription of 34.55 million and wireless subscription (GSM, CDMA and FWP) of 826.93 million. However, despite this explosive growth in the segment, there is little research published in major academic journals in India about mobile phone usage behavior of Indian customers especially in 3G mobile phone services. Research gap exists in particular in terms of customer adoption of 3G phone services in India. Hence, a study pertaining to customer adoption of BSNL 3G Phone services, one of the early entrants in the category in India, may be quite useful.

KEYWORDS

Telecom Industry, Customer Satisfaction, 3G Services.

INTRODUCTION - BSNL 3G MOBILE SERVICES

BSNL 3G Mobile Phone services was launched in February 2009 in India. BSNL is offering its 3G service (next generation of mobile communications systems) facilities like video call facility, mobile broadband and mobile TV content available on BSNL 3G portal among others. As of July 31, 2010, BSNL had 3G services in more than 450 cities with customer base of 1.5 million. Customer satisfaction, a business term is a measure of how products and services supplied by a company meet or surpass customer expectation. It is seen as a key performance indicator within business and is part of the four of a balanced scorecard. Increasing competition (whether for-profit or nonprofit) is forcing businesses to pay much more attention to satisfying customers. In a competitive market place where businesses compete for customers, customer satisfaction is seen as a key differentiator and increasingly has become a key element of business strategy.

CONSUMER INNOVATIVENESS

The reason why an in depth understanding of consumer innovativeness is imperative is because innovation is one of the most important issues in business research today and it provides an important basis by which world economies compete in the global marketplace. It is very important to understand how consumer innovativeness may influence adoption of relatively newer product categories. Consumer innovativeness has been extensively researched in marketing and associated fields. Hirschman (1980) has suggested, "Few concepts in the behavioral sciences have as much immediate relevance to consumer behaviour as innovativeness."

SCOPE OF RESEARCH

This survey attempts to provide a few pointers to marketers for tapping upmarket audience in India with niche technology products like BSNL's 3G service. There is a need to have some understanding about the ownership of related consumer electronics products and the source of information of the products among the respondents. It has also attempted to derive an understanding of the overall satisfaction that consumers derive from such products.

OBJECTIVES OF RESEARCH

Hence, the objectives of the overall study have been to derive a comparative understanding between consumer innovators and non-innovators in terms of

- The ownership details of select consumer electronics products.
- The sources of information for latest technology products and services.
- The presence or absence of satisfaction pertaining to BSNL's 3G service.

For writing this paper, primary data was collected from 200 respondents through a close ended questionnaire. These respondents are the users of BSNL mobile services.

The same were analyzed with the help of graphs and the analysis and interpretations are as follows.

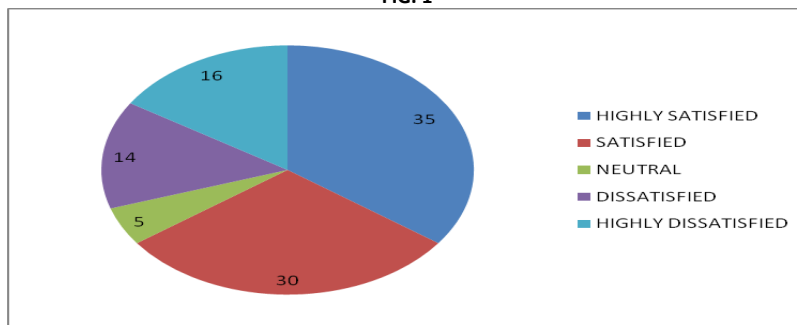
ANALYSIS

- 1) How satisfied are you with the quality of service of BSNL?

TABLE - 1

OPINION POOL	NO OF RESPONDENTS	PERCENTAGE
HIGHLY SATISFIED	70	35.0
SATISFIED	60	30.0
NEUTRAL	10	5.0
DISSATISFIED	28	14.0
HIGHLY DISSATISFIED	32	16.0
TOTAL	200	100.00

FIG. 1



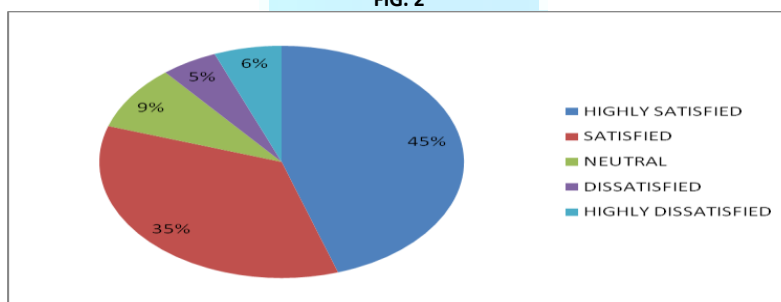
From the above table, it shows that 35.0 percentage of the respondents that the quality of services of B.S.N.L is highly satisfied, 30.0 percentage of the respondents that the quality of services of B.S.N.L is satisfied, 5.0 percentage of the respondents that the quality of services of B.S.N.L is neutral, 14 percentage of the respondents that the quality of services of B.S.N.L is dissatisfied, 16.0percentage of the respondents that the quality of services of B.S.N.L is highly dissatisfied. We can conclude that majority were opinioned that, the quality of services of B.S.N.L is highly satisfied.

2) How satisfied are you with the connectivity of BSNL?

TABLE - 2

OPINION POOL	NO OF RESPONDENTS	PERCENTAGE
HIGHLY SATISFIED	70	35.0
SATISFIED	60	30.0
NEUTRAL	10	5.0
DISSATISFIED	28	14.0
HIGHLY DISSATISFIED	32	16.0
TOTAL	200	100.00

FIG. 2



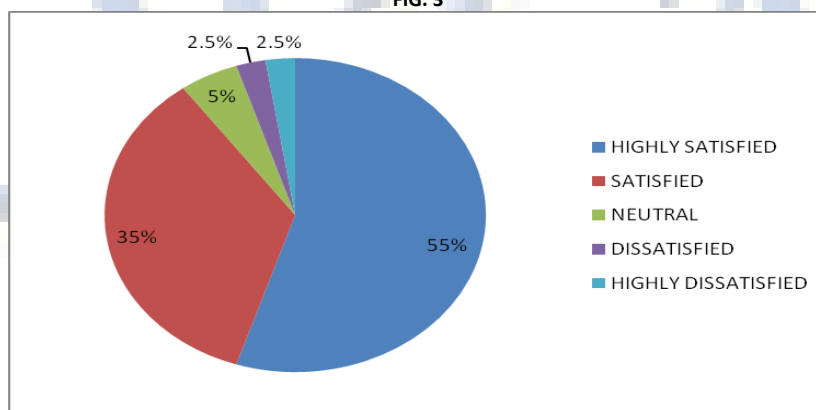
From the above table, it shows that 45.0 percentage of the respondents that the connectivity of B.S.N.L is highly satisfied, 35.0 percentage of the respondents that the connectivity of B.S.N.L is satisfied, 9.0 percentage of the respondents that the connectivity of B.S.N.L is neutral, 5.0 percentage of the respondents that the connectivity of B.S.N.L is dissatisfied, 6.0 percentage of the respondents that the connectivity of B.S.N.L is highly dissatisfied. We can conclude that majority were opinioned that, the connectivity of B.S.N.L is highly satisfied.

3) How satisfied are you with the Billing of BSNL?

TABLE - 3

OPINION POOL	NO OF RESPONDENTS	PERCENTAGE
HIGHLY SATISFIED	110	55.0
SATISFIED	70	35.0
NEUTRAL	10	5.0
DISSATISFIED	5	2.5
HIGHLY DISSATISFIED	5	2.5
TOTAL	200	100.00

FIG. 3



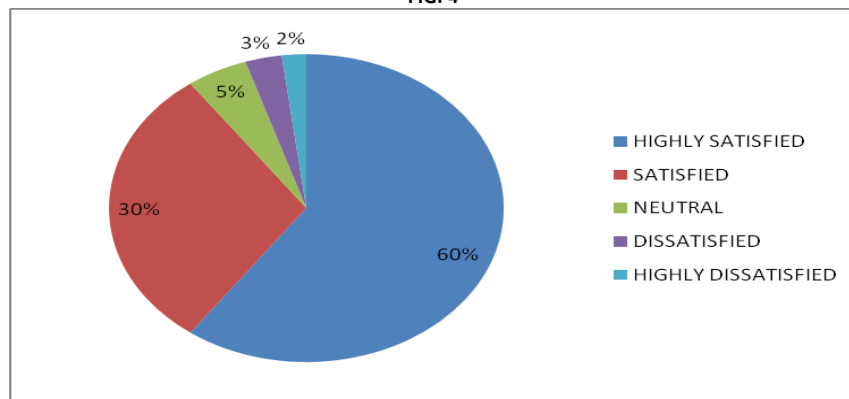
From the above table, it shows that 55.0 percentage of the respondents that the billing of B.S.N.L is highly satisfied, 35.0 percentage of the respondents that the billing of B.S.N.L is satisfied, 5.0 percentage of the respondents that the billing of B.S.N.L is neutral, 2.5 percentage of the respondents that the billing of B.S.N.L is dissatisfied, 2.5 percentage of the respondents that the billing of B.S.N.L is highly dissatisfied. We can conclude that majority were opinioned that, the billing of B.S.N.L is highly satisfied.

4) How satisfied are you with the Handset of BSNL?

TABLE - 4

OPINION POOL	NO OF RESPONDENTS	PERCENTAGE
HIGHLY SATISFIED	120	60.0
SATISFIED	60	30.0
NEUTRAL	10	5.0
DISSATISFIED	6	3.0
HIGHLY DISSATISFIED	4	2.0
TOTAL	200	100.00

FIG. 4



From the above table, it shows that 60.0 percentage of the respondents that the handset of B.S.N.L is highly satisfied, 30.0 percentage of the respondents that the handset of B.S.N.L is satisfied, 5.0 percentage of the respondents that the handset of B.S.N.L is neutral, 3 percentage of the respondents that the handset of B.S.N.L is dissatisfied, 2.0 percentage of the respondents that the handset of B.S.N.L is highly dissatisfied. We can conclude that majority were opinioned that, the handset of B.S.N.L is highly satisfied

FINDINGS

1. A majority of respondents (35.0%) where —Highly Satisfied with the quality of service of B.S.N.L
2. A majority of respondents (45.0%) where —Highly Satisfied with the Connectivity of B.S.N.L
3. A majority of respondents (55.0%) where —Highly Satisfied with the billing system of B.S.N.L
4. A good majority of respondents (60.0%) where —Highly Satisfied with the handset of B.S.N.L

SUGGESTIONS

1. BSNL may provide the customers attractive instrument with new wiring connections.
2. BSNL may also introduce some sales promotion such as cash discounts; and other offers in their promotional activities which would help to further strengthen the market share of the Company.
3. BSNL may reduce the monthly rentals and introduce quarterly rentals
4. Customer care of BSNL needs improvement with respect to the call handling management.

CONCLUSION

BSNL being a public sector, in order to thrive and excel, I had understood about the customer's expectations. I also understood about their competitors and their nuances in understanding their customers. Since communication industry is very competitive one it is high time for BSNL to understand about their customers in landline as well as Mobile services

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ANNEXURE

QUESTIONNAIRE

Name :

Age :

Mobile Number :

Occupation :

1. Which mobile connection do you have?
a) Airtel b) Vodafone c) Idea d) BSNL
2. What kind of service you have?
a) Pre-paid b) Postpaid
3. Overall how would you rate your services provider?
a) Excellent b) Good c) Average d) Poor
4. Rank the following factors which influenced you to buy the service of your choice.
a) Price b) Network Service c) Brand image d) Value added services
5. Rank the following VAS which attracted you the most to buy or retain the mobile service?
a) SMS pack b) Concession Call rates c) Internal service d) Full talk time
6. How long have you used the services of that Company?

7. Overall how satisfied are you with network services of your Company?
a) Less than one month b) 1 to 6 months c) 6 to 1 year d) 1 to 3 years
8. How would you rate the services value for money?
a) very satisfied b) satisfied c) Neutral d) Dissatisfied
9. What kind of problems occurs the most for which need to control Customer Care Service Department of your service provider?
a) Billing related b) Activation related c) Information about VAS d) Network problem
10. In thinking about your most recent experience with that company how much satisfied are you with the Customer Care Service.
a) very satisfied b) Satisfied c) Neutral d) Dissatisfied
11. How satisfied are you with the process of getting your queries resolved?
a) very satisfied b) Satisfied c) Neutral d) Dissatisfied
12. The Customer Service Representative was very courteous.
a) very satisfied b) Satisfied c) Neutral d) somewhat agree
13. The Customer Service Representative was very knowledgeable.
a) very satisfied b) Satisfied c) Neutral d) somewhat agree
14. The waiting time for having my questions addressed was satisfactory.
a) very satisfied b) Satisfied c) Neutral d) somewhat agree



COMMITMENT OF INDUSTRIAL HOUSES TO NEIGHBOURING WORLD**DR. MARIYA T CHEERAN****ASST. PROFESSOR****SCHOOL OF MANAGEMENT AND ENTREPRENEURSHIP
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KERALA UNIVERSITY OF FISHERIES AND OCEAN STUDIES
PANANGAD****ABSTRACT**

Corporate social responsibility is a concept whereby business organizations consider the interest of society by taking responsibility for the impact of their activities on customers, suppliers, employees, shareholders, communities and other stakeholders as well as their environment. Social workers in the field of community development can be found in many areas of practice and a variety of settings. This paper analyse theories connected with CSR and examine the role of social workers in CSR activities

KEYWORDS

Corporate, Social, Responsibility, industry, labour.

INTRODUCTION

In present-day the Social worker as to play a perspective role in CSR (also called corporate responsibility, corporate citizenship, responsible business and corporate social opportunity) is a concept whereby business organizations consider the interest of society by taking responsibility for the impact of their activities on customers, suppliers, employees, shareholders, communities and other stakeholders as well as their environment. Community practice can involve community economic development such as improving local economies in rural areas experiencing out-migration. Social workers in the field of community development can be found in many areas of practice and a variety of settings. The identity of "community" varies widely and changes depending on the context of the specific issue or social problem. Social workers who practice from a community development or community organizing perspective attempt to address the systemic issues that create social problems. The work is often not situated within legislated programs, and workers may or may not be required to be registered with the provincial regulatory body, or it can include working with citizens, groups, and organizations to interface with large systems, institutions, and the political process. In many cases, they may also be engaged in the kinds of individual problem-solving practices embodied in many social work positions.

THEORIES OF CSR**UTILITARIAN, MANAGERIAL AND RELATIONAL THEORIES OF CSR****THEORIES ON SOCIAL COSTS**

- Functionalism
- Corporate social performance
- Social accountability, auditing and reporting (SAAR)
- Social responsibility for multinationals
- Business and society Stakeholder approach
- Corporate global citizenship
- Social contract theory

CORPORATE SOCIAL RESPONSIBILITIES THEORIES AND RELATED APPROACHES

- Maximization of shareholder value
- Strategies for competitive advantage
- Cause-related marketing
- Long term value of maximization
- Altruistic activities socially recognized as marketing tool
- Political theories (focusing on a responsible use of business power in the political arena)
- Corporate constitutionalism
- Integrative social contract
- Corporate citizenship
- Social responsibilities of businesses arise from the social power the firms have
- Assumes that a social contract between business and society exists
- The firm is understood as being like a citizen with certain involvement in the community
- Integrative theories Management issues Public responsibility
- Stakeholder management
- Corporate social performance
- Corporate response to social and political issues

- Law and the existing public policy process

ACCOUNTABILITY AND RISK MANAGEMENT

When a case is allocated to a social worker community, he/she is directly responsible through their line management arrangements for the management and delivery of care to the user. In addition, as lead professionals they may receive information and assistance from colleagues and other professionals in meeting their responsibilities. They will retain professional accountability for their own contribution and for the overall coordination and management of cases allocated to them.

- We have defined autonomy as meaning the exercise of professional judgment by competent and confident professionals within a framework of accountability.
- There is a need to ensure that social work professional practice is based upon evidence of effectiveness, promotes professional autonomy within a legislative and organizational framework with access to professional consultation.
- This means that individual social workers will exercise and act on professional judgment.
- Organizations need to be able to support the practice of social workers within a clear framework of accountability, ensuring that the organization is able to deliver its statutory duties, whilst giving practitioners sufficient flexibility to practice innovatively. This requires clear, well developed and user friendly practice guidelines, policies and procedures as well as a sound professional understanding of accountability at all levels within the organization.
- There must also be a proactive approach to professional consultation and management which promotes reflective practice explores and where appropriate, challenges decision making and identifies development needs. Newly qualified social workers require an approach which allows them to grow professionally and promotes confidence and independence whilst allowing their practice to be closely supervised during the development phase.
- Social workers are responsible for the assessment and management of complex and inter-connecting risks rather than simply risk avoidance. This requires social workers to work with individuals to help them assess the risks they face and may present to others and to promote the independence of service users while helping to protect them as far as possible from danger or harm. • At the same time they must respect their rights while seeking to ensure that their behavior does not harm themselves or other people
- Social workers need to be able to develop and maintain their skills in this field throughout their careers, and in all settings

RECOMMENDATION: THE ROLE OF SOCIAL WORKER COMMUNITY

- They should also have a range of methods to assess and manage risk, based on evidence that can be used to support professional judgment and where necessary, to explain it. While managing risk is a key skill of social workers, other professionals are required to accept shared responsibility also. They need to improve their skills in addressing the needs of individuals who challenge their services
- The level of complexity and responsibility carried by social workers community should be reflected in the career structures and remuneration available to them.
- Employing organisations must have arrangements in place to ensure the workload of social workers is commensurate with the tasks required of them. This will include ensuring sufficient time is made available to allow the development of helping relationships which is an essential part of social work practice.
- Social workers community must have access to professional consultation. support and advice from appropriate, experienced social workers. This consultation and management should focus on assisting social workers to reflect critically on their practice, use their powers effectively and make complex decisions.
- Social workers community must implement development and appraisal processes that give due recognition to service requirements and individual development needs.
- Social workers community must ensure effective workforce planning and development at local level to meet emerging need, maintain a competent and effective workforce and contribute to workforce planning at a national level.
- Social worker Community needs a strong common value, skills and knowledge base.
- Certain functions should be reserved to social workers community and should be set out in Regulations. This is to ensure the protection of the public.
- The Review Group Social work community should define the role, responsibility and status of the Chief Social Work Officer and require organisations to locate the post appropriately to safeguard the public.

THE PROFESSIONAL PRACTICE OF SOCIAL WORKERS COMMUNITY PRINCIPLES

- The primary responsibility of the social worker is the protection and promotion of the welfare and well being of children, vulnerable adults and communities
- Social workers should use their professional knowledge and expertise to make judgments and decisions for which they are professionally accountable.
- Social workers must have access to professional consultation through line management arrangements which provides support and advice from appropriate, experienced social workers.
- This consultation should focus on assisting practitioners to reflect on their practice, use their powers effectively and make complex decisions for which they are personally and professionally accountable.
- The level of complexity and responsibility carried by social workers should be reflected in the career structures and remuneration available to them, and the continuing professional development they undertake.
- Leadership within local government for social workers undertaking protected functions should be exercised by the Chief Social Work Officer.

SOCIAL WORKER COMMUNITY PERSPECTIVE

Community social work involves understanding the power dynamics and social relations that govern the relationships between various structures and diverse communities and working to achieve social justice through structural change. If the issue is poverty, for example, a social worker practicing from a community perspective may focus on the political economy that creates these conditions. This may include trying to address the policies that perpetuate poverty or organizing groups around the issue to lobby decision makers for change. The main approach to this work is a belief that people acting together have a great capacity to improve their own circumstances, as they have first-hand knowledge of the situation and what needs to happen to change things for the better. In fact, this reflects the fundamental values of the social work profession generally. Some of the tools utilized by community social workers are developing community awareness, leadership identification and development, creating strategic alliances, adult education, fostering collaboration, and building community capacity. The community social worker can be involved in various large-scale social movements and broad issues such as homelessness, or in the development of programs or projects and research.

To achieve a better understanding of conditions from social, economic, and political perspectives, social workers practising at the community level concern themselves with matters of public policy and often engage with others in policy analysis. The analysis assists in developing strategies towards achieving some form of sustainable change. In any situation, the communities of focus must play a leading role in defining the issues and developing the solutions. Community social workers spend much time working with leaders and allies to identify common goals among community members. The social worker becomes a leading organizer to generate a strategic direction in the context of goals identified and defined by the group and that the group works toward. The social worker shares any and all information related to the presenting problem or issue so that stakeholders are better able to participate in formulating solutions. Social workers who practice as community organizers or developers are guided by the ethics and standards of the profession and by principles of sustainable community development. Research approaches most commonly used in this area of practice are qualitative, such as participatory action or ethnographic research. From a community perspective, the social work role is to conduct assessments and share information with the identified community of interest. Research knowledge is

often used to formulate the steps needed in developing a strategy. In turn, the social worker learns from the people in their communities, enhancing collaboration and partnerships that lead to achieving real social change.

CONCLUSION

The social worker's Community task is to work alongside people to help them build resilience, maintain hope and optimism and develop their strengths and abilities. It is also to confront and challenge behavior and manage situations of danger and uncertainty. Social workers must meet people on their own terms, in their own environment whilst retaining the professional detachment needed to help service users to understand, come to terms with or change their behavior. Social Worker Community contributions to strengthen the role of the social worker in the context of a modern Organization on saving of Eco Friendly products promotions. The intention of this paper is to set out a new vision for social work, based on existing values and to strengthen social workers' capacity to practice efficiently and effectively and ultimately bring about better outcomes for people who use their services.

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IMPACT OF ANNUAL INFLOW OF FOREIGN DIRECT INVESTMENT WITH SELECTED ECONOMIC GROWTH FACTORS

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ABSTRACT

After liberalisation, India attracts more investments from foreign countries for almost all the sectors of business. This study makes an attempt to analyse the relationship between inflow of Foreign Direct Investment with selected economic growth factors like Gross Domestic Product, export and Foreign Exchange Reserve of India. Data were collected for ten years from 2004-05 to 2013-14. Statistical tools correlation and t-test were used to find the relationship between them. The research finally concluded that inflow of Foreign Direct Investment plays key role for the development of economy.

KEYWORDS

Foreign Direct Investment, Gross Domestic Product, Export, Foreign Exchange Reserve.

INTRODUCTION

Economic development of every country is based on the growth of corporate entities of that country. Corporate companies need larger amount of investment to meet their large scale business operations. There are two ways to raise the investment either from domestic or from foreign investor. Foreign investment also classified as Foreign Direct Investment and foreign portfolio investment. The above two have a main difference that first one has the direct control over the investment. But latter have only focus on return on investment .it doesn't control over the investment. This paper makes an attempt to study Foreign Direct Investments, its determinants, advantages of Foreign Direct Investment to the host country and relationship between Foreign Direct Investment and economic variables of host country

FOREIGN DIRECT INVESTMENT

An investment made by a company or entity based in one country, into a company or entity based in another country. Foreign Direct Investments differ substantially from indirect investments such as portfolio flows, wherein overseas institutions invest in equities listed on a nation's stock exchange. Entities making direct investments typically have a significant degree of influence and control over the company into which the investment is made. Open economies with skilled workforces and good growth prospects tend to attract larger amounts of Foreign Direct Investment than closed, highly regulated economies.

FORMS OF FOREIGN DIRECT INVESTMENT

- Setting up a subsidiary or associate company in the foreign country,
- Acquiring shares of an overseas company,
- Through a merger or joint venture

FDI AND INDIA

The economic liberalisation in India refers to ongoing economic reforms in India that started on 24 July 1991. After Independence in 1947, India adhered to socialist policies. Attempts were made to liberalize economy in 1966 and 1985. The first attempt was reversed in 1967. Thereafter, a stronger version of socialism was adopted. Second major attempt was in 1985 by Prime Minister Rajiv Gandhi. The process came to a halt in 1987, though 1966 style reversal did not take place. In 1991, after India faced a balance of payments crisis, it had to pledge 20 tons of gold to Union Bank of Switzerland and 47 tons to Bank of England as part of a bailout deal with the International Monetary Fund (IMF). In addition, the IMF required India to undertake a series of structural economic reforms. As a result of this requirement, the government of P. V. Narasimha Rao and his finance minister Manmohan Singh started breakthrough reforms, although they did not implement many of the reforms the IMF wanted. The new neo-liberal policies included opening for international trade and investment, deregulation, initiation of privatization, tax reforms, and inflation-controlling measures. The overall direction of liberalisation has since remained the same, irrespective of the ruling party, although no party has yet tried to take on powerful lobbies such as the trade unions and farmers, or contentious issues such as reforming labour laws and reducing agricultural subsidies. Thus, unlike the reforms of 1966 and 1985 that were carried out by the majority Congress governments, the reforms of 1991 carried out by a minority government proved sustainable. After 1991 there were so many liberalisation steps taken by the government to initiate foreign direct inflows

STATEMENT OF THE PROBLEM

Since 1991 India has make so many changes in industrial policies to attract Foreign Direct Investment. Investment is the only way to expand the business activities of a country. Effective utilisation of investment results increases the growth of economy. Hence Foreign Direct Investment is considered as a developmental tool for growth and development of the country. Therefore, this study is undertaken to analyze the flow of Foreign Direct Investment into the country identifying the various set of factors of economy which increase due to flow of Foreign Direct Investment. This paper analyse the growth of three macro economic variables such as Gross Domestic Product of India, Export of India and Foreign Exchange Reserve reserve of India in relation with inflow of Foreign Direct Investment.

OBJECTIVES OF THE STUDY

- To study about various determinants which increase the inflow of Foreign Direct Investment
- To study about the benefits utilized by host country with highest inflow of Foreign Direct Investment

3. To study the relationship between inflow of Foreign Direct Investment with Gross Domestic Product of India
4. To study the relationship between inflow of Foreign Direct Investment with the Export of India
5. To study the relationship between inflow of Foreign Direct Investment with Foreign Exchange Reserve of India

DETERMINANTS OF FOREIGN DIRECT INVESTMENT

The first and foremost factor is government policies, favourable government policies to foreign investor attract more investment from abroad. Government policy includes the following important components

1. Liberal industrial policies of government increase the percentage of foreign investment to a country. It may be in the form of easy licensing system for commencement of business, divestment of government share holding in the PSUs etc are increase percentage of foreign inflow to the country
2. Free entry or liberalised rule for entering the foreign companies to host country for trade will increase the inflow of Foreign Direct Investment
3. Tax policy of the government is also plays vital role for inflow of Foreign Direct Investment. Minimum amount of tax rate for foreign investors on their dividend, royalty and capital gain attracts higher rate of Foreign Direct Investment inflow to host country
4. Gross Domestic Product is the economic reflector of every country. A country which has highest growth rate normally attracts more Foreign Direct Investment from other countries
5. A country which has wider market is also attract more Foreign Direct Investment due to the expectation of higher dividend
6. Rate of interest prevailing in the country is also one of the deciding factors of Foreign Direct Investment. The country which has highest interest rate can automatically receives high amount of Foreign Direct Investment
7. Availability of cheap cost labour comparing with the labour cost of home country is also an important factor
8. Stable government is also one of the main factor which gives confidence to foreign investor about consistency in policy making
9. Legal protection given to intellectual property rights(IPR) is also expected by foreign investors before entering new business deal to particular country
10. Amount of foreign reserve maintained by a country is also noted by investing country to meet their liquidity requirements

BENEFITS OF FOREIGN DIRECT INVESTMENT TO HOST COUNTRY

1. Foreign Direct Investment not only supply the capital but also transfer technology and management sources to host country
2. More investment from Foreign Direct Investment will create more employment opportunities to the peoples of host country
3. Inflow of foreign money resolve the problem of balance of payment, it reduces current account deficit
4. Inflow of foreign investment will increase the economic growth of country by means of increasing Gross Domestic Product of host country
5. Profits earned by Foreign Direct Investment is also generate corporate tax income to the government of host country

METHODOLOGY

SOURCES OF DATA COLLECTION

The study is based on published sources of data collected from various sources. The data was extracted from the sources. Data were collected from Foreign Direct Investment statistics- department of industrial policy and promotion, Data tables of planning commission, Export/Import data of bank ministry of commerce and Foreign Exchange Reserve data from reserve bank of India.

PERIOD OF STUDY

The study is undertaken for a period of 10 years from 2004-05 to 2013-14.

TOOLS USED FOR ANALYSIS

1. Mean is used to identify average inflow of Foreign Direct Investment, growth rate of Gross Domestic Product, export and Foreign Exchange Reserve
2. Standard deviation is used to identify the variance between each year inflow of Foreign Direct Investment, growth rate of Gross Domestic Product, export and Foreign Exchange Reserve
3. The Annual Growth Rate (AGR) and Compounded Annual Growth Rate (CAGR) are used to analyze the Foreign Direct Investment inflows with the Gross Domestic Product, Export and Foreign Exchange Reserve of India
4. Correlation is used to identify the relationship of inflow of Foreign Direct Investment with Gross Domestic Product, Export and Foreign Exchange Reserve of India
5. T test is used to identify the impact of inflow of Foreign Direct Investment with growth rate of Gross Domestic Product, export and Foreign Exchange Reserve of India

DATA ANALYSIS AND FINDINGS

TABLE 1.1: ANNUAL INFLOW OF FDI AND ANNUAL GROSS DOMESTIC PRODUCT OF INDIA (in crores)

YEAR	FDI INFLOWS	AGR	ANNUAL GROSS DOMESTIC PRODUCT	AGR
2004-05	14653		2,971,464	
2005-06	24584	72.10	3,253,073	9.48
2006-07	56390	125.50	3,564,364	9.57
2007-08	98642	96.70	3,896,636	9.32
2008-09	142829	27.80	4,158,676	6.72
2009-10	123120	-17.70	4,516,071	8.6
2010-11	97320	-17.20	4,918,533	8.91
2011-12	165146	64.20	5,247,530	6.67
2012-13	121907	-36.10	5,482,111	4.47
2013-14	147518	8.30	5,741,791	4.74
CAGR	25.98		6.81	
MEAN	99,211	32.36	4,375,025	7
STDEV	51883.47	54.47	962164.37	3.07
CORRELATION	0.84			

Source: Foreign Direct Investment statistics

The 1.1 shows the inflow of Foreign Direct Investment and annual growth rate of Gross Domestic Product for the ten years from 2004-05 to 2013-14. Average inflow of Foreign Direct Investment for the above ten year is 99,211 crores with compound annual growth rate of 25.98%. Highest annual growth rate of 64.20% received during the year 2011-12. lowest annual growth rate of -36.10% received during the year 2012-13. standard deviation of 51883.47 shows the variance of Foreign Direct Investment inflow for the above ten years. At the same time, average annual Gross Domestic Product shows 4375,025 crore for the above ten years with compound annual growth rate of 6.81%. In case of annual growth rate, Gross Domestic Product achieved maximum annual growth rate of 9.57%

during the year 2006-07, and lowest annual growth rate of 4.47% during the year 2012-13. Standard deviation of Gross Domestic Product 962164.37 shows the variance of Gross Domestic Product of India for the above ten years

Correlation between inflow of Foreign Direct Investment and Annual Gross Domestic Product of India 0.84 shows that a positive relationship exists between inflows of Foreign Direct Investment with annual Gross Domestic Product of India

TABLE 1.2: ANNUAL INFLOW OF FDI AND ANNUAL EXPORT OF INDIA (IN CRORES)

YEAR	FDI	AGR	EXPORT	AGR
2004-05	14653		375339.52	
2005-06	24584	72.1	456417.87	21.60
2006-07	56390	125.5	571779.28	25.28
2007-08	98642	96.7	655863.52	14.71
2008-09	142829	27.8	840755.05	28.19
2009-10	123120	-17.7	845533.64	0.57
2010-11	97320	-17.2	1136964.26	34.47
2011-12	165146	64.2	1465959.4	28.94
2012-13	121907	-36.1	1634318.29	11.48
2013-14	147518	8.3	1905011.08	16.56
MEAN	99210.90	35.96	988794.19	20.20
CAGR	25.98		17.64	
CORRELATION	0.77			
STDDEV	51883.47	56.50	526279.43	10.47

Source: Foreign Direct Investment statistics

The table 1.2 shows the inflow of Foreign Direct Investment and annual Export of India for the ten years from 2004-05 to 2013-14. Average inflow of Foreign Direct Investment for the above ten year is 99,211 crores with compound annual growth rate of 25.98%. Highest annual growth rate of 64.20% received during the year 2011-12. Lowest annual growth rate of -36.10% received during the year 2012-13. Standard deviation of 51883.47 shows the variance of Foreign Direct Investment inflow for the above ten years. At the same time, average annual Export of India shows 988794.19 crore for the above ten years with compound annual growth rate of 17.64 %. In case of annual growth rate, annual Export of India achieved maximum annual growth rate of 34.47% during the year 2010-11, and lowest annual growth rate of 0.57% during the year 2009-10. Standard deviation of annual Export of India 526279.43 shows the variance of Export of India for the above ten years.

Correlation between inflow of Foreign Direct Investment and Annual Export of India 0.77 shows that a positive relationship exists between inflows of Foreign Direct Investment with annual Export of India

TABLE 1.3: ANNUAL INFLOW OF FDI AND ANNUAL BALANCE OF FOREIGN EXCHANGE RESERVE OF INDIA (IN CRORES)

YEAR	FDI	AGR	FOREIGN EXCHANGE RESERVE	AGR
2004-05	14653		619116	
2005-06	24584	72.1	676387	9.25
2006-07	56390	125.5	868222	28.36
2007-08	98642	96.7	1237965	42.59
2008-09	142829	27.8	1283865	3.71
2009-10	123120	-17.7	1259665	-1.88
2010-11	97320	-17.2	1361013	8.05
2011-12	165146	64.2	1506130	10.66
2012-13	121907	-36.1	1588420	5.46
2013-14	147518	8.3	1828380	15.11
MEAN	99210.90	35.96	1189231.43	13.48
CAGR	25.98		11.44	
CORRELATION	0.95			
STDDEV	51883.47	56.50	476401.47	13.80

Source: Foreign Direct Investment statistics

The table 1.3 shows the inflow of Foreign Direct Investment and Foreign Exchange Reserve of India for the ten years from 2004-05 to 2013-14. Average inflow of Foreign Direct Investment for the above ten year is 99,211 crores with compound annual growth rate of 25.98%. Highest annual growth rate of 64.20% received during the year 2011-12. Lowest annual growth rate of -36.10% received during the year 2012-13. Standard deviation of 51883.47 shows the variance of Foreign Direct Investment inflow for the above ten years. At the same time, average Foreign Exchange Reserve of India shows 1189231.43 crore for the above ten years with compound annual growth rate of 11.44 %. In case of annual growth rate, annual balance of Foreign Exchange Reserve of India achieved maximum annual growth rate of 42.59 % during the year 2007-08, and lowest annual growth rate of -1.88% during the year 2009-10. Standard deviation annual balance of Foreign Exchange Reserve of India 476401.47 shows the variance of annual balance of Foreign Exchange Reserve of India for the above ten years

Correlation between inflow of Foreign Direct Investment and annual balance of Foreign Exchange Reserve of India 0.95 shows that a positive relationship exists between inflows of Foreign Direct Investment with annual Gross Domestic Product of India.

TABLE 2: t TEST

Hypothesis

A) Testing the impact of annual inflow of Foreign Direct Investment with annual growth of Gross Domestic Product

H0: there is no impact of annual Foreign Direct Investment inflow on annual growth of Gross Domestic Product

H1: there is an impact of annual Foreign Direct Investment inflow on annual growth of Gross Domestic Product

B) Testing the impact of annual inflow of Foreign Direct Investment with annual Export of India

H0: there is no impact of annual Foreign Direct Investment inflow on annual Export of India

H1: there is an impact of annual Foreign Direct Investment inflow on annual Export of India

C) Testing the impact of annual inflow of Foreign Direct Investment with annual balance of Foreign Exchange Reserve of India

H0: there is no impact of annual Foreign Direct Investment inflow on annual balance of Foreign Exchange Reserve of India

H1: there is an impact of annual Foreign Direct Investment inflow on annual balance of Foreign Exchange Reserve of India

TABLE 2: t-TEST

	FDI & G D P	FDI & Export	FDI AND Foreign Exchange Reserve
Correlation	0.84	0.77	0.95
N(number of pairs)	10	10	10
Calculated t value	4.38	3.41	8.61
Table value	3.35	3.35	3.35
Level of significance	5%	5%	5%
Null hypothesis	Rejected	Rejected	Rejected
Alternative hypothesis	Accepted	Accepted	Accepted

Table 2 clearly shows that

- 1) calculated t value of Foreign Direct Investment & Gross Domestic Product is greater than table value, null hypothesis was rejected, so there is an impact of annual inflow of Foreign Direct Investment on annual Gross Domestic Product growth of India
- 2) calculated t value of FDI & Export is greater than table value, null hypothesis was rejected, so there is an impact of annual inflow of Foreign Direct Investment on annual Export of India
- 3) calculated t value of FDI & Foreign Exchange Reserve is greater than table value, null hypothesis was rejected, so there is an impact of annual inflow of Foreign Direct Investment on annual balance of Foreign Exchange Reserve of India

CONCLUSION

In past years, Foreign Direct Investment plays major role on the economic growth of developed countries. The reason behind that developments is Foreign Direct Investment not only brings capital to the host country, it also bring technology, material, technical knowhow and increase the market of product into global. This analysis clearly shows annual inflow of Foreign Direct Investment makes greater impact on major economical indicators of a country such as annual growth rate of Gross Domestic Product, Export and balance of Foreign Exchange Reserve.

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FUNDAMENTAL ANALYSIS OF OLD GENERATION PRIVATE SECTOR BANKS IN INDIA

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ABSTRACT

The last 7-8 years have been very volatile for not only the Indian economy, but also for the entire world economy. The banking sector has always been one of the important sectors for economy development. In the time of uncertainty, some banks are faced financial crunch but due to RBI's stringent policies Indian banks are not affected. There is enough studies available regarding public banks and new generation private sector banks performance. Here we analyse about old generation private sector banks performance during that time.

KEYWORDS

Net Operating Margin (OPM), Net Profit Margin (NPM), Return On Equity (ROE), Earning Per Share (EPS), old generation private banks.

INTRODUCTION

Banking industry plays a pivotal role in the economic development of a country; effective existence of banking system boosts up money circulation and controls surplus money as and when required. Accepting deposits and lending loans is the prime banking business and it is backed with multiple add-on services. Indian banking industry, the backbone of the country's economy, has always played a key role in prevention the economic catastrophe from reaching terrible volume in the country. The entry of private sector banks in India, even though private banks has been functioning from earlier of 20th century the last two decades witnessed many functional development. So this study attempts to find the performance of old generation private sector banks and their contribution in banking industry. The banks, which were not nationalized at the time of bank nationalization that took place during 1969 and 1980 are known to be the old private-sector banks. These were not nationalized, because of their small size and regional focus.^[2] Most of the old private-sector banks are closely held by certain communities their operations are mostly restricted to the areas in and around their place of origin. One of the positive points of these banks is that, they lean heavily on service and technology and as such, they are likely to attract more business in days to come with the restructuring of the industry round the corner.

LITERATURE REVIEW

Subbara P.S (2007) in this study concluded that the Indian banking system has undergone transformation itself from domestic banking to international banking. However, the system requires a combination of new technologies, well regulated risk and credit appraisal, treasury management, product diversification, internal control, external regulations and professional as well as skilled human resource to achieve the heights of the international excellence to play its role critically in meeting the global challenge. This paper mainly concentrates on the major trends that change the banking industry world over, Viz., consolidation of players through mergers and acquisitions, universal banking and human resource in banking, profitability, rural banking and risk management banks will have to gear up to meet stringent prudential capital adequacy norms under Basel I and II and the free trade agreements. Banks will also have to cope with challenges posed by technological innovations in banking.

Roma Mitra, Shankar Ravi (2008), A stable and efficient banking sector is an essential precondition to increase the economic level of a country. This paper tries to model and evaluate the efficiency of 50 Indian banks. The inefficiency can be analyzed and quantified for every evaluated unit. The aim of this paper is to estimate and compare efficiency of the banking sector in India. The analysis is supposed to verify or reject the hypothesis whether the banking sector fulfils its intermediation function sufficiently to compete with the global players. The results are insightful to the financial policy planner as it identifies priority areas for different banks, which can improve the performance. This paper evaluates the performance of Banking Sectors in India.

Paneer selvam. R and Radjaramane. V (2010) have aimed to analysis the financial assistance of nationalized bank in India with the objectives of (1) To examine the trends in the relative business performance of the nationalized banks and SBI and its associates banks. (2) To study the relative profitability of the nationalized banks and SBI and its associates. (3) To provide suggestions to improve the financial performance of public sector banking institutions. The financial assistances was measured during 1997-98 to 2009-10 in State Bank of India and associates Banks and nationalized banks (19 Banks). The performance was being carried out with the help of certain crucial operational variables of the banks including total business, expenditure, deposits, advances, profits etc., To identify the relative performance of the operational variables the linear and compound growth rates have been calculated. They concluded that the growth rates worked out indicated that on the average in the case of a majority of the operational variables, the performance of the nationalized banks followed by private sector banks is found to be higher when compared to SBI and its associates and foreign banks.

Anju Arora and Muneeshkumar (2014) in this study professional management and science efforts towards upgrading credit risk management (CRM) frame work have gained reasonable pace in both the public and private sector banks a like the present study first of its kind attempts to find the difference in the strength of overall CRM frame work of private and public sector banks in India in quantitative terms and also identifies the specific CRM elements lending to such differences in their respective frameworks. If any a mathematical evaluation tool namely CRM index score comprising quantitative assessment of the current set of CRM practices relating to organization policy and strategy, operating and system of transaction level and operations and system of portfolio level the four basic elements of CRM frame work were developed for making a comparative evaluation. The findings revealed that the strength. The finding revealed that the strength of the overall CRM frame work did not vary significantly between public and private sector banks as on the whole there existed very little difference in the scores of the public and private sector banks.

OBJECTIVES OF THE STUDY

Primary objective: The main objective of the study is to analysis the profitability position of the old generation banking company.

Secondary objective: The secondary objective is to make comparative analysis among the peer sample banking company.

HYPOTHESES

H0: There is no significant different between the selected variable of sample banking companies

H1: There is significant different between the selected variable of sample banking companies

METHODOLOGY

Sample: the sample consists of five banking companies chosen from the old generation bank. This banking companies which are selected top five based on earning, such as Federal Bank(FED Bank), Jammu & Kashmir Bank(J & K Bank), ING Vysya Bank(ING Bank), Karur Vysya Bank(KVB), South Indian Bank (SIB)

Research Design: The present study is Analytical nature

Key variables: The variables which have been consider in this study are operating profit, Net Profit Margin(NPM), Return On Equity(ROE), Earning Per Share(EPS),Dividend Per Share (DPS), Dividend Pay Out Ratio(DPR), and Interest Spread

Time Period: The period of the study is from 2010-11 to 2014-15

Source of Data: The data on key variable was collected from the annual report of the respective banks

Statistical Tools: the tools that have been used in this study includes mean, Standard Devision (SD), and one way analysis of variances (ANOVA)

ANALYSIS AND INTERPRETATION

Operating Profit Margin (OPM): The operating profit margin is a ratio of operating profit to total revenue. It indicates that effectiveness with which a company controls the cost and expenses associated with their normal business operation.

TABLE 1: OPERATING PROFIT MARGION

YEAR	FED BANK	J & K	ING VYSYA	KVB	SIB
2010-11	66.4	73.77	51.7	78.81	77.83
2011-12	76.32	79.91	56.29	80.57	80.56
2012-13	76.57	79.25	68.27	79.13	79.07
2013-14	75.38	80.45	71.44	71.61	79.3
2014-15	76.58	65.66	69.62	70.84	72.36
AVG	74.25	75.81	63.46	76.19	77.82
SD	4.42	6.27	8.87	4.59	3.20

Source: compiled and calculated by using published RBI reports

The Table 1 shows the operating profit margin of the selected banks for the last 5 years. We clearly see that the average OPM of SIB is the highest among all five banks, followed by KVB, J&K, FED BANK and ING VYSYA. So, SIB has been most successful in controlling the cost and expenses. Standard deviation measures the degree of variability. It indicates that the OPM of ING VYSYA has the highest degree of variability, whereas SIB has lowest degree of variability. The OPM of sample companies was also compared and tested by following hypothesis:

TABLE 2: ONE- WAY ANOVA FOR OPM

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.	F crit
Between Groups	662.771	4	165.693	4.908	.006	2.8661
Within Groups	675.185	20	33.759			
Total	1337.956	24				

H01: There is no significant difference between operating profit margin of selected five banks.

As the calculated value (4.908) is greater than the critical value (2.8661) at the 5% level of significance in the table 2, the null hypothesis is rejected, and hence, it can be concluded that there is significance different between the operating profit margin of selected five banks

Net Profit Margin (NPM): Net Profit Margin is the ratio of net profit to total revenue earned by a company. This indicates how much a company is able to earn after meeting all direct and indirect expenses for every rupee of revenue.

TABLE 3: NET PROFIT MARGIN

YEAR	FED BANK	J & K	ING VYSYA	KVB	SIB
2010-11	14.48	14.58	8.48	18.73	11.96
2011-12	13.97	16.56	11.82	15.87	11.2
2012-13	12.26	16.61	11.83	11.72	10.53
2013-14	10.98	15.93	10.96	7.56	9.42
2014-15	13.55	17.47	10.83	8.6	5.31
AVG	13.05	16.23	10.78	12.50	9.68
SD	1.27	0.96	1.23	4.25	2.34

Source: compiled and calculated by using published RBI reports

Net profit margin of the selected banks is given in the table 3. From the Table 3 it is clear that J & K Bank earned ₹16.23 for every ₹100 Of total revenue and SIB has lowest average of ₹9.68. so, it is clear the J & K Bank which score over the other four banks. The net profit margin of selected five banks was also compared and tested using the following hypothesis:

TABLE 4: ONE- WAY ANOVA FOR NPM

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.	F crit
Between Groups	125.372	4	31.343	4.544	.009	2.8661
Within Groups	137.950	20	6.898			
Total	263.322	24				

H02: There is no significant difference between the net profit margin of selected banks. As the calculated value (4.2254) is greater than the critical value (2.8661) at the 5% level of significance in the table 4, the null hypothesis is rejected, and hence, it can be concluded that there is significance different between the Net Profit Margin of selected five banks

Return on Equity (ROE): ROE is a ratio of earning after taxes and preferred dividend to owners equity. It indicates how much profit generated using the owner's equity.

TABLE 5: RETURN ON EQUITY

YEAR	FED BANK	J & K	ING VYSYA	KVB	SIB
2010-11	3.43	12.69	2.02	4.4	2.59
2011-12	4.54	16.57	2.63	4.68	3.54
2012-13	4.9	21.26	3.04	5.19	3.75
2013-14	4.54	24.39	3.96	4.01	3.78
2014-15	3.43	10.43	3.49	3.82	2.28
AVG	4.17	17.07	3.03	4.42	3.19
SD	0.69	5.80	0.75	0.55	0.70

Source: compiled and calculated by using published RBI reports

From the table 5, it is clear that J& K Bank which has the highest average ROE at 17.07% followed by KVB, FED Bank, SIB and ING VISYA at 4.42, 4.17, 3.19 and 3.03 respectively. As for as the SD consent, J & K Bank has the highest divisions of 5.80. The ROE of the sample banks was also compared and tested using the following hypotheses:

TABLE 6: ONE- WAY ANOVA FOR ROE

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.	F crit
Between Groups	721.962	4	180.491	25.424	.000	2.8661
Within Groups	141.982	20	7.099			
Total	863.945	24				

H03: There is no significant difference between the Return on Equity of selected bank.

As the calculated value (25.424) is greater than the critical value (2.8661) at the 5% level of significance in the table 6, the null hypothesis is rejected, and hence, it can be concluded that there is significance different between the Return on Equity of selected five banks

Earnings per Share: EPS indicates how much earnings is being generated for each share. It is the ratio of earning available to an equity shareholder to the total number of outstanding equity shares. Higher the EPS, the greater is profitability of the company.

TABLE 7: EARNING PER SHARE

YEAR	FED BANK	J & K	ING VYSYA	KVB	SIB
2010-11	34.32	105.69	20.19	38.93	2.59
2011-12	45.41	126.9	26.34	48.45	3.54
2012-13	49	165.69	30.4	51.35	3.75
2013-14	9.81	217.65	39.58	40.08	3.78
2014-15	11.74	243.92	34.87	38.17	2.28
AVG	30.06	171.97	30.28	43.40	3.19
SD	18.43	58.58	7.50	6.06	0.70

Source: compiled and calculated by using published RBI reports

The EPS of selected five banks is shown in Table 7. From the Table 7, we can see the average of J&K Bank is very high as compared to all other four banks. The SIB has lowest EPS as 3.19. The J&K Bank deviation is high in EPS. The earnings per share position of sample banks tested with following hypothesis:

TABLE 8: ONE- WAY ANOVA FOR EPS

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.	F crit
Between Groups	88657.881	4	22164.470	28.674	.000	2.8661
Within Groups	15459.363	20	772.968			
Total	104117.244	24				

H04: There is no significant difference between the Earnings per Share of selected bank. As the calculated value (28.674) is greater than the critical value (2.8661) at the 5% level of significance in the table 8, the null hypothesis is rejected, and hence, it can be concluded that there is significance different between the Earnings per Share of selected five banks.

Dividend Payout Ratio (DPR): The DPR means the relationship between dividends per share and earnings per share. It indicates as to what percentage of earnings are being distributed to the shareholders.

TABLE 9: DIVIDEND PAY OUT RATIO

YEAR	FED BANK	J & K	ING VYSYA	KVB	SIB
2010-11	22.66	22.71	12.39	28.86	17.91
2011-12	18.47	19.29	9.9	26.9	15.73
2012-13	16.74	19.16	13.57	24.73	17.3
2013-14	18.34	21.93	12.82	27.75	19.47
2014-15	17.44	19.23	15.97	28.95	26.46
AVG	18.73	20.46	12.93	27.44	19.37
SD	2.31	1.72	2.19	1.73	4.18

Source: compiled and calculated by using published RBI reports

The DPR position of sample banks is in Table 9. From the above table, it can be inferred that the DPR of KVB is highest at 27.44 and ING VYSYA is lowest at 12.93. In standard deviation concern SIB has more deviation at 4.18. The J&K and KVB has stability in DPR, their deviations are 1.72 and 1.73 respectively. The DPR position of sample banks was tested with following hypothesis:

TABLE 10: ONE- WAY ANOVA FOR DPR

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.	F crit
Between Groups	536.512	4	134.128	19.990	.000	2.8661
Within Groups	134.192	20	6.710			
Total	670.704	24				

H05: There is no significant difference between the Dividend payout Ratio of selected bank

As the calculated value (19.990) is greater than the critical value (2.8661) at the 5% level of significance in the table 10, the null hypothesis is rejected, and hence, it can be concluded that there is significance different between the Dividend payout Ratio of selected five banks.

Dividend per Share (DPS): The dividend per share is the ratio of dividend paid and the total number of outstanding shares

TABLE 11: DIVIDEND PER SHARE

YEAR	FED BANK	J & K	ING VYSYA	KVB	SIB
2010-11	8.5	2.2	2.5	12	0.5
2011-12	9	2.6	3	14	0.6
2012-13	9	33.5	4	14	0.7
2013-14	2	50	5.5	13	0.8
2014-15	2.2	50	6	13	0.6
AVG	6.14	27.66	4.20	13.20	0.64
SD	3.69	24.02	1.52	0.84	0.11

Source: compiled and calculated by using published RBI reports

The DPS of selected banks given in Table 11. From the above table, we can see that the average DPS of J&K bank is higher 27.66 and it has high variation also, SIB has lowest DPS at 0.64. The DPS position of sample banks was compared and tested using the following hypothesis:

TABLE 12: ONE- WAY ANOVA FOR DPS

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.	F crit
Between Groups	2287.938	4	571.985	4.816	.007	2.8661
Within Groups	2375.216	20	118.761			
Total	4663.154	24				

H06: There is no significant difference between the Dividend per Share of selected bank.

As the calculated value (4.816) is greater than the critical value (2.8661) at the 5% level of significance in the table 12, the null hypothesis is rejected, and hence, it can be concluded that there is significance different between the Dividends per Share of selected five banks.

Interest spread: The interest spread refers to the difference in borrowing and lending rates of financial banks. Higher the spread denotes higher the profitability position.

TABLE 13: INTEREST SPREAD

YEAR	FED BANK	J & K	ING VYSYA	KVB	SIB
2010-11	7.55	5.31	5.01	6.7	6.42
2011-12	7.95	9.44	6.5	6.75	6.23
2012-13	7.31	9.12	6.95	7.16	7.01
2013-14	8.78	9.8	8.36	6.91	6.64
2014-15	7.57	8.84	7.74	6.69	6.9
AVG	7.83	8.50	6.91	6.84	6.64
SD	0.58	1.82	1.28	0.20	0.32

Source: compiled and calculated by using published RBI reports

The interest spread of selected banks given in table 13. From the above table the J&K bank has highest average of interest spread among all other banks as 8.50, the lowest average is SIB, it has 6.64. The interest spread position of selected banks was tested with the folioing hypothesis.

TABLE 14: ONE- WAY ANOVA FOR INTEREST SPREAD

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig.	F Crit
Between Groups	12.567	4	3.142	2.891	.049	2.8661
Within Groups	21.733	20	1.087			
Total	34.299	24				

H07: There is no significant difference between the interest spread of selected bank.

As the calculated value (2.891) is greater than the critical value (2.8661) at the 5% level of significance in the table 14, the null hypothesis is rejected, and hence, it can be concluded that there is significance different between the interest spread of selected five banks.

Compounded Annual Growth Rate (CAGR): The CAGR is year- over- year growth rate over a specified period of time. it is best formula for evaluating the parameters performance over time.

TABLE 15: COMPOUNDED ANNUAL GROWTH RATE

YEAR	FED BANK	J & K	ING VYSYA	KVB	SIB
OPM	0.03 %	-2.30 %	6.13 %	-2.11 %	-1.45 %
NPM	-1.32 %	3.68 %	5.01 %	-14.42 %	-14.99 %
ROE	0.00 %	-3.85 %	11.56 %	-2.79 %	-2.52 %
EPS	-19.31 %	18.21 %	11.55 %	-0.39 %	-2.52 %
DPR	-5.10 %	-3.27 %	5.21 %	0.06 %	8.12 %
DPS	-23.69 %	86.77 %	19.14 %	1.61 %	3.71 %
IS	0.05 %	10.73 %	9.09 %	-0.03 %	1.45 %

From the above table we can understand the CAGR in OPM is highest for ING VYSYA and lowest in J&K. regarding NPM ING VYSYA and J&K is positive and rest of the banks was in negative. In ROE ING VYSYA is only positive and all others in negative. In EPS J&K is highest and followed by ING VYSYA and all others in negative. In DPR SIB is highest and followed by ING and KVB. In DPS J&K has highest and followed by ING, SIB and KVB. In interest spread except KVB all others in positive sign, among those FED BANK has highest growth.

CONCLUSION

From the researcher point of view the main findings of the study are as follows

1. J&K bank performed better than other banks on the parameters like NPM, ROE, EPS, DPS and interest spread.
2. KVB is the bank paid the highest proportion of its earnings as dividend to shareholders.
3. SIB has highest operating profit in total revenue.
4. For J&K bank, the highest CAGR was in DPS.
5. Except OPM and interest spread FED BANK has all negative parameters.
6. ING VYSYA is only bank has all parameters in positive.

LIMITATIONS OF THE STUDY AND SCOPE FOR FURTHER RESEARCH

This study has its own limitations. Such as, this study considered only five banks and the researcher used financial data for only five years. The study can be extended to more number of banks and larger period of time. Researcher can compare the financial performance of old generation private sector banks with new generation private sector banks or can compare the private sector banks with public sector banks.

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A COMPARATIVE ANALYSIS OF EMPLOYEES WORK VALUES OF GEN X AND GEN Y IN COMPANIES**DR. BHAGIRATHI NAYAK****HEAD****IT & SYSTEMS****SRI SRI UNIVERSITY****CUTTACK****DR. PRATIMA SARANGI****HEAD****DEPARTMENT OF FGGPP****SRI SRI UNIVERSITY****CUTTACK****ABSTRACT**

In recent years generational composition is changing rapidly. There has been discussion in the management literature on generational differences and how the generational differences may impact on the design of workforce in relation to business strategy. Research has been conducted in order to analysis work approach of Gen X and Y in different companies. The purpose of this research study was to investigate the work value of Gen X and Y in different company's workplace environment in Odisha, to define whether differences existed in their work values? The study is conducted through questionnaire survey with a set of 20 questions with major four parameters, which are stability of work place, innovative projects, challenging work and job security. The information will give additional consideration for work values of Gen X and Y to make further decision for organizational culture and strategy. After the questionnaire survey collection phase, the data was entered and analyzed. The worksheet survey was used to gather data about their feelings concerning the factors of Gen X and Y that influenced their work values at workplace, their positive and negative relationships, and styles of management in the workplace.

KEYWORDS

organizational strategy, environment, Gen X and Y, work values.

INTRODUCTION

According to Peter Ducker, "Culture eats strategy for breakfast" Organizational culture is relevant for achieving organizational success. Culture develops with the work value of employees in an organization, which is necessary to know the work values of employees with generational differences. Work value, the researchers have assumed, it is a broad orientations towards work inspire people's ideas of what is important to them. Researchers have therefore sought to identify a set of general types of work values. The recent trend in different industry is to understand the differences in the work place values and work style to take decisions towards the organizational success. It is important to know the different generations and their work approach in the organizational environment. Work values inspire the employees to work and their satisfaction.

NEED OF THE STUDY

The work value is based on feeling and belief of an employee. It is difficult to measure the work values of an employee focusing on the generational differences. From the available tools, an attempt made to analyze the work values of Gen X and Y in different companies with special reference to Odisha.

OBJECTIVES

- 1- To know the employees work values of Gen X and Y.
- 2- To compare the work values of Generation X and Y.

DATA COLLECTION

Secondary data was used the content. Primary data was collected through the questionnaire survey from different companies of Odisha. The study was conducted with sample size of more than 200 from each company. The questionnaire is designed with five major parameters and each parameter has five questions to collect information from the respondents.

REVIEW OF LITERATURE

Review of literature suggests that there is a difference and similarities between Generation X and Y in regards to work values, working environment. In this paper we build on the present literature on both Generation X and Y with a survey sample to document their career expectations. This research will be comparing the priorities and expectation Generation X has against Generation Y. The objective of this research is to contribute and add valuable insight to past research on expectations towards work values between the two generations to get some perspective of what these changes in headcount actually represent. This study defines Gen X as those who were born between 1965 and 1977. As for Gen Y, considering they follow Gen X, their generation beginning year also tends to vary ranging from 1978 to 2000 (Greene, 2003; Howe, 2004; Leo, 2003; Patterson, 2007; Smola & Sutton, 2002; Sujansky, 2004; Vejar, 2008). Since this study is about the experience of real-world working Gen Y-ers, the year range that will define Gen Y will be that of 1978 to 1990. With the retirement of some of the earlier generations, Gen X-ers are and will be the experienced employees and managers as Gen Y continues to enter the workforce (Smola & Sutton, 2002). These two generations are the ones I choose to focus on due to the fact that these two generations will be working closely together for at least the next 20 years. It is approximated that while there 44 million Gen X members, Gen Y is closer to 80 million (Sujansky, 2004). Furthermore, although Gen Y members are already in the workforce, they have not begun to reach critical mass. As a result, managers are likely to be required to deal with the generational differences that appear to exist among employees and understand the unique needs of Gen Y (Smola & Sutton, 2002; Sujansky, 2004). Only in this manner will the inevitable clash amongst the generations become more controllable, lessening the possible misunderstandings, miscommunications, and mixed signals among employees of different generations (Smola & Sutton, 2002). The entrance of Gen Y to the workplace and this generation's unique work attributes have created quite the commotion in the workplace, as employers appear to be scrambling to find out everything they can about them (Raines, 2002). Therefore, the purpose of the present study is to explore possible differences between Gen X and Gen Y on their work-related perceptions. This article begins by describing the two generations of focus in this article. Then, previous industry and research findings concerning potential differences between Gen X and Gen Y on three work-related beliefs (i.e., work engagement, career development, and teamwork) are reviewed.

GEN X

In a study about the civic engagement of Generation X, the U.S. Census Bureau defined this segment of the population as consisting of individuals born between 1968 and 1979. However, the upper limit of Generation X in some cases has been as high as 1982, while the lower limit has been as low as 1963 (Karp et al., 2002). This generation was also called the baby bust generation, because of its small size relative to the generation that preceded it, the Baby Boom generation. The term Generation X spread into popular parlance following the publication of Douglas Coupland's book about a generation of individuals who would come of age at the end of the 20th century. Members of Generation X [Hereinafter Xers] are the children of older boomers, who grew up in a period of financial, familial and societal insecurity. They witnessed their parents get laid off and the decline of the American global power.

GEN Y

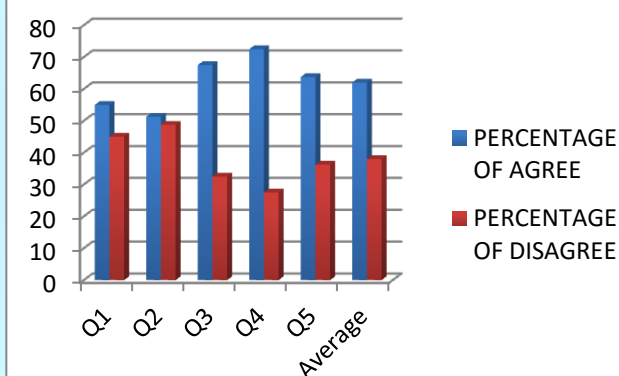
The lower limit for Generation Y may be as low as 1978, while the upper limit may be as high as 2002, depending on the source. Members of Generation Y may include individuals born between 1980 and 1999 (Campton & Hodge, 2006); 1978 and 1995 (The National Oceanographic and Atmospheric Association Office of Diversity, 2006); 1980 and 2002 (Kersten, 2002); and 1978 and 1988 (Martin, 2005). The label associated with this generation is not yet finalized. This generation has been shaped by parental excesses, computers (Niemic, 2000), and dramatic technological advances. One of the most frequently reported characteristics of this generation is their comfort with technology (Kersten, 2002). In general, Generation Y shares many of the characteristics of Xers. They are purported to value team work and collective action (Zemke et al., 2000), embrace diversity (The National Oceanographic and Atmospheric Office of Diversity, 2006), be optimistic (Kersten, 2002), and be adaptable to change (Jenkins, 2007). Furthermore, they seek flexibility (Martin, 2005), are independent, desire a more balanced life (Crampton & Hodge, 2006), are multi-taskers (The National Oceanographic and Atmospheric Office of Diversity, 2006), and are the most highly educated generation. They also value training (www.valueoptions.com). They have been characterized as demanding (Martin, 2005), and as the most confident generation (Glass, 2007). Like Xers, they are also purported to be entrepreneurial, and as being less process focused (Crampton & Hodge, 2006).

COMPARATIVE ANALYSIS

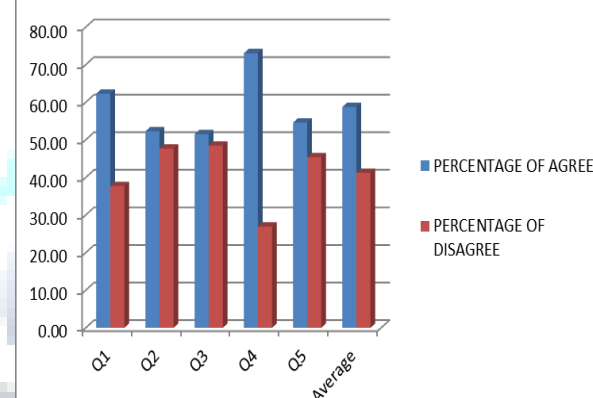
Responses of employees with regard *stability* of their work place.

Gen X employees

QUESTIONS	PERCENTAGE OF AGREE	PERCENTAGE OF DISAGREE
Q1	55	45
Q2	51.25	48.75
Q3	67.5	32.5
Q4	72.5	27.5
Q5	63.75	36.25
AVERAGE	62	38

TABLE 1: PERCENTAGE OF FIVE QUESTIONS REGARDING STABILITY**GRAPH 1: PERCENTAGE OF FIVE QUESTIONS REGARDING STABILITY****Gen Y employees**

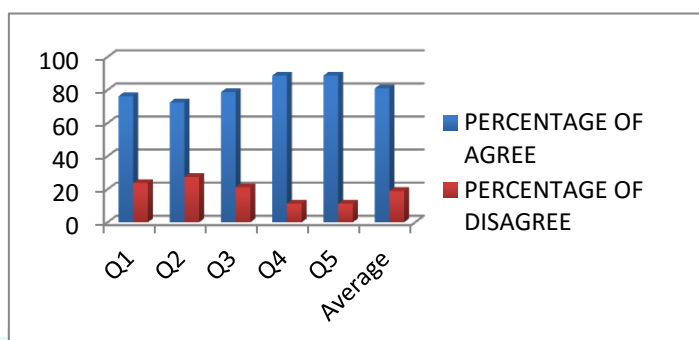
QUESTIONS	PERCENTAGE OF AGREE	PERCENTAGE OF DISAGREE
Q1	62.31	37.69
Q2	52.31	47.69
Q3	51.54	48.46
Q4	73.08	26.92
Q5	54.62	45.38
Average	58.77	41.23

TABLE 2: PERCENTAGE OF FIVE QUESTIONS REGARDING STABILITY**GRAPH 2: PERCENTAGE OF FIVE QUESTIONS REGARDING STABILITY**

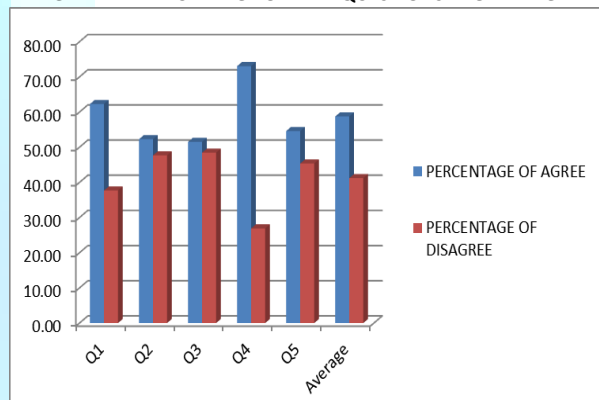
The above table and graph indicates Gen X is more concern then Gen Y about stability of works. Here we are getting average percentage of Gen X is 62% of agree and 38% of disagree, whereas Gen Y is getting 58% of agree and 41.23% of disagree. The analysis shows that Gen X is more worried about stability of works. Responses of employees with regard *innovative* work.

Gen X employees

QUESTIONS	PERCENTAGE OF AGREE	PERCENTAGE OF DISAGREE
Q1	76.25	23.75
Q2	72.5	27.5
Q3	78.75	21.25
Q4	88.75	11.25
Q5	88.75	11.25
AVERAGE	81	19

TABLE 3: PERCENTAGE OF FIVE QUESTIONS REGARDING INNOVATIVE WORK**GRAPH 3: PERCENTAGE OF FIVE QUESTIONS REGARDING INNOVATIVE WORK****Gen Y employees**

QUESTIONS	PERCENTAGE OF AGREE	PERCENTAGE OF DISAGREE
Q1	76.92	23.08
Q2	75.38	24.62
Q3	80.77	19.23
Q4	90.77	9.23
Q5	90.00	10.00
Average	82.77	17.23

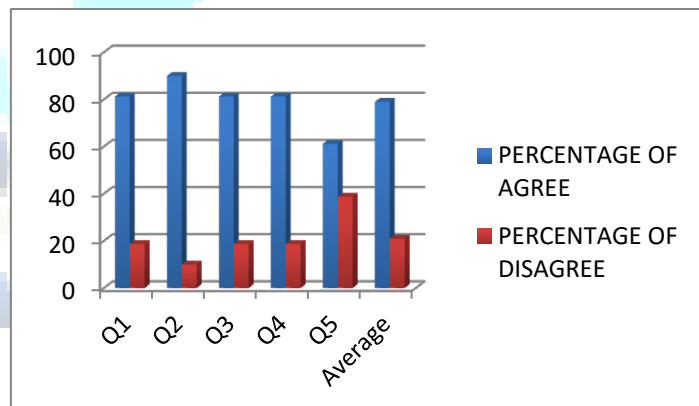
TABLE 4: PERCENTAGE OF FIVE QUESTIONS REGARDING INNOVATIVE WORK**GRAPH 4: PERCENTAGE OF FIVE QUESTIONS REGARDING****INNOVATIVE WORK**

The above table and graph indicates Gen X is innovative, but Gen Y is more innovative than Gen X. Here we are getting average percentage of Gen Y is 82.77% of agree and 17.33% of disagree, whereas Gen X is getting 81% of agree and 19% of disagree. The analysis shows that Gen Y is more innovative.

Responses of employees with regard **challenging** work.

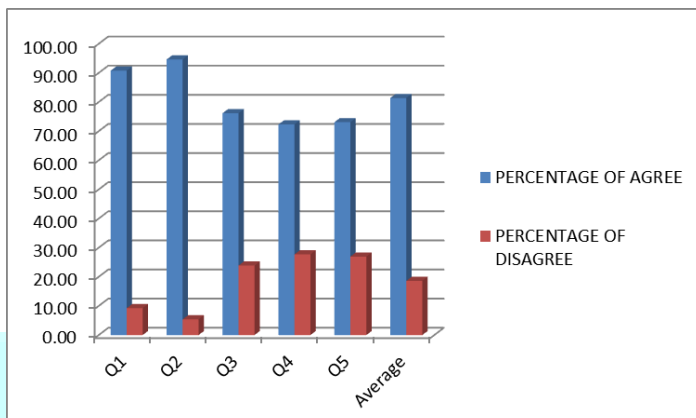
Gen X employees

QUESTIONS	PERCENTAGE OF AGREE	PERCENTAGE OF DISAGREE
Q1	81.25	18.75
Q2	90	10
Q3	81.25	18.75
Q4	81.25	18.75
Q5	61.25	38.75
Average	79	21

TABLE 5: PERCENTAGE OF FIVE QUESTIONS REGARDING CHALLENGING WORK**GRAPH 5: PERCENTAGE OF FIVE QUESTIONS REGARDING CHALLENGING WORK**

Gen Y employees

QUESTIONS	PERCENTAGE OF AGREE	PERCENTAGE OF DISAGREE
Q1	90.77	9.23
Q2	94.62	5.38
Q3	76.15	23.85
Q4	72.31	27.69
Q5	73.08	26.92
Average	81.38	18.62

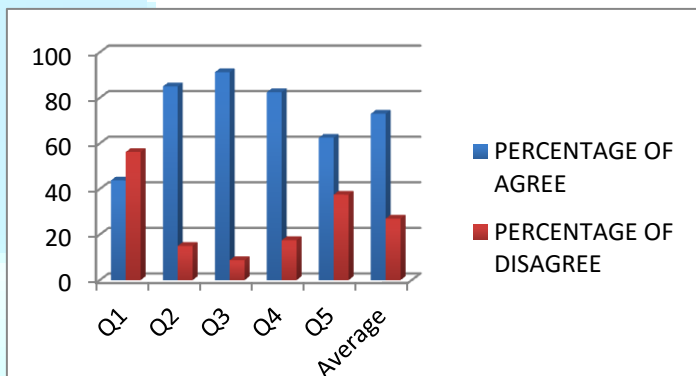
TABLE 6: PERCENTAGE OF FIVE QUESTIONS REGARDING CHALLENGING WORK**GRAPH 6: PERCENTAGE OF FIVE QUESTIONS REGARDING CHALLENGING WORK**

The above table and graph indicates Gen X is ready to accept challenging task, but Gen Y is more interested to take challenging work than Gen X. Here we are getting average percentage of Gen Y is 81.38% of agree and 18.62% of disagree, whereas Gen X is getting 79% of agree and 21% of disagree. The analysis shows that Gen Y is ready to take challenging work.

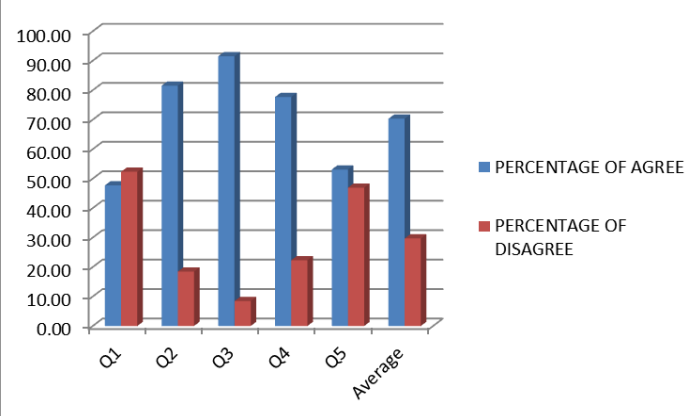
Responses of employees with regard **security** of their works place.

Gen X employees

QUESTIONS	PERCENTAGE OF AGREE	PERCENTAGE OF DISAGREE
Q1	43.75	56.25
Q2	85	15
Q3	91.25	8.75
Q4	82.5	17.5
Q5	62.5	37.5
Average	73	27

TABLE 7: PERCENTAGE OF FIVE QUESTIONS REGARDING SECURITY OF THEIR WORK PLACE**GRAPH 7: PERCENTAGE OF FIVE QUESTIONS REGARDING SECURITY OF THEIR WORK PLACE****Gen Y employees**

QUESTION S	PERCENTAGE OF AGREE	PERCENTAGE OF DISAGREE
Q1	47.69	52.31
Q2	81.54	18.46
Q3	91.54	8.46
Q4	77.69	22.31
Q5	53.08	46.92
Average	70.31	29.69

TABLE 8: PERCENTAGE OF FIVE QUESTIONS REGARDING SECURITY OF THEIR WORK PLACE**GRAPH 8: PERCENTAGE OF FIVE QUESTIONS REGARDING SECURITY OF THEIR WORK PLACE**

The above table and graph indicates that Gen X is more stable on job security than Gen Y. Here we are getting average percentage of Gen X is 73% of agree and 27% of disagree, whereas Gen Y is getting 70.31% of agree and 29.69% of disagree. The analysis shows that Gen X is feeling more secure on job, but Gen Y is feeling unsecured on the job.

CONCLUSION

This article is basically individual work responses taken from employees in different companies in Odisha. We observed that Gen X and Y are having differences, but we found through our survey and analysis that both are having different opinion and confidence. We also found through our four major parameters like stability, innovation, challenging and security Gen Y is more concerned about job stability and security. Whereas Gen X is more stable in job security. Gen Y is ready to take more challenging and innovative work than Gen X. The different industries are can better understand their current workforce of the employees. This analysis will be helpful for managing different generational workforce in companies.

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A STUDY ON PERCEPTION OF PU STUDENTS TOWARDS EATING JUNK FOOD WITH SPEICAL REFERENCE TO BANGALORE CITY

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ABSTRACT

Background and Aim: Junk foods are rich in calories, salt and fats. Excess consumption of junk foods would lead to wide variety of health disorders. The aim of the present study was to know about junk food eating habits of PU students, their ingredients, nutritive value and their impact on human health.

Subjects and Methods: Self-administered questionnaire was used to collect the data. Students from various PU College Of Arts and Science, Polytechnic and Commerce were selected for this study as a sample population and the total sample size was represented by 200 students.

Results: The analysis showed that around 17% of students were completely aware about harmful chemicals & 14% of respondents were completely ignorant of harmful chemicals present in junk foods. In the questionnaire almost 75% of students gave their opinion about the junk food as unhealthy. Based on the study, it was found that 5% were taking junk food as an alternative to breakfast, 66% of individuals like junk foods for their taste & is one of the predominant factors for the choice of junk foods.

KEYWORDS

Calories, Disorder, Junk Food.

INTRODUCTION

Junk food is a term for food that is of little nutritional value and often high in fat, sugar, salt, and calories. Junk foods typically contain high levels of calories from sugar or fat with little protein, vitamins or minerals. Most of the junk foods are rich in fats and poor in other nutrients. Common junk food includes Fast food, chips, candy, gum, sweet desserts, sugary carbonated beverages as well as alcoholic beverages. Many foods such as hamburgers, pizzas can be considered either healthy or junk food depending on their ingredients and preparation methods. The more highly processed items usually fall under the junk food category. What is and is not junk food can also depend on the person's class and social status, with wealthier people tending to have a broader definition while lower- income consumers may see fewer foods as junk food, especially certain ethnic foods.

HARMFUL INGREDIENTS OF JUNK FOODS

1. **PALM OIL:** These are evil anti-nutrients in the form of trans fats which help packaged foods to stay "fresh," meaning that the food can sit on the supermarket shelf for years without ever getting stale or rotting.
2. **ARTIFICIAL SWEETENERS:** Aspartame (NutraSweet, Equal), saccharin (Sweet'N Low, SugarTwin), and sucralose (Splenda) are some examples of artificial sweeteners added to our foods which may be even harder on our metabolic systems than plain old sugar.
3. **SODIUM BENZOATE AND POTASSIUM BENZOATE:** These are preservatives which sometimes are added to soda to prevent mold from growing, but benzene is also linked with its serious thyroid damage.
4. **BUTYLATED HYDROXYANISOLE (BHA):** BHA is another potentially cancer-causing preservative, but it has been deemed safe by the FDA

HARMFUL EFFECTS OF JUNK FOODS ON HUMAN HEALTH

A no. of studies has been conducted worldwide which had proved the harmful effects of junk food consumption. Through these examples we have tried to bring your attention towards this subconscious threat of junk food. **EXPERIMENT @ SCRIPPS RESEARCH INSTITUTE USA:** A study by Paul Johnson and Paul Kenny at the Scripps Research Institute in 2008 suggested that junk food consumption alters brain activity in a manner similar to addictive drugs like cocaine and heroin. For this study a set of rats were selected and were given junk foods. After many weeks with unlimited access to junk food, the pleasure centers of rat brains became desensitized, requiring more food for pleasure. After the junk food was taken away and replaced with a healthy diet, the rats starved for two weeks & died instead of eating nutritious food.

INDIAN FAST FOOD INDUSTRY

The Indian fast Food Industry has witnessed high growth strides in the past years, with increasing disposable income; exposure to a number of cuisines; and consumers' willingness to experiment a mix of both Western and local menu. It has not only provided convenience to people who shuttle between home and work for a bigger part of the day but also eliminated the requirement of conventional cutlery. As per a new research report titled 'Indian Fast Food Market Analysis', currently the Indian fast food industry stands at a massive size of 47 billion, driven by a growing number of working professionals and increasing westernization. As per an ongoing study on the Indian fast food industry, there has been a major shift in food habits in the metropolitan cities encouraging the manufacturers to introduce innovative flavors in noodles and pastas to suit Indian consumers. Further, the enhancement of fried instant noodles' condiment, good performance of non-fried noodles, and the subsequent release of coarse cereal noodles are some of the main trends currently prevailing in the Indian market. Majority of households prefer to consume instant food over traditional food due to steep rise in dual income level & standard of living, convenience and influence of Western countries. As a result, fast food menus comprising pizza, burger, sandwiches, etc are gaining wider acceptance from the Indian consumers. Major players in this sector are creating a competitive environment for future growth. The new outlets in cities, such as Amritsar, Patna, Bhopal, Pune and Ludhiana would mainly be Family Style Restaurants (FSR), ice cream kiosks and parlors. Likewise, KFC has plans to increase its existence from 21 cities at present to around 75 cities through its objective to operate 500 restaurants in India by 2015. The company is eager to spread wings to new cities such as Hubli, Madurai, Salem and Mysore in the south, and in the north in Kanpur, Allahabad.

OBJECTIVES OF THE STUDY

1. To identify the factors affecting the choice of junk food by the students.
2. To study the consumption pattern towards junk foods particularly with respect to the frequency of visits and choice of fast food outlets.
3. To identify the impact of hygiene and nutritional value of junk foods on students purchase decision.
4. To study the students perceptions about junk foods in a metropolitan city like Bangalore.

METHODOLOGY FOR SAMPLE SELECTION AND DATA COLLECTION

The present survey was conducted in Bangalore, India. The population sample included students from various PU College of Arts and Science, Polytechnic and Commerce were selected for this study. The sample population 200 individuals were chosen for the study. Questionnaires were distributed to the students present in the classrooms. Among the 200 respondents, 140 were males and 60 females. All the participants were in the age group from 16-19 years. The questionnaire was distributed and data collected in the month of August, 2015. A single sheet questionnaire containing set of 14 multiple choice questions were prepared and distributed. The students were given a brief overview about junk foods and their ill health effects. The responses were collected and counted manually based on the options specified for each question framed. The participants were provided 15 minutes to complete the questionnaire framed.

DATA ANALYSIS AND INTREPRETATION

TABLE 1: TYPE OF COLLEGES

Type of college	No. of colleges	% of colleges
Arts and science college	18	30.00
Polytechnic college	17	28.33
Commerce college	25	41.67
TOTAL	60	100.00

Source: Primary Data

The above table no 2 reveals that, among the selected samples 30.00% of the students are in Arts and Science colleges, 28.33% of the students are in Polytechnic colleges and the remaining 41.67% of the students are in Commerce College.

TABLE 2: NATURE OF COLLEGE

Type of college	No. of colleges	% of colleges
Aided college	05	20.00
Private college	20	80.00
TOTAL	25	100.00

Source: Primary Data

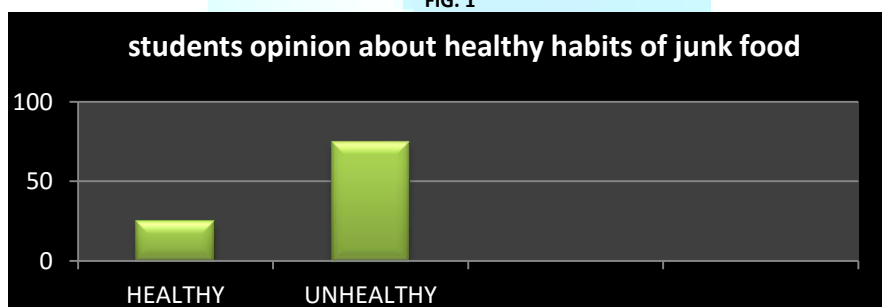
The above table no 3 portrays that, among the selected sample students 20% of the students are from Aided colleges and remaining 80% of the students study in Private Colleges.

TABLE 3: SHOWING THE OPINION OF THE STUDENTS ABOUT HEALTHY HABITS OF JUNK FOOD

Particulars	No. of students	% of students
Healthy	50	25
Unhealthy	150	75
TOTAL	200	100

Source: Primary Data

FIG. 1



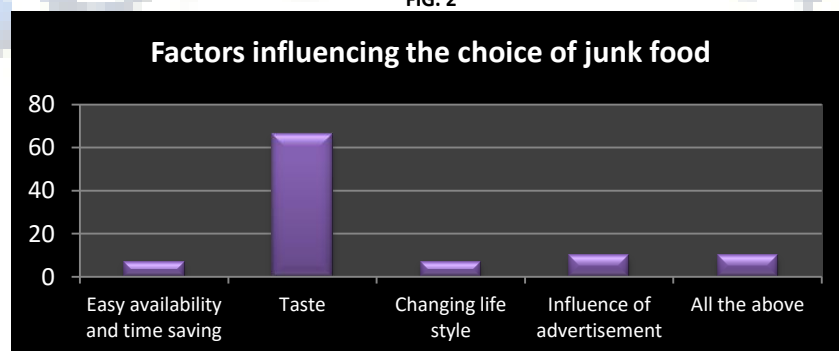
Majority of students feel that eating junk food is not a healthy habit and for about 25% of the students feel that it is healthy. So awareness has to be created amongst the students about unhealthy practices of junk food

TABLE 4: SHOWING THE FACTORS INFLUENCING THE CHOICE OF JUNK FOOD

Particulars	No. of students	% of students
Easy Availability and Time saving	14	07
Taste	132	66
Changing life style	14	07
Influence of advertisement	20	10
All the above	20	10
TOTAL	200	100

Source: Primary Data

FIG. 2

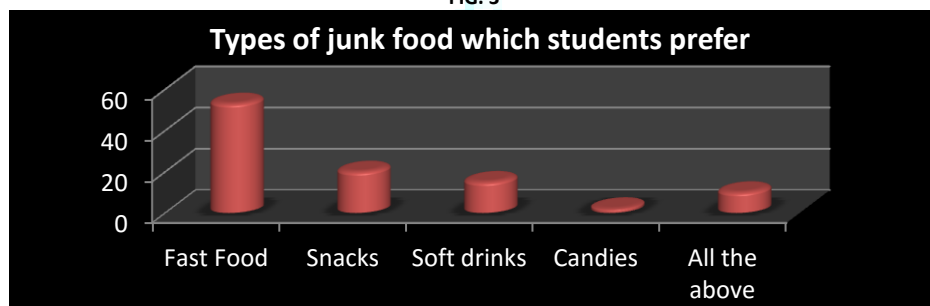


Majority of the students are opting for junk food because of its taste. Where as the rest of the others prefer it for easy availability and time saving, changing life style, and due to influence of advertisement. Students should reduce eating junk foods as it contains a lot of chemicals which increases the taste but creates biomagnifications in students.

TABLE 5: SHOWING THE FAVORITE TYPES OF JUNK FOOD

Particulars	No. of students	% of students
Fast food	106	53
Snacks	40	20
Soft drinks	30	15
Candies	04	02
All the above	20	10
TOTAL	200	100

Source: Primary Data

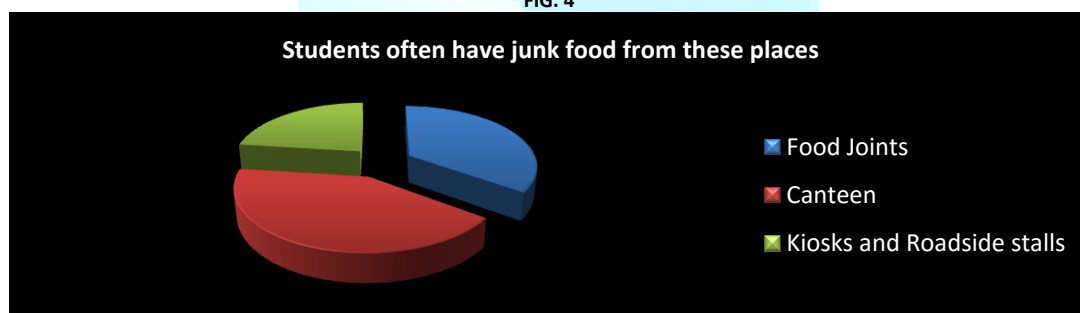
FIG. 3

Majority of the students now-a-days prefer fast food and others prefer snacks, soft drinks and candies. So the intake of fast food should be reduced as it creates a lot of health issues on students.

TABLE 6: SHOWING THE PLACES WHERE STUDENTS VERY OFTEN HAVE JUNK FOOD

Particulars	No. of students	% of students
Food Joints	70	35
Canteen	84	42
Kiosks and Roadside stalls	46	23
TOTAL	200	100

Source: Primary Data

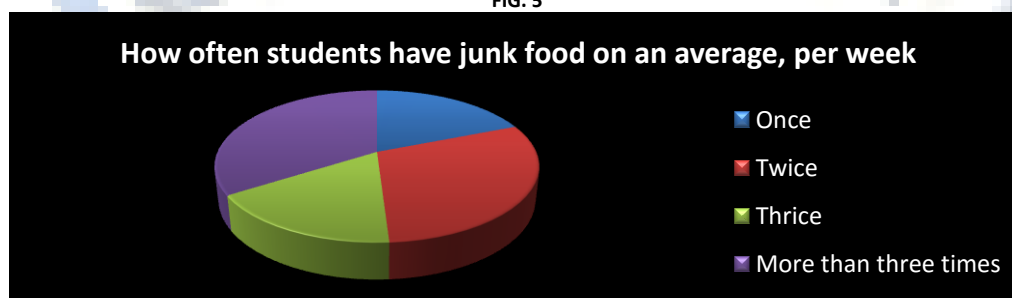
FIG. 4

As canteen is the easy accessibility to all these junk foods, 42% of the students buy from canteen, remaining of them buy from food joints, kiosks and roadside stalls. So college canteens should ensure that they give healthy food items to the students.

TABLE 7: SHOWING HOW OFTEN STUDENTS HAVE JUNK FOOD ON AN AVERAGE, PER WEEK

Particulars	No. of students	% of students
Once	38	19
Twice	60	30
Thrice	34	17
More than three times	68	34
TOTAL	200	100

Source: Primary Data

FIG. 5

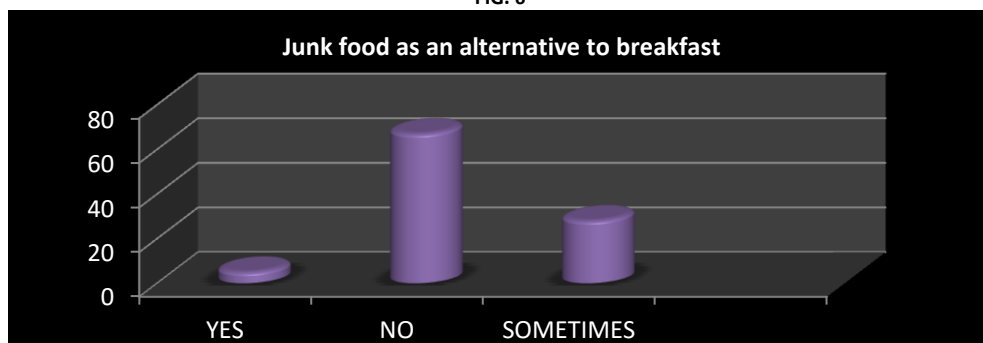
It is found that 34% of students have opted for more than three times a week, 30% of students opted for two times per week, 19% opted for once a week and 17% opted for thrice a week. So the rate of consumption has to be reduced.

TABLE 8: SHOWING THE INTAKE OF JUNK FOOD AS AN ALTERNATIVE TO BREAKFAST

Particulars	No. of students	% of students
Yes	10	05
No	134	67
Some times	56	28
TOTAL	200	100

Source: Primary Data

FIG. 6



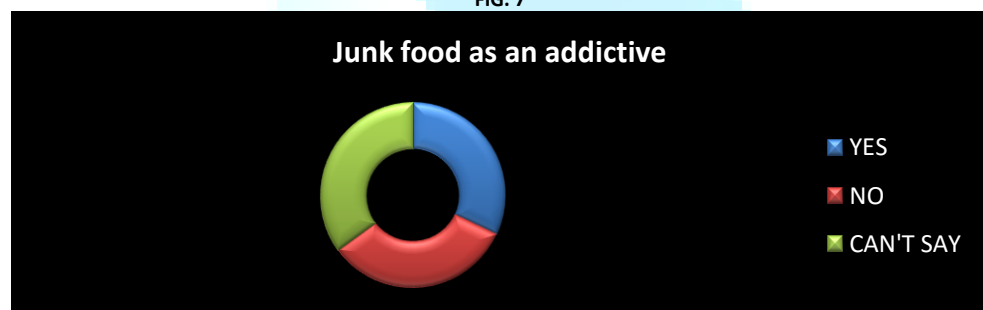
Around 67% of students indicated that they do not take junk food as an alternative to breakfast, 28% of the students indicated that they would take rarely and that to very least quantity, 5% indicated they would take junk food as breakfast.

TABLE 9: SHOWING THE STUDENTS ADDICTIVENESS TOWARDS JUNK FOOD

Particulars	No. of students	% of students
Yes	64	32
No	66	33
Cant's say	70	35
TOTAL	200	100

Source: Primary Data

FIG. 7



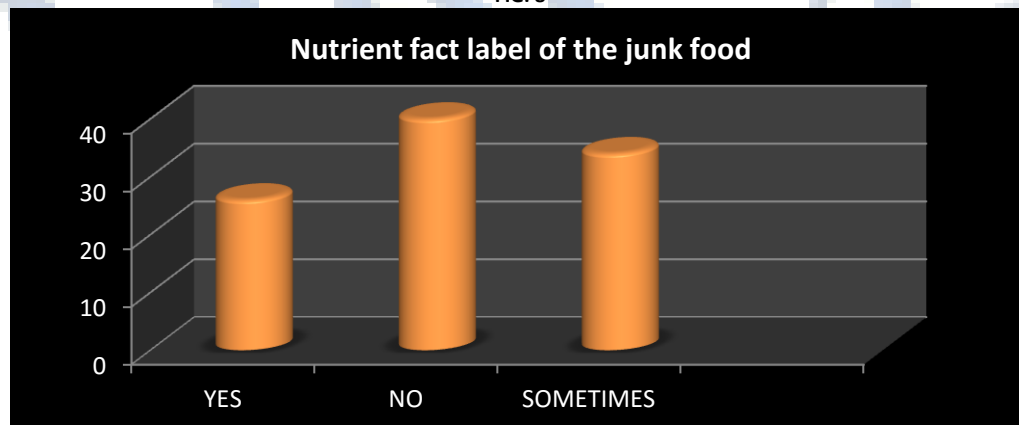
32% of the students considered junk food as addictive, 33% considered junk food as non-addictive while 35% of the students were unable to answer.

TABLE 10: SHOWING STUDENTS CHECKING THE NUTRIENT FACT LABEL OF THE JUNK FOOD

Particulars	No. of students	% of students
Yes	52	26
No	80	40
Sometimes	68	34
TOTAL	200	100

Source: Primary Data

FIG. 8



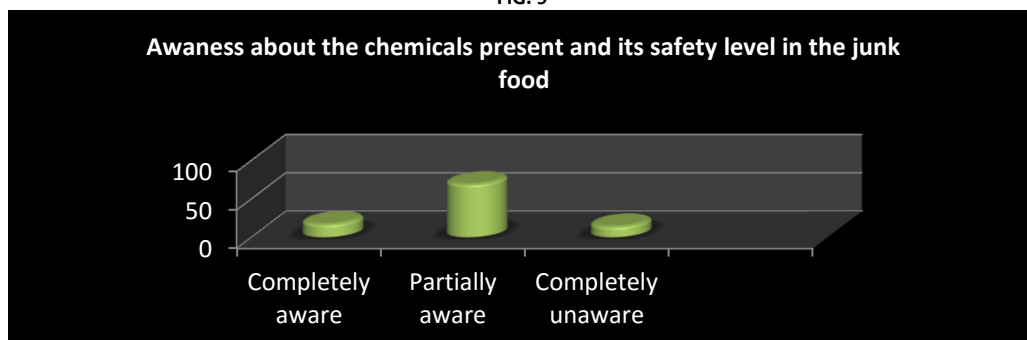
For the question related to nutrient facts labels awareness 26% checked the label more often, 40% do not check label and 34% individuals checked rarely.

TABLE 11: SHOWING AWARENESS OF THE STUDENTS ABOUT THE CHEMICALS PRESENT AND ITS SAFETY LEVEL IN THE JUNK FOOD

Particulars	No. of students	% of students
Completely aware	34	17
Partially aware	138	69
Completely unaware	28	14
TOTAL	200	100

Source: Primary Data

FIG. 9



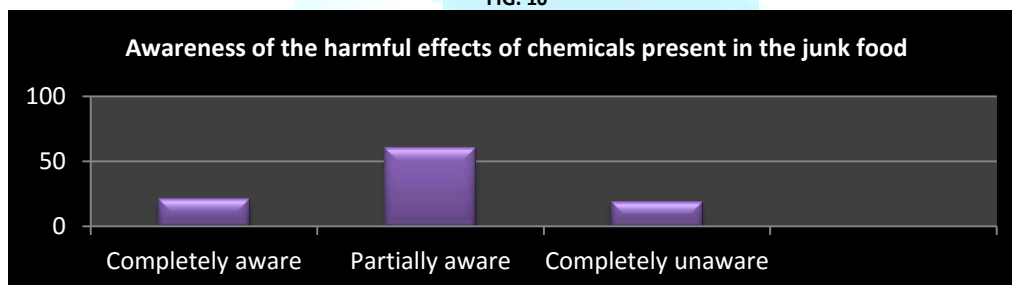
In case of chemicals and their safety level information, 17% of the students were aware of it, 14% of the students were unaware and 69% of the students have specified that they had some idea about some chemicals and their safety levels.

TABLE 12: SHOWING STUDENTS' AWARENESS ABOUT HARMFUL EFFECTS OF CHEMICALS PRESENT IN THE JUNK FOOD

Particulars	No. of students	% of students
Completely aware	42	21
Partially aware	120	60
Completely unaware	38	19
TOTAL	200	100

Source: Primary Data

FIG. 10



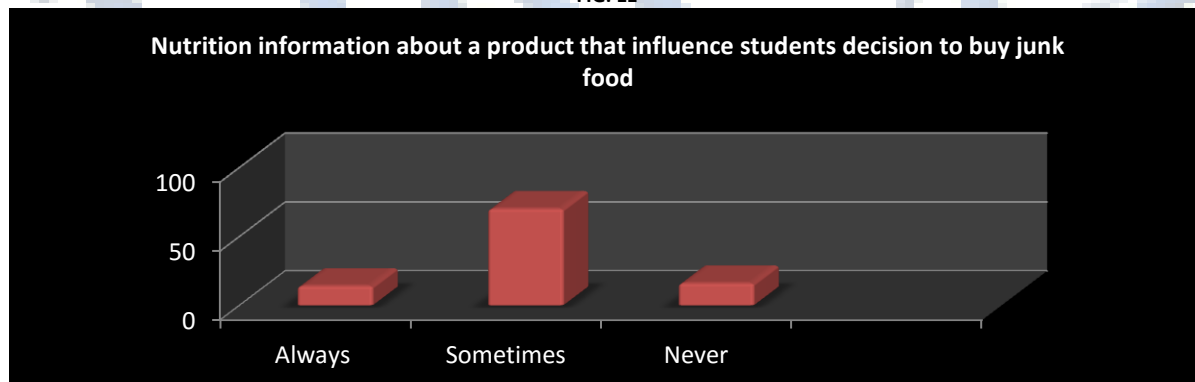
21% of the students said they were completely aware of the consequences, 60% partially aware and only very few about 19% of students have said they were completely unaware of the chemicals presents in junk foods.

TABLE 13: SHOWING THE NUTRITIONAL INFORMATION ABOUT A PRODUCT THAT INFLUENCE STUDENT DECISION TO BUY JUNK FOOD

Particulars	No. of students	% of students
Always	28	14
Sometimes	140	70
Never	32	16
TOTAL	200	100

Source: Primary Data

FIG. 11



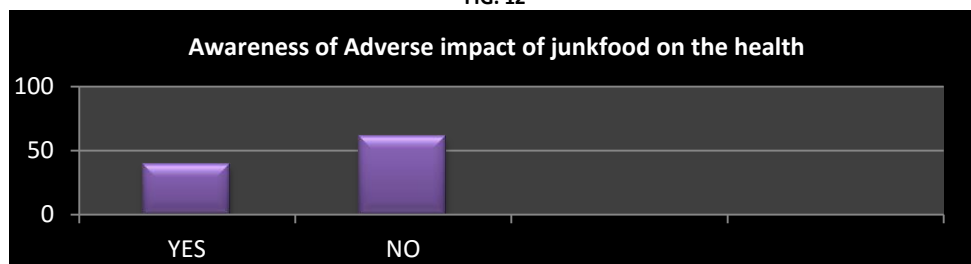
14% of the students said that, based on the nutritional information present on the junk food influences those to buy the junk food, 16% of the students never got influenced to buy the junk food and 70% of the students sometimes got influenced by the nutritional information on the junk food.

TABLE 14: SHOWING STUDENTS' AWARENESS OF ADVERSE IMPACT ON THEIR HEALTH DUE TO JUNK FOOD

Particulars	No. of students	% of students
Yes	78	39
No	122	61
TOTAL	200	100

Source: Primary Data

FIG. 12



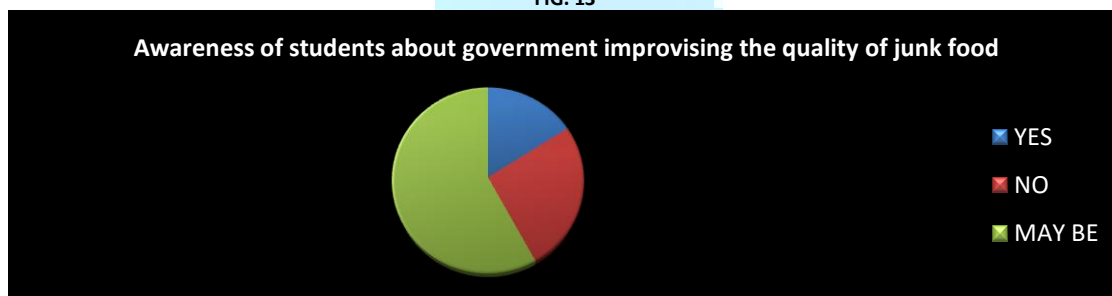
Majority of the students are not at all aware about the adverse impact of junk foods on their health and only 39% are aware about this. So awareness must be created on this.

TABLE 15: SHOWING AWARENESS OF STUDENTS ABOUT THE GOVERNMENT IMPROVISING THE QUALITY OF JUNK FOOD

Particulars	No. of students	% of students
Yes	32	16
No	52	26
May be	116	58
TOTAL	200	100

Source: Primary Data

FIG. 13



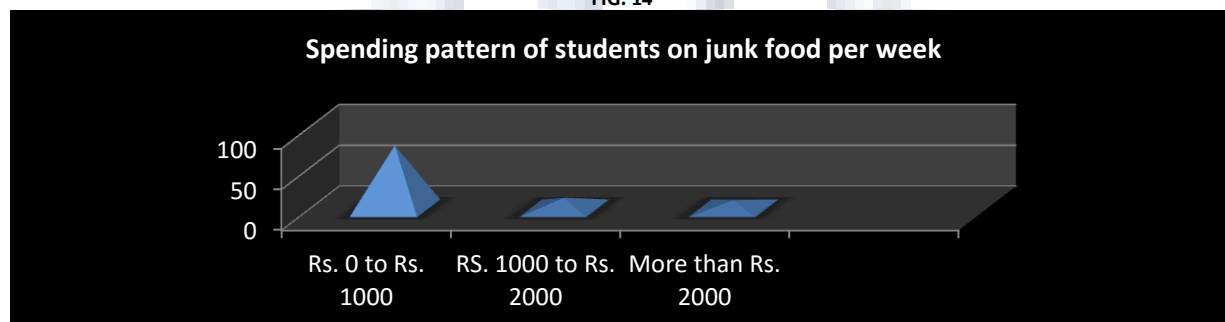
Around 26% of the students feel that government is not taking any step for the improvising the quality of junk food, 16% of the students feel that government has taken measures to improvise the quality of junk food and for about 58% students feel that government might be taking steps for improvising the quality of junk food.

TABLE 16: SHOWING STUDENTS SPENDING PATTERN ON THE JUNK FOOD, PER WEEK (APPROXIMATELY)

Particulars	No. of students	% of students
Rs 0 to Rs 1000	154	77
Rs1000 to Rs 2000	26	13
More than Rs 2000	20	10
TOTAL	200	100

Source: Primary Data

FIG. 14



Majority of the students spend around Rs 1000 per week for buying the junk food, 13% of students said they spend around Rs 2000 per week and 10% of the students spend more than Rs 2000 per week on junk foods.

FINDINGS

- 75% of the student knows eating junk food is unhealthy.
- Taste is the major reason which influences students to buy junk food
- 53% of the students like fast food.
- Canteens are the frequent places where students visit the most to eat junk food
- 34% of the students have junk foods more than three times a week.
- 36% of the students do not take junk food as an alternative to breakfast.

- 32% of the students are addictive to junk foods
- Hardly 26% of the students check the nutrient fact label of the junk food
- 14% of the students are completely unaware of the chemicals present and its safety level in the junk food
- 19% of the students are not aware about harmful effects of chemicals present in the junk food
- 16% of the students never got influenced by the nutritional information for buying junk food
- 61% of the students are not aware of adverse impact on their impact due to junk food
- 26% of the students feel that government is not taking any step to improve the quality of junk food
- 77% of the students spend around Rs 1000 per week, buying the junk food

SUGGESTIONS

- It is optimal to design an awareness program regarding lethal effects of consumption of junk foods among the college students.
- Awareness should be created to the colleges to instruct their canteens to reduce the selling of junk foods to the students.
- Government should create a few measures to keep away all these kiosks or stalls away from the college limits.
- Parents also should bring in the awareness of the harmful effects of these junk foods to their children from their young age itself.
- Self awareness has to be created by the students themselves to reduce the intake of junk foods as it is creating a lot of problems like obesity, heart problems etc...
- As majority of the students prefer junk food for its taste, awareness to be created amongst students about the harmful chemicals which is used in junk food to increase the taste and its lethal effects.

CONCLUSION

Junk foods have certainly carved up the World due to globalization. It is an integral part of life in the developed and also the developing world, and coming with it is a massive increase in obesity and associated problems. The key to eating these junk foods is moderation, occasional consumption and preferably in small portions. It is not impossible to win war with junk foods against healthy foods. However, one must beware; entice is so strong that you will be addicted. It must be remembered that the addiction to junk is great for business. It is all in our hands to choose junk food or health.

Avoid Junk, Accept Health!

No Junk, Know Health!

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INCLUSIVE GROWTH IN INDIA: ISSUES AND CHALLENGES

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ABSTRACT

Inclusive growth is necessary for sustainable development and equitable distribution of wealth and prosperity. Achieving inclusive growth is the biggest challenge in a country like India. In a democratic country like India, bringing 600 million people living in rural India into the mainstream is the biggest concern. The challenge is to take the levels of growth to all section of the society and to all parts of the country. The best way to achieve inclusive growth is through developing people's skills. The inclusiveness involves four attributes. They are Opportunity, capability, access and security. The Opportunity attribute focuses on generating more and more opportunities to the people and focuses on increasing their income. The Capability attribute concentrates on providing the means for people to create or enhance their capabilities in order to exploit available opportunities. The Access attributes focuses on providing the means to bring opportunities and capabilities together. The Security attribute provides the means for people to protect themselves against a temporary or permanent loss of livelihood. Together Inclusive growth is a process in which economic growth measured by a sustained expansion in GDP contributes to an enlargement of the scale and scope of all four dimension. This project has tried to throw light on different aspects of inclusive growth and its success and failure in Indian Economy.

KEYWORDS

Inclusive Growth, Opportunities, GDP, Indian Economy.

INTRODUCTION

India' is the new global buzzword. The economy growing at a phenomenal rate, combined with a flourishing democracy is making people sit up and take notice across the world. Yet, it is at cross-roads today. It is far from reaching its true potential. The country remains shackled in corruption, red tape, age old social barriers and a puzzling lack of transparency. Growth is not uniform across sectors; and large cross-sections of the populace remain outside its purview. Several social, political and economic factors need to be tackled for sustaining a high rate of growth, as well as to make this growth inclusive. Elimination of child labour, women empowerment, removal of caste barriers and an improvement in work culture are just a few of the things the Indian society needs to introspect on. Tackling corruption in high places, removing the ills of the electoral system, shunning politics of agitations and keeping national interest above petty politics may not be too much to ask of the country's policy makers. Rapid growth in the rural economy, well planned and targeted urban growth, infrastructure development, reforms in education, ensuring future energy needs, a healthy public-private partnership, intent to secure inclusivity, making all sections of society equal stakeholders in growth, and above all good governance will ensure that India achieves what it deserves.

Of the eight richest people in the world four are Indian, but the irony still remains that there's a marginal farmer in the interior of Maharashtra, who is struggling to feed his five children, the youngest of whom is a son, uneducated and unemployed, with four sisters, all of marriageable age, whose marriage the farmer cannot afford. Try telling the farmer that the economy is growing at a handsome 9% per annum, hardly consolation for the empty stomachs his children go to bed with every night.[1]

Economic liberalization which began in the early 1990s has accelerated India's growth rate to an average of 7% per year since 1997, up from 3.5% in the 1970s. During this period India transformed itself from an agricultural economy to a service economy. Services now form 55% of the Indian economy. The growth and development of the Information Technology and Information Technology enabled Services have had a significant role in changing the face of the economy. The good news does not end here. The growth rate for India is expected to overtake China's double digit growth rate in the next few years.

The task to feed, house, clothe, educate and employ India's growing population, which is expected to reach nearly 1.5 billion by 2030, is enormous. This includes a net increase of 270 million people which will be added to the work force. Bringing them into the economic mainstream both as producers and consumers of goods and services must be the basis of any inclusive strategy.

Today, economic power rests with a precious few. According to Credit Suisse, the top 1% of the population own 15.9% of India's wealth, the top 5% own 38.3% and the top 10% have 52.9% of Indian's wealth. What this really means is that 90% of Indian, the urban and rural poor has a very small stake in the pie. Growth must lead to the re-distribution of this ever growing pie to a situation where the bulk of the population is middle class and a smaller percentage of the population is either very rich or very poor.

The aspirations of the "bottom billion" cannot be wished away. If India is unable to address these aspirations, the "demographic dividend" that the country can reap will become a demographic liability. This mammoth task cannot be done by government alone. Industry and civil society must partner with government to drive inclusive growth. Cognizant of income disparities and growing aspirations of the people the government has been working to address these through programs like NREGA and Aadhaar. Civil society has contributed with design and governance oversight. But, in my view the greatest lever for driving inclusion is jobs.

The India's economy is headed in a new direction - striving to touch double - digit annual growth rates, and a sustainable, equitable and inclusive growth, taking into account the needs of all sections of society. India's economic growth has passed through for major phases over the past 60 Years And is emerging to a new phase with a broad objective of "Inclusive Growth".

The 11th Plan defines inclusive growth to be "a growth process which yields broad-based benefits and ensures equality of opportunity for all". The Inclusive growth implies an equitable allocation of resources with benefits accruing to every section of society, which is an Utopian concept. Inclusive growth is broad-based. It is concerned with the Pro-poor growth, growth with equity. Inclusive growth is aimed at poverty reduction, human development, health and provide opportunity to work and be creative. The allocation of resources must be focused on the indented short and long terms benefits and economic linkages at large and not just equitable mathematically on some regional and population criteria.

OBJECTIVES

1. To explore different problems present in achieving Inclusive Growth in India.
2. To discuss the challenges before Inclusive growth in India.
3. To investigate the future aspect of Inclusive Growth with regard to proposed XIIth Five Year Plan in India.
4. To suggest certain measures for the achievement of Inclusive Growth in India.

RESEARCH METHODOLOGY

The research project is descriptive and analytical in nature. The research project is mainly based on secondary sources which include books and web pages.

NEED FOR INCLUSIVE GROWTH IN INDIA

Since independence, significant improvement in India's economic and social development made the nation to grow strongly in the 21st century. The following factors encouraged the India to concentrate more on inclusive growth.

1. India is the 7th largest country by area and 2nd by population. It is the 12th largest economy at market exchange rate and 4th largest by PPP. Yet, India is far away from the development of the neighborhood nation, i.e., China.
2. The exclusion in terms of low agriculture growth, low quality employment growth, low human development, rural-urban divides, gender and social inequalities, and regional disparities etc. are the problems for the nation.
3. Reducing of poverty and other disparities and raising of economic growth are the key objectives of the nation through inclusive growth.[2]
4. Political leadership in the country plays a vital role in the over all development of the country. But, the study has found that politicians in India have a very low level of scientific literacy.
5. Studies estimated that the cost of corruption in India amounts to over 10% of GDP. Corruption is one of the ills that prevent inclusive growth.
6. Although child labour has been banned by the law in India and there are stringent provisions to deter this inhuman practice. Still, many children in India are unaware of education as they lives are spoiled to labour work.
7. Literacy levels have to rise to provide the skilled workforce required for higher growth.
8. Economic reforms in the country are overwhelmed by out dated philosophies and allegations by the politicians and opposition parties in India.
9. Achievement of 9% of GDP growth for country as a whole is one of the boosting factor which gives the importance to the Inclusive Growth in India.
10. Inclusiveness benchmarked against achievement of monitorable targets related to (i). Income & Poverty, (ii) education, (iii) health, (iv) women & children, (v) infrastructure, (vi) environment.
11. Even at international level also, there is a concern about inequalities and exclusion and now they are also taking about inclusive approach for development

ELEMENTS OF INCLUSIVE GROWTH

According to Prime Minister, Sri. Manmohan Singh, the key components of the inclusive growth strategy included a sharp increase in investment in rural areas, rural infrastructure and agriculture spurt in credit for farmers, increase in rural employment through a unique social safety net and a sharp increase in public spending on education and health care.

The five interrelated elements of inclusive growth are:

1. Poverty Reduction and increase in quantity and quality of employment.
2. Agriculture Development
3. Social Sector Development
4. Poor quality delivery systems
5. Achievement of 119th rank among 170 countries on Human Development index.
6. Social indicators are much lower for scheduled castes and scheduled tribes.
7. Malnutrition among children is one major problem.
8. Since BPO brought the multi culture environment in India, this sector is facing under seivour pressure due to global recession.
9. Social advancements in India is still at lower growth due to the strong influence of culture and regional disparities.

PROBLEMS BEFORE INCLUSIVE GROWTH STRATEGIES IN INDIA

For a developing country like India, the need of inclusive growth is vital to achieve the over all progress of the country. Though it is positive for macro-economic stability, 2008-09 resulted a relative growth slow down, mostly from the spillover effects of the weakening of the global economic momentum and volatile financial markets. The following problems are the major concerns for developing countries like India to achieve the inclusive growth. They are:

1. Poverty
2. Employment
3. Agriculture
4. Problems in Social Development
5. Regional Disparities

POVERTY

Percent of population living under the poverty line, which is 356.35 rupees or around \$7 a month in rural areas. The World Bank estimates that 456 million Indians (42% of the total Indian population) now live under the global poverty line of \$1.25 per day (PPP). This means that a third of the global poor now reside in India. However, this also represents a significant decline in poverty from 60 percent in 1981 to 42 percent in 2005, although the rupee has decreased in value since then, while the official standard of 538/356 rupees per month has remained the same. Income inequality in India (Gini coefficient: 32.5 in year 1999- 2000) is increasing. On the other hand, the Planning Commission of India uses its own criteria and has estimated that 27.5% of the population was living below the poverty line in 2004–2005, down from 51.3% in 1977–1978, and 36% in 1993–1994.[7]

The source for this was the 61st round of the National Sample Survey (NSS) and the criterion used was monthly per capita consumption expenditure below Rs. 356.35 for rural areas and Rs. 538.60 for urban areas. 75% of the poor are in rural areas, most of them are daily wagers, self-employed householders and landless labourers.

A proportionally large share of poor is lower castes. Many see the caste system as a system of exploitation of poor low-ranking groups by more prosperous high-ranking groups. In many parts of India, land is largely held by high-ranking property owners of the dominant castes that economically exploit low-ranking landless labourers and poor artisans, all the while degrading them with ritual emphases on their so-called god-given inferior status.

According to William A. Haviland, casteism is widespread in rural areas, and continues to segregate Dalits. Others, however, have noted the steady rise and empowerment of the Dalits through social reforms and the implementation observations in employment and benefits.

EMPLOYMENT

Employment considered as one of the big problems for inclusive growth in India. Raising population at a great speed after independence showed its impact on employment. The unemployment became the big worry to the development of the country. Since poverty is much higher than unemployment, employment is the only source to eradicate poverty. The quality and quantity of employment in India is very low due to illiteracy and due to over dependency on agricultural employment. The quality of employment is also a problem.

Unorganized employed people in India are around 85%. Workers in this sector do not have social security. The generation of productive employment for labour force in the economy, as employment is a key to inclusive growth is the toughest task for the country. The country is also facing in employment generation in all sectors, regions and for all socio economic groups particularly for poorer sections of population, backward regions, lagging sectors and SC/ST/OBC/women etc.

AGRICULTURE

Traditionally, India is considered as the agricultural based country. As the majority of Indians are engaged in agriculture for employment, the recent developments in the other sectors decreased this major sector's growth. Some of the problems in Indian agriculture are:

1. Long term factors like steeper decline in per capita land availability, shrinking of farm size
2. Slow reduction in share of employment(still tt%)
3. Low labour productivity in agriculture and the gap between agri and non-agri is widening.
4. Decline in yield growth due to land and water problems, vulnerability to world commodity prices, farmer's suicides.
5. Disparities in growth across regions and crops, i.e., growth rate declined more in rain fed areas.

6. Thus these problems became the hurdles in the key area for the economic development of the nation, i.e., agriculture.

PROBLEMS IN SOCIAL DEVELOPMENT

Social development is also one of the key concern in inclusive growth. The social development became the hot criteria in the recent past in India. Social development also facing some problems which is making the path critical to inclusive growth in the country. Some of the problems in social sector are:

1. Significant regional, social and gender disparities
2. Low level and slow growth in public expenditures particularly on health
3. Poor quality delivery systems
4. Achievement of 119th rank among 170 countries on Human Development index.
5. Social indicators are much lower for scheduled castes and scheduled tribes.
6. Malnutrition among children is one major problem.
7. Since BPO brought the multi culture environment in India, this sector is facing under seivour pressure due to global recession.
8. Social advancements in India is still at lower growth due to the strong influence of culture and regional disparities

The vision of inclusiveness must go beyond the traditional objective of poverty alleviation to encompass equality of opportunity, as well as economic and social mobility for all sections of society, with affirmative action for SCs, STs, OBCs, minorities and women. There must be equality of opportunity to all with freedom and dignity, and without social or political obstacles. This must be accompanied by an improvement in the opportunities for economic and social advancement. In particular, individuals belonging to disadvantaged groups should be provided special opportunities to develop their skills and participate in the growth process.

This outcome can only be ensured if there is a degree of empowerment that creates a true feeling of participation so necessary in a democratic polity. Empowerment of disadvantaged and hitherto marginalized groups is therefore an essential part of any vision of inclusive growth. India's democratic polity, with the establishment of the third layer of democracy at the Panchayati Raj Institution (PRI) level, provides opportunities for empowerment and participation of all groups with reservations for SCs, STs, and women. These institutions should be made more effective through greater delegation of power and responsibility to the local level.

REGIONAL DISPARITIES

Regional disparities are also a major concern for India due to different culture and traditions. Traditional cultures, caste system and the rich & poor feelings favoured some specific groups as a result, the regional disparities raised in India before and after independence. And also, due to the development in agriculture and industrial sector some regions in India developed fast and some other places still are facing the scarcity. Some of the regional disparities problems are:

1. Per capita income is highest at Rs.16,679 in Punjab and lowest per capita income is at Bihar with Rs.3557.
2. Female infant mortality varies from 12 in Kerala to 88 in Madhya Pradesh.
3. Female literacy varies from 33.6% in Bihar to 88% in Kerala.
4. Richer states grew faster than the poorer states

CHALLENGES BEFORE INCLUSIVE GROWTH STRATEGIES IN INDIA

The key components of the inclusive growth strategy included a sharp increase in investment in rural areas, rural infrastructure and agriculture spurt in credit for farmers; increase in rural employment through a unique social safety net and sharp increase in public spending on education and health care. The government also should go for a variety of legislative interventions to empower the disadvantaged. Some of the challenges and opportunities before inclusive growth strategies in India are:

1. Poverty alleviation is one of the big challenges for India. Eradication of poverty in India is generally only considered to be a long-term goal. Poverty alleviation is expected to make better progress in the next 50 years than in the past, as a trickle-down effect of the growing middle class. Increasing stress on education, reservation of seats in government jobs and the increasing empowerment of women and the economically weaker sections of society, are also expected to contribute to the alleviation of poverty.
2. For agricultural growth, the private players can participate in to bridge the gap including providing micro finance. Contract farming, setting up storage facilities for agro-produce, and producing them from farmers. The private sector could also develop heritage sites and tourist spots and encourage the promotion of traditional arts and crafts in joint ventures with rural enterprises. The government of India should also increase its present moratorium on interest payments, lowering of farm credit rates for increase in agricultural growth.
3. Government schemes should target eradication of both poverty and unemployment (which in recent decades has sent millions of poor and unskilled people into urban areas in search of livelihoods) attempt to solve the problem, by providing financial assistance for setting up businesses, skill honing, setting up public sector enterprises, reservations in governments, etc. The decreased role of the public sector after liberalization has further underlined the need for focusing on better education and has also put political pressure on further reforms.
4. Child labor is a complex problem that is basically rooted in poverty. The Indian government is implementing the world's largest child labor elimination program, with primary education targeted for around 250 million. Numerous non-governmental and voluntary organizations are also involved. Special investigation cells have been set up in states to enforce existing laws banning employment of children (under 14) in hazardous industries. The allocation of the Government of India for the eradication of child labor was \$10 million in 1995-96 and \$16 million in 1996-97. The allocation for 2007 is \$21 million. Failure to implement the law and poor rehabilitation policies need urgent attention which is a big challenge for India to achieve inclusive growth.
5. Social development is possible through achieving Women Empowerment and eradicating the regional disparities. Though the Government is giving the women empowerment by giving special reservations, the women's advancement in India is still not matched the expectations for inclusive growth. Presently, the women are dealing with the top posts in India like President, Lok Sabha Speaker and Railway Minister.
6. To bring in inclusive growth, it is necessary to enhance the capabilities of women by providing education, so that they get the opportunity of getting employed and be self sustainable.

Government of India has stepped up for inclusive growth by launching many initiatives with features that are innovative, flexible and reform oriented such as:

1. Rural Infrastructure (Bharat Nirman)
2. Employment (Mahatma Gandhi National Rural Employment Guarantee Scheme)
3. Regional Development (Backward District Development Program)
4. Education (Sarva Shiksha Abhiyan)
5. Rural Health (National Rural Health Mission)
6. Urban Infrastructure (National Urban Renewal Mission)

XIth FIVE YEAR PLAN AND INCLUSIVE GROWTH-HOW MUCH ACHIEVED

In XIth Plan GDP Growth likely to be of average 8.2 % as compared to 7.7 % of the 10th Plan but what we are lacking is the achievement of inclusiveness. The 11th Plan defines inclusive growth to be "a growth process which yields broad-based benefits and ensures equality of opportunity for all". But this inclusiveness is not reflected as it was expected. We have seen progress on inclusiveness :Agricultural Growth, Poverty Reduction, Education, Health, Upliftment of Scs /STs etc. But however progress on inclusiveness is less than expected. It can be explained as :

1. India is likely to miss Millenium Development Goals (MDG), except perhaps on poverty.
2. Inflation has accelerated in the last two years.
3. Current International Environment is very uncertain.
4. Global Pressure on food ,oil and other commodity prices.

5. Financial conditions and exchange rates are likely to be volatile due to sovereign debt related problems in Europe/U.S. and readjustment of extra-ordinary monetary/fiscal easing.
6. The goal of increasing the literacy level among backward classes and other weaker sections has not been achieved.
7. Agriculture growth is still in vulnerable conditions.
8. The employment schemes like MGNREGS are not upto the mark. The red-tapism and corruption are still out of control.
9. There are so many Plans, Policies, Schemes but their implementation is not according to their expected level.

PROPOSED XIIITH FIVE YEAR PLAN AND INCLUSIVE GROWTH

As India's government prepares to submit its approach paper for its 12th five-year plan [8] (a plan which covers years 2012 to 2017), the Planning Commission's focus on instilling "inclusive growth" is making headway. The plan is expected to be one that encourages the development of India's agriculture, education, health and social welfare through government spending. It is also expected to create employment through developing India's manufacturing sector and move the nation higher up the value chain. Prime Minister Manmohan Singh, however, warned that maintaining fiscal discipline is important as well. The commission will likely strive to enact policies that will achieve somewhere around a 10 percent growth rate in factories and a 4 percent growth rate in farm produce, though Prime Minister Singh has asked the plan to set the nation's growth rate firmly at 9 percent to 9.5 percent.

A recent op-ed piece in the Wall Street Journal by Saurabh Tripathi, a partner with Boston Consulting Group, echoed these sentiments. "Rural infrastructure, which serves 70 percent of the population, doesn't get the attention it deserves. As the Planning Commission sets out to draft the country's planned investments for the next five years, it is important to take note of this gap, and the innovative solutions needed to fill it," Tripathi wrote.

As indicated from the planning commission's presentation to the prime minister on April 21, the quantitative metrics known thus far in the early stage of the five-year plan are:

1. A target of GDP growth in the 9 percent to 9.5 percent range
2. An increase in literacy rates to 100 percent between the plan's period from 2012 to 2017
3. An increased expenditure on health from 1.3 percent to 2.0 percent of GDP [9]

To address that increase in demand, the planning commission recommended that all methods of current energy production and distribution be developed, from coal to nuclear energy to solar and wind, and proposed that existing taxes on electricity should not be raised.

Interestingly, the Planning Commission envisioned an expansive role for Indian SOE Coal India: "Coal India must become a coal supplier and not just a mining company. Should plan to import coal to meet coal demands. This requires blending of imported and domestic coal as supplied by Coal India."

The Basic objective as stated in the Planning Commission presentation is "Faster, More Inclusive and Sustainable Growth"[10]. It was said that the priority areas in 12th Five Year Plan would be Betterment of Farmers, Small Industries, Cottage Industries etc. It is asserted by the Planning Commission that for growth to be more inclusive we need:

1. Better Performance in agriculture .
2. Faster Creation of Jobs, especially in manufacturing.
3. Stronger Efforts at health, education and skill development
4. Improved effectiveness of programs direct aimed at the poor.
5. Special programs for socially vulnerable groups.
6. Special programs for disadvantaged or backward regions.

The objectives and targets of the Proposed 12th Five Year Plan put emphasis on the achievement of Inclusive Growth but it is still a burning question that whether this time India would be able to achieve all the targets decided for the achievement of Inclusive Growth or like 11th Five year Plan it would lag behind and the Inclusive Growth will be seen only in papers.

SUGGESTIONS

- Equity is important for economic development so it should be preferred.
- Agricultural Development is necessary for economic development.
- Economic reforms are important. But macro-poor policies (fiscal, trade, financial, monetary etc.) should have pro-poor focus.
- Structural change should have followed agriculture-industry-services sequence.
- Development of manufacturing sector is important for creation of productive employment.
- Equality of opportunities (education) should be given.
- South East Asian and East Asian experience can be used.
- Shift focus of reforms to delivery systems
- Importance of women's economic and social empowerment
- Decentralization
- Economic reforms in relation to socio-political environment

CONCLUSION

India's record of achieving inclusive growth was examined in the context of the experiences of some of the Asian countries. These comparisons show that although India's growth since 2000 has been beneficial to the poor, India's achievements are fairly modest relative to the other Asian countries. The main inclusive growth strategies are only under the following areas- employment and growth in agriculture, increased public expenditure on education and health, improved infrastructure and more effective governance at all the levels.

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EVALUATION OF THE REALIZATION OF SCIENTIFIC SPECULATIONS ON FUTURE ADVANCEMENT IN COMPUTER TECHNOLOGY

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ABSTRACT

Scientific predictions on the future of computer technology are based on success and collapse of Moore's law of computing (computing power doubles approximately every two years). This study is a qualitative evaluation of the speculations under the umbrella of Ubiquitous computing. The paper evaluates the realization of the speculations Vis-à-vis the laws of physics, laws of economics and in relation to systems, sensors, and experience. It also identifies and analyzes the successes, failures, major imperfections in those seemingly wild prophesy. The study concludes that the laws of quantum physics and economics favor the remarkable developments in Ubiquitous computing. Complete Ubiquity is not yet materialized when evaluated from the perspective of systems, sensors and experience.

KEYWORDS

Ubiquitous, Miniaturization, Photolithography.

INTRODUCTION

Scientists have been involved in speculating the future of computing technology. Predictions made by professional scientists rely on two solid foundations: fundamental laws of science and prototypes of existing technologies.

Short term predictions on computer technology (Which span a time frame of 30 to 50 years in to the future) scientists have provided so far depend on the success of Moore's law of computing.

The following major speculations have been profiled:

1. Ubiquitous computing: Computers will become so small, invisible, everywhere, and nowhere, so powerful that they will disappear from view.
2. The Disappearing PC, smart Office and home, wearable computers, and wall screens.

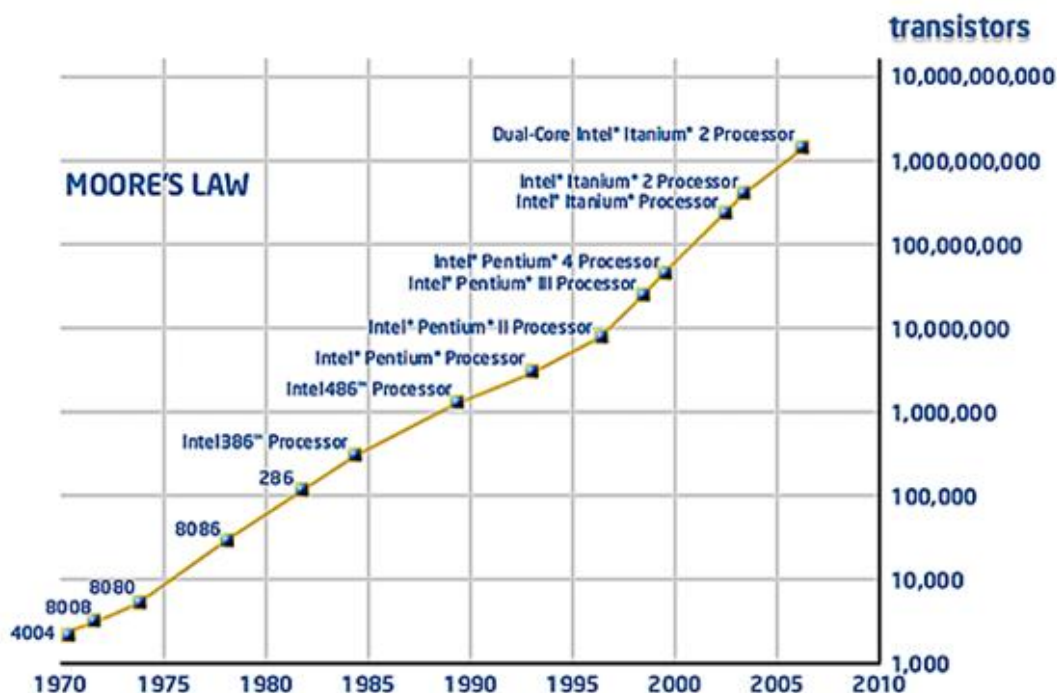
The disappearing PC (When technology advances, people cease to be aware of the presence of machineries around) is a direct consequence of Ubiquitous computing. Smart office and home of the future were envisioned to be made of a number of tabs, pads, and boards (major elements of Ubiquitous computing). Prototypes of the then envisioned wearable computers (merger of cellular phones with the lab top computer) were derivations of ubiquity.

A critical look at the aforementioned speculations reveals that they are either derivations or amplifications of Ubiquitous computing. Evaluation of Ubiquitous computing is tantamount to evaluating the major speculations in computing technology.

THE PHYSICS BEHIND MOORE'S LAW OF COMPUTING

Moore's law of computing which states that computing power doubles every eighteen months have been so successful in quantifying the growth rate of computing technology. Moore had predicted the increase in the number of silicon components that can be crammed on a chip, the dramatic decrease in the cost of transistors, and the increase in the speed and power of computers. Moore's original statement can be found in his publication.¹ The number of transistors on integrated circuits doubles approximately every two years implies a proportional rise in Processing speed, network capacity, storage capacity, number and size of pixels in digital camera, and computational performance.

GRAPH 1: MOORE'S LAW: GRAPH SHOWING MICROPROCESSOR TRANSISTOR COUNTS, YEARS OF INTRODUCTION, COMPANIES INVOLVED



Source: <http://declineofscarcity.com>

Two quantum mechanical devices (Transistor and Laser) take a lion's share in materializing the origin and advancement of computing technology.

TRANSISTOR AND LASER

Transistor is a valve that controls and regulates the flow of electricity. It also amplifies weak electrical signals. The presence of discrete energy levels in semiconductors has made possible the creation of the most dazzling display of light known as LASER. The LASER (Light Amplification by Stimulated Emission of Radiation) is a quantum mechanical device, an instrument which produces intense beams of light which are monochromatic (extremely pure wave length compared to other sources of light), coherent (light beams which vibrate in exact synchronization with each other), and highly collimated. Laser is made possible by manipulating the electrons making quantum jumps between orbits within an atom. By exploiting a quantum mechanical effect called stimulated emission, lasers generate a coherent, nearly monochromatic beam of photons.

Moore's law of computing is based on the miniaturization of transistors in to smaller sized chips through the technique of photolithography.

MINIATURIZATION OF TRANSISTORS THROUGH PHOTOLITHOGRAPHY

Photolithography is a standard method of microprocessor fabrication or chip manufacturing. The process of Photolithography involves beams of Laser light to make microscopic grooves and lines on silicon wafers. Light is shined through a series of layers each called a "mask," which is placed over a silicon wafer. The light beam focused through the mask imprints the pattern on the wafer.

The process is repeated for a series of layers molding multilayer features of the chip containing wires and transistors on to silicon wafers.

Laser beams from a mercury lamp, which have wavelengths .436 micron (in the visible range) and .365 micron (in the ultraviolet range) have been widely used in Photolithography. Current use of excimer lasers (wavelengths of 248 and 193 nm) has enabled minimum feature sizes in chip manufacturing to shrink from 500 nanometers in 1990 to 45 nanometers and below in 2010.

The increase in the speed and power of computation depends on the miniaturization of transistors in to smaller sized chips. This demands the use of smaller and smaller wave lengths of laser beams for photolithography.

UBUIQUITOUS COMPUTING: SPECULATIONS

Mark Weiser, former head of the computer science laboratory of Xerox PARC in his article written for scientific American magazine 'The computer for the 21st century' envisioned ubiquitous computing:

"Ubiquitous computing names the third wave in computing, just now beginning. First were mainframes, each shared by lots of people. Now we are in the personal computing era, person and machine staring uneasily at each other across the desktop. Next comes ubiquitous computing, or the age of calm technology, when technology recedes into the background of our lives."²

Weiser envisioned that: Computers will become so small, invisible, everywhere, and nowhere, so powerful that they will disappear from view. He explained that such a disappearance is a fundamental consequence not of technology, but of human psychology and whenever people learn something sufficiently well, they cease to be aware of it.

UbiComp, for Weiser, was a stage into which we would advance, where 'machines that fit the human environment instead of forcing humans to enter theirs'

"Ubiquitous computers will also come in different sizes, each suited to a particular task. My colleagues and I have built what we call tabs, pads and boards: inch-scale machines that approximate active Post-It notes, foot-scale ones that behave something like a sheet of paper (or a book or a magazine), and yard-scale displays that are the equivalent of a blackboard or bulletin board." Weiser, 1991.

ACCORDING TO WEISER

- **Inch Scale Tabs:** Tabs are tiny, inch sized clip –on badges that employees can wear which are interconnected and can identify themselves to receivers placed throughout a building, thus making it possible to keep track of the people or objects to which they are attached.
- **Foot Scale Pads:** Pads are foot-sized intended to be 'scrap computers' (analogous to scrap paper) that can be grabbed and used anywhere; they have no individualized identity or importance.
- **Yard-size displays (boards)** serve a number of purposes: in the home, video screens and bulletin boards; in the office, bulletin boards, whiteboards or flip charts. A board might also serve as an electronic bookcase from which one might download texts to a pad or tab.

Michio Kaku in his book 'Visions' had speculated a range of time frame for the actualization of Ubiquitous computing: "...It may take until the year 2003 to begin to see these ideas affect our lives in an appreciable way. And it may be years after that before they reach "critical mass" and ignite the marketplace. But by 2010, one can expect to see ubiquitous computing becoming of age. By 2020, it will dominate our lives."³

UBUIQUITOUS COMPUTING: CURRENT STATUS

Careful consideration and observation of present day technology shows that the following are ubiquitous and similar to those speculated by MARK Weiser:

1. INCH SCALE TABS: The following are some of the devices similar to the envisioned tabs:

- **Smartphone** (is personal, portable, stores data, interacts with "the cloud", keep us in touch with remote services, reports on locations, and accesses a ubiquitous data network). **Cell phones, I-phone(Apple I phone)**
- **Smart dust** best exemplified by sensor motes(allow more sensing capability in a smaller package)
- **Sifteo cubes** (used for entertainment and education and capable of interacting each other).
- **Active Badges: RFID** badge(can communicate with receivers, notify its own location, and locate peoples location)

2. FOOT SCALE PADS: The following are some of the devices similar to the envisioned pads:

Modern lab tops, Apple's iPad, Samsung's Galaxy Tablet, a medical imaging playback device (enabling doctors and medical staff to access scans wherever needed), **Modern electronic books (like Sony e-reader, Amazon Kindle)**

3. YARD SCALE BOARDS: **Microsoft table, Smart Board, Promethean, Hitachi's StarBoard, Smart walls** that can download data to other devices over the network.

COMMERCIAL DEPLOYMENTS

The following links show the commercial offerings of such inch scale, yard scale, and foot scale computers.⁵

INCH SCALE

i'm Watch: http://live.imwatch.it/ , Radianse ID Tags: www.radianse.com/products_tags.html
MOOG Crossbow motes: www.xbow.com , Sifteo cubes: www.sifteo.com
Active Wave RFID Active Tags: www.activewaveinc.com/products_active_tags.php
Arch Rock motes: www.cisco.com/web/about/ac49/ac0/ac1/ac259/archrock.html
Fruition Sciences sensor nodes: http://fruitionsciences.com ,

YARD SCALE

Amazon Kindle: https://kindle.amazon.com , Apple iPad: www.apple.com/ipad
Samsung Galaxy: www.samsung.com/us/mobile/galaxy-tab ,
Deploid Tablet PC Menus: www.deploid.com/tablet
Barnes & Noble Nook: www.barnesandnoble.com/nook
Jeppesen Mobile FlightDeck: http://www1.jeppesen.com/apps/mobilefd

SmartBoard: http://smarttech.com
Promethean Activ Classroom: www.prometheanworld.com
Hitachi StarBoard: www.hitachisolutions-us.com/starboard
Cisco Tele Presence: www.cisco.com/en/US/products/ps7060
Polycom Real Presence: www.polycom.com/products/hd_telepresence_video
AdSpace Digital's Mall Network: www.adspacenetworks.com/index2.php
Appliance Studio Print Sign: www.ambientweb.co.uk/sectors/smartsigns.htm

DISCUSSION

1. REALIZATION OF THE SPECULATIONS VIS-À-VIS THE LAWS OF QUANTUM PHYSICS

Ubiquitous computing bases itself on the success of Moore's law of computing. The secret of success of Moore's law depends on the possibility of using finest wave length laser beams to cram hundreds of millions of transistors on to a microprocessor and that of placing unlimited amount of information on a laser beam.

- The following Laws of quantum physics are in action in the realization of tabs, pads, and boards, the Disappearing PC, the mushrooming of wall screens, and generally the remarkable developments in ubiquitous computing: *Energy quantization, wave particle duality, and a quantum mechanical effect called stimulated emission.*

However, miniaturization of transistors is only possible up to the famous point one barrier (Silicon components can't be shrunk below point micrometer). The laws of quantum physics allow this miniaturization up to the point one wave length limit and will impede the complete fruition of Ubiquitous computing.

- The following Laws of quantum physics are formidable challenges to the ultimate fruition of Ubiquitous computing:

Quantum Tunnelling: transistors will be so small and electrons leak out of the wires.

The Uncertainty Principle: At the atomic level electrons can't be confined in ultrathin wire, leaks out causing short circuit.

2. REALIZATION OF THE SPECULATIONS VIS-À-VIS THE LAWS ECONOMICS

The laws of economics (relentless decrease in the price of microprocessors which is the financial incentive to include microprocessors everywhere)

Decrease in the cost of microchip. When the price of a microchip is just one penny, the financial incentive to include everywhere rises. This is in favour of the assimilation of computing technology in to the background of our lives and the embellishment of Ubiquity as envisioned.

3. REALIZATION OF THE SPECULATIONS VIS-À-VIS SYSTEMS, EXPERIENCE AND SENSORS: (SMART PERSONAL ENVIRONMENTS, QUANTITY COMPUTATIONAL DEVICES, MACHINE CONNECTIVITY, DISAPPEARANCE OR INVISIBILITY, AND AVAILABILITY).

THE INCH SCALE TABS

Today's inch-scale machines are almost ubiquitous. However, there are mixed results in achieving the ubiquity envisioned. The vision was that to be used as badges for sensing or controlling our environment. Most of them are beyond badges mainly used for entertainment, personal productivity, and communication. (Example: wristwatch computers, sensor motes, MP3 players, and handheld games). Existing active badges are not widely used in business as envisioned because of the issue of privacy but have found applications in industries that consider safety as top priority. Smart and mobile phones have achieved the goal of ubiquity.

FOOT SCALE PADS

Today's Foot scale machines are not yet scrap computers as envisioned. They are typically personal devices owned and operated by individuals. The vision on scrap computers to be grabbed and used anywhere (not to be carried from place to place and not needing to be charged for days) is not yet materialized and seems an impossibility seen from the perspective of infrastructure and hardware.

No smart computational environments and scrap computers as predicted. Information still is available through personalized and highly specialized devices.

YARD SCALE BOARDS

Several companies today manufacture yard scale displays similar to those envisioned. They are being used for interactive teaching and support team collaboration.

QUANTITY COMPUTING, PRIVACY, AND INTERCONNECTIVITY

- The issue of quantity computing (one possessing a large number of devices) has not yet been materialized. This can be actualized when there is no more possibility to extract better quality. Users prefer few number of quality devices than more number of less quality. Imbalance in quality and quantity computing: quality computing not capitalized.
- The issue of privacy not seriously addressed. The question of transmitting, storing, and accessing personal data remains a challenge.
- Ubiquitous computing devices are largely disconnected from one another and with the environment. They are rather connected to a carriers or enterprises infrastructure.

CONCLUSION

1. Most of the speculations were actualized because they were firmly based on solid scientific laws and proto types of existing technologies. The remarkable developments in Ubiquitous computing mainly rely on the laws of quantum physics in action. Further progress and complete fruition of Ubiquity is again impeded by the laws of quantum physics. The laws of economics (The relentless decrease in the cost of a microchip) favor the integration of computing technology in to the background of our lives.
2. As seen from the perspective of systems, experience, and sensors; Complete Ubiquity is not yet fully actualized. User's preference of quality to quantity, the challenges of privacy issues, the fact that devices are still disconnected one another...etc show incompleteness to the full success of the speculations. Given the span of the time frame for short term predictions, there are speculations not yet materialized and are unlikely to be actualized in the upcoming five years.
3. A number of Giant software and hard ware companies have used the ideas of speculations to develop new computing devices and technologies. The speculations have been commercialized and used to boost the wealth of nations. The predictions have changed the way we socialize, communicate, learn, and play.

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PROBLEMS AND PERFORMANCE OF SHGs IN SHIVAMOGGA DISTRICT

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ABSTRACT

Self Help Groups (SHG's) comprise of homogeneous groups of poor people who have voluntarily come together mainly with the idea of overcoming their financial difficulties. SHGs can rightly be called a potent tool for human development. SHGs enable the poor, to collectively identify the priorities and tackle the problem they face in their socio-economic environment. The present study is an attempt to analyse the problems and Performance of SHGs in Shivamogga District. The objective of the paper is to analyse the socio-economic contributions of self-help groups in the study area. The change in the level of income, expenditure pattern, standard of living and life style are the major contributions of the self-help groups. Keeping these things in mind the analysis of socio-economic contribution of self-help group is made here and also identified the problems faced by SHG members. In order to collect and gather primary data, structured interview schedule was designed. The sample size is 700 SHG members representing different caste or communities, education background and nativity. The level of income is also considered in selecting the sample. The collected data is analysed by using weight points and ranking methods. The study reveals that it had a significant impact, particularly in the rural areas of Shivamogga district. The socio-economic contributions of SHGs, by and large in the form of cultivation of habit savings, enhancing the social-prestige of SHG members, the change in rural life style, economic position, recognition by the society, development of team spirit and benefits of labour sharing among members are really entails applause. Thus, the SHGs made significant contributions and proved that they have accomplished the purpose for which they were started and analyse the problems of SHGs in the study area. Based on the study findings, the paper offers the suggestions for the better performance of SHGs in the study area.

KEYWORDS

Socio-Economic Contribution, SHGs Problems, Problems of SHGs, SHGs.

INTRODUCTION

Self Help Groups (SHG's)¹ comprise of homogeneous groups of poor people who have voluntarily come together mainly with the idea of overcoming their financial difficulties. SHGs can rightly be called a potent tool for human development. SHGs enable the poor, to collectively identify the priorities and tackle the problem they face in their socio-economic environment.

The studies as to the performance and problems of SHGs across the country revealed that they have made significant contribution in the empowerment of women, rural poor and weaker section of the society. But there are studies which have highlighted the problems faced by the SHGs and its members.

The present paper is the outcome of research work on SHGs carried out in Shivamogga district of Karnataka State. Shivamogga is almost located in central part of the state and is the rice bowl of the state. The district has 7 taluks and total population of the district is 17,55,512. There are 4329 registered stree shakti SHGs in the district.

OBJECTIVES AND METHODOLOGY

The present paper is based on primary data, collected by conducting field survey in Shivamogga district of Karnataka state. The data was collected with the help of structured interview schedule designed exclusively for the present study. The sample size is 700 SHG members, out of 700 respondents 120 are from Shivamogga taluk, 80 members from Hosanagar taluk and 100 each members from Bhadravathi, Sagar, Shikaripura, Soraba and Thirthalli taluks representing different caste or communities and education background. The level of income is also considered in selecting the sample. The collected data is analysed by using simple statistical tools such as percentage, average, weight points and ranking method. The objective of the paper is to analyse the performance of SHGs, identify the problems of SHG members and offer suggestions for the development of SHGs in the study area.

ANALYSIS OF PERFORMANCE

The studies revealed that SHGs had an immense impact on the socio-economic development of the rural India. SHG become a powerful instrument for the women empowerment particularly in rural parts of the country. The change in the level of income, expenditure pattern, standard of living and life style are the major contributions of the self-help groups. The SHGs made the political emancipation of rural women gradually in some of the cases. Keeping these things in mind the analysis of socio-economic contribution of self-help group is made here.

1. INCOME ANALYSIS

The change in income level is one of the criteria to measure the role played by the SHGs in the upliftment of its members. Sudalaimuthu S and P. Senthil Kumar.,² have mentioned in their study on Economic Status of Members of Self Help Groups in Coimbatore District of Tamil Nadu are found that the average family income before joining SHGs was ₹ 3,280 and after they became the member it is ₹ 5,130. The extent of increase in their net income in Rupees is ₹ 1,850 and in percentage it is 56.4. The study reveals that the income level of 633 members out of 700 is changed after joining SHGs. Table 1 shows the income level break-up of SHG members.

TABLE 1: CHANGE IN INCOME LEVEL

Monthly Income (₹)	Before Joining SHG		After Joining SHG	
	Frequency	Percentage	Frequency	Percentage
Up to 2,000	104	16.43	1	0.16
2,000 - 4,000	326	51.50	52	8.21
4,000 - 6,000	165	26.07	292	46.13
6,000 - 10,000	33	5.21	218	34.44
10,000 - 20,000	5	0.79	57	9.00
Above 20,000	0	0.00	13	2.05
Total	633	100.00	633	100.00

Source: Field Survey

It can be interpreted from Table 1 that the income level of large number of SHG members, to be precise 595 out of 633 members was in the range of less than ₹ 6,000 per month before joining the SHGs. The share of this group was 94% to total. The remaining 38 members income level was above ₹ 6,000 per month and no member had the earnings above ₹ 20,000 before joining the SHG.

The analysis of effect of SHG on income level after joining SHG revealed that the number of members with the income up to ₹ 6,000 per month was reduced from 595 to 345 at a later date. Correspondingly the number of SHGs member with above ₹ 6,000 monthly income has increased from 38 to 288 after joining

SHG. It is important to mention that the income level of 13 members has crossed ₹ 20,000 per month. Thus it can be concluded that the SHG had made a significant impact on income level of members as the members with higher income range has increased over the years.

2. EXPENDITURE PATTERN

The consumption / expenditure pattern of the members is the another criterion to see the contribution of SHGs in members' empowerment. Vinayagamorthy,³ found that income of the women has been increased after joining the SHGs. As a result, the monthly household expenditure also has been raised to a considerable level. Vijayalakshmi R and G. Valarmathi,⁴ in their study on Socio-economic Empowerment of Women through Self Help Groups are found that the average non -food expenditure before the SHG membership was ₹ 1,594.05 while the average non -food expenditure after SHG membership is ₹ 2,478.70. The study indicates that average non-food expenditure has increased by 55 per cent due to their participation in SHGs.

Table 2 shows the expenditure pattern of members in the study area.

TABLE 2: EXPENDITURE PATTERN

Monthly Expenditure (₹)	Before Joining SHG		After Joining SHG	
	Frequency	Percentage	Frequency	Percentage
Up to 2,000	467	73.78	278	43.92
2,000 – 4,000	155	24.49	283	44.71
4,000 – 6,000	11	1.74	68	10.74
6,000 - 10,000	0	0.00	4	0.63
Above ₹ 10,000	0	0.00	0	0.00
Total	633	100.00	633	100.00

Source: Field Survey

The family expenditure has been increased due to positive change in the SHGs member's income. The incremental income not only enhances the expenditure of the family but also promote the savings of the family after they join in the SHGs. Here the objective of the SHGs is fulfilled. This is an achievement of the SHG members in the study area. Usually working people are being respected by the household members and the society. Now a days, the members in the SHGs are also respected by the others, because they are independent in earning the income and they are contributing to household income, expenditure and savings. Therefore the above discussion clearly states that after joining in the SHGs, the member's well-being has been increased.

It is evident from the Table 2 that before the members have joined the SHG, there monthly expenditure was up to ₹ 2,000. After having joined the SHGs 283 members (44.71%) have admitted that the monthly expenditure is above ₹ 2,000 – 4,000. This indicates that the members spending power has increased after they become members of SHGs.

3. SOCIO – ECONOMIC CONTRIBUTIONS

The above analysis revealed that SHG has a positive impact on income and expenditure pattern of its SHG members. No doubt, these two contributions has made chain effect on the socio-economic status of SHG members in study area. In order to make the indepth analysis, the respondent SHG members' were asked to rank different types of the benefits they enjoyed or availed after joining the SHGs. The respondents have mentioned the contribution of SHG in the order of preference. The ranking assigned by them is given with 8 weight points for the factor ranked first, 7 weight points for the factor ranked second, 6 weight points for the factor tanked third and so on. Based on the total aggregate weight points, the ranking is given and inference is drawn as to the socio-economic contribution of SHGs on the basis of significance. Table 3 shows the details.

TABLE 3: SOCIO – ECONOMIC CONTRIBUTIONS

Sl No	Socio-Economic Contributions	Rank	Frequency	W.P	Rank
1	Savings habit cultivated	1	251	2008	Rank I
		2	205	1435	
		3	109	654	
		4	40	200	
		5	10	40	
		6	14	42	
		7	60	120	
		8	11	11	
Total		700	4510		
2	Income level changed	1	126	1008	Rank II
		2	251	1506	
		3	222	1332	
		4	11	55	
		5	16	64	
		6	7	21	
		7	18	36	
		8	49	49	
Total		700	4071		
3	Social prestige changed	1	95	760	Rank III
		2	11	77	
		3	93	558	
		4	345	1770	
		5	67	268	
		6	62	186	
		7	21	42	
		8	6	6	
Total		700	3667		
4	Loan borrowed helped in development	1	113	904	Rank IV
		2	131	917	
		3	165	990	
		4	41	205	
		5	25	100	
		6	12	36	
		7	130	260	
		8	83	83	
Total		700	3495		
5	Recognition by the society	1	20	160	Rank V
		2	58	406	
		3	47	282	
		4	67	335	
		5	141	564	
		6	137	411	
		7	214	428	
		8	16	16	
Total		700	2602		
6	Co-ordination with others	1	12	96	Rank VI
		2	6	42	
		3	15	90	
		4	65	325	
		5	292	1168	
		6	228	684	
		7	73	146	
		8	9	9	
Total		700	2560		
7	Team spirit developed	1	25	200	Rank VII
		2	10	70	
		3	31	186	
		4	110	550	
		5	140	560	
		6	226	678	
		7	143	286	
		8	15	15	
Total		700	2545		
8	Any other	1	46	368	Rank VIII
		2	25	175	
		3	49	294	
		4	19	95	
		5	44	176	
		6	42	126	
		7	39	78	
		8	436	436	
Total		700	1748		

Source: Field Survey

It can be interpreted from Table 3 that SHGs have played major role in identifying the savings habit since it has secured 1st rank with 4510 weight points. The change in income level secured 2nd rank with 4071 weight points followed by enhancement of social prestige (secured 3rd rank with 3667 weight points), contribution of loan in economic development (secured 4th rank with 3495 weight points), recognized by society (secured 5th rank with 2602 weight points), co-ordination with others (secured 6th rank with 2560 weight points), team spirit developed (secured 7th rank with 2545 weight points) and other reasons (secured 8th rank with 1748 weight points).

ANALYSIS OF PROBLEMS

In the course of running the SHGs, the members came across many constraints. The studies have thrown light on the problems faced by SHG members. The constraints faced by the SHG members are categorized as personal constraints, social constraints, economic constraints, technologies related constraints, marketing constraints and other constraints. In each case, the sub-constraints are identified and assigned with weight points based on the number of constraints. For instance, under personal constraints, five sub-constraints are verified hence, 5 ranks followed by weight points are given. The weight points given then are multiplied by the number of respondents and ranks are assigned.

The six different types of constraints are presented in Tables (Table 4 to 10) and the analysis follows.

1. PERSONAL CONSTRAINTS

Table 4 presents the personal constraints encountered by the SHG members in the study area.

TABLE 4: PERSONAL CONSTRAINTS

Problems	Rank	N	W.P	Rank
1. Lack of knowledge	1	335	1675	Rank I
	2	96	384	
	3	149	447	
	4	72	144	
	5	48	48	
Total		700	2698	
2. Lack of education	1	188	940	Rank II
	2	311	1244	
	3	86	258	
	4	48	96	
	5	67	67	
Total		700	2605	
3. Family problem	1	45	225	Rank III
	2	131	524	
	3	301	903	
	4	152	304	
	5	71	71	
Total		700	2027	
4. Lack of interest	1	81	405	Rank IV
	2	73	292	
	3	61	183	
	4	246	492	
	5	239	239	
Total		700	1611	
5. Lack of Support / Encouragement from family	1	70	350	Rank V
	2	73	292	
	3	106	318	
	4	178	356	
	5	273	273	
Total		700	1589	

Source: Field Survey

Table 4 reveals that the personal constraints faced by the SHG members include lack of knowledge about SHGs (which secured first rank with 2,698 weight points), followed by lack of education (Second rank with 2,605 weight points), family problem (Third rank with 2,027 weight points), lack of interest (Fourth rank with 1,611 weight points) and lack of support / encouragement from family members (Fifth rank with 1,589 weight points).

2. SOCIAL CONSTRAINTS

Table 5 reveals that the social constraints faced by the SHG members include religion (which secured first rank with 3,039 weight points), followed by caste (Second rank with 2,911 weight points), community support (Third rank with 2,645 weight points), political problem (Fourth rank with 2,484 weight points), conflicts among group members (Fifth rank with 1,926 weight points), and atrocities (Sixth rank with 1589 weight points).

Table 5 presents the social constraints faced by the SHG members.

TABLE 5: SOCIAL CONSTRAINTS

Problems	Rank	N	W.P	Rank
1. Religion	1	205	1230	Rank I
	2	146	730	
	3	217	868	
	4	43	129	
	5	48	96	
	6	41	41	
Total		700	3094	
2. Caste	1	151	906	Rank II
	2	285	1425	
	3	21	84	
	4	119	357	
	5	15	30	
	6	109	109	
Total		700	2911	
3. Community support	1	97	582	Rank III
	2	93	465	
	3	250	1000	
	4	122	366	
	5	94	188	
	6	44	44	
Total		700	2645	
4. Political problem	1	126	756	Rank IV
	2	112	560	
	3	91	364	
	4	139	417	
	5	155	310	
	6	77	77	
Total		700	2484	
5. Conflicts among group members	1	92	552	Rank V
	2	34	170	
	3	48	192	
	4	144	432	
	5	198	396	
	6	184	184	
Total		700	1926	
6. Atrocities	1	19	114	Rank VI
	2	52	260	
	3	79	316	
	4	94	282	
	5	189	378	
	6	267	267	
Total		700	1617	

Source: Field Survey

3. ECONOMIC CONSTRAINTS

Table 6 reveals that the economic constraints faced by the SHG members include lack of credit which secured first rank with 3,685 weight points, followed by lack of capital (Second rank with 3,651 weight points), non-availability of labour (Third rank with 3,083 weight points), lack of security (Fourth rank with 2,793 weight points), exploitation by money lenders (Fifth rank with 2,473 weight points), high cost of skilled labour (Sixth rank with 1,991 weight points) and overdue (Seventh rank with 1,946 weight points).

TABLE 6: ECONOMIC CONSTRAINTS

Problems	Rank	N	W.P	Rank
1. Lack of Credit	1	56	392	Rank I
	2	248	1488	
	3	308	1540	
	4	36	144	
	5	32	96	
	6	5	10	
	7	15	15	
Total		700	3685	
2. Lack of Capital	1	151	1057	Rank II
	2	258	1548	
	3	142	710	
	4	53	212	
	5	9	27	
	6	10	20	
	7	77	77	
Total		700	3651	
3. Non availability of labour	1	249	1743	Rank III
	2	16	96	
	3	80	400	
	4	44	176	
	5	93	279	
	6	171	342	
	7	47	47	
Total		700	3083	
4. Lack of security	1	76	532	Rank IV
	2	98	588	
	3	97	485	
	4	31	124	
	5	303	909	
	6	60	120	
	7	35	35	
Total		700	2793	
5. Money lenders exploitation	1	96	672	Rank V
	2	8	48	
	3	31	155	
	4	236	944	
	5	52	156	
	6	221	442	
	7	56	56	
Total		700	2473	
6. High cost of skilled labour	1	36	252	Rank VI
	2	52	312	
	3	7	35	
	4	178	712	
	5	36	108	
	6	181	362	
	7	210	210	
Total		700	1991	

Source: Field Survey

4. OTHER CONSTRAINTS

in addition to the above, the SHG members faced the below listed constraints.

TABLE 7: OTHER CONSTRAINTS

Problems	Rank	N	W.P	Rank
1. Non cooperation among members	1	233	1398	Rank I
	2	177	885	
	3	198	792	
	4	32	96	
	5	29	58	
	6	31	31	
Total		700	3260	
2. Disputes between members	1	140	840	Rank II
	2	289	1445	
	3	100	400	
	4	93	279	
	5	22	44	
	6	56	56	
Total		700	3064	
3. Misappropriation of money	1	200	1200	Rank III
	2	85	425	
	3	220	880	
	4	91	273	
	5	33	66	
	6	71	71	
Total		700	2915	
4. Partiality in lending money	1	87	522	Rank IV
	2	39	195	
	3	96	384	
	4	376	1128	
	5	57	114	
	6	45	45	
Total		700	2388	
5. Weekly meeting is not made in time	1	20	120	Rank V
	2	7	35	
	3	60	240	
	4	89	267	
	5	470	940	
	6	54	54	
Total		700	1656	
6. Politicians are using our strength	1	33	198	Rank VI
	2	40	200	
	3	3	12	
	4	76	228	
	5	84	168	
	6	464	464	
Total		700	1270	

Source: Field Survey

Table 7 reveals that the other constraints faced by the SHG members include non-co-operation among members (which secured first rank with 3,260 weight points), followed by disputes between members (Second rank with 3,064 weight points), misappropriation of money (Third rank with 2,915 weight points), partiality in lending money (Fourth rank with 2,388 weight points), non-organization of weekly meeting, (Fifth rank with 1,656 weight points) and Politicians are using our strength (Sixth rank with 1,270 weight points).

SUGGESTIONS

Based on the study findings, the paper offers the following specific suggestions keeping in mind the minimisation and mitigation of identified problems.

1. Reducing the microcredit interest rates.
2. Increasing the loan repayment installment terms.
3. Providing subsidy loan for SHGs for innovative projects.
4. Providing self-employment loan for individual SHG members.
5. Flexibility in loan repayment to suit changes in their occupational structure and varying levels of income and savings.
6. Providing self-employment training to the rural people. Training programs should be designed in such a manner that members can benefit out of their strengths and overcome their weakness and should provide special assistance for selection of procedure / service so that members can be in a position to perceive and respond to various profitable opportunities.
7. Income generating activity should be based on the available local resources and reasonably assured market with profits. Goods to be produced should be either for local needs or to facilitate traditional manufacture.
8. Exposure visits to relatively successful group ventures of other SHGs can be organized to share the knowledge, experience and expertise.
9. The vertical structure and their management require capacity building and promotion of leadership from the grass-roots upwards within the SHGs structure. But they should not be imposed from above.
10. A proper infrastructure facility should be given to the micro credit beneficiaries for the effective implementation of schemes like small dairy farming and other processing and the like.
11. With a view to promote the habit of thrift and savings among the members effectively and efficiently, starting a co-operative thrift society by all the groups under cluster level would go a long way in promoting their savings and curtailing their unnecessary expenditure in their families.

12. Most of the SHGs procure their raw materials locally for the production. When there is shortage or non-availability of raw materials agencies like the co-operative agricultural societies and marketing societies should come forward to help the SHGs. These agencies may create a link with the SHGs and they may try to solve the problems of the SHGs.

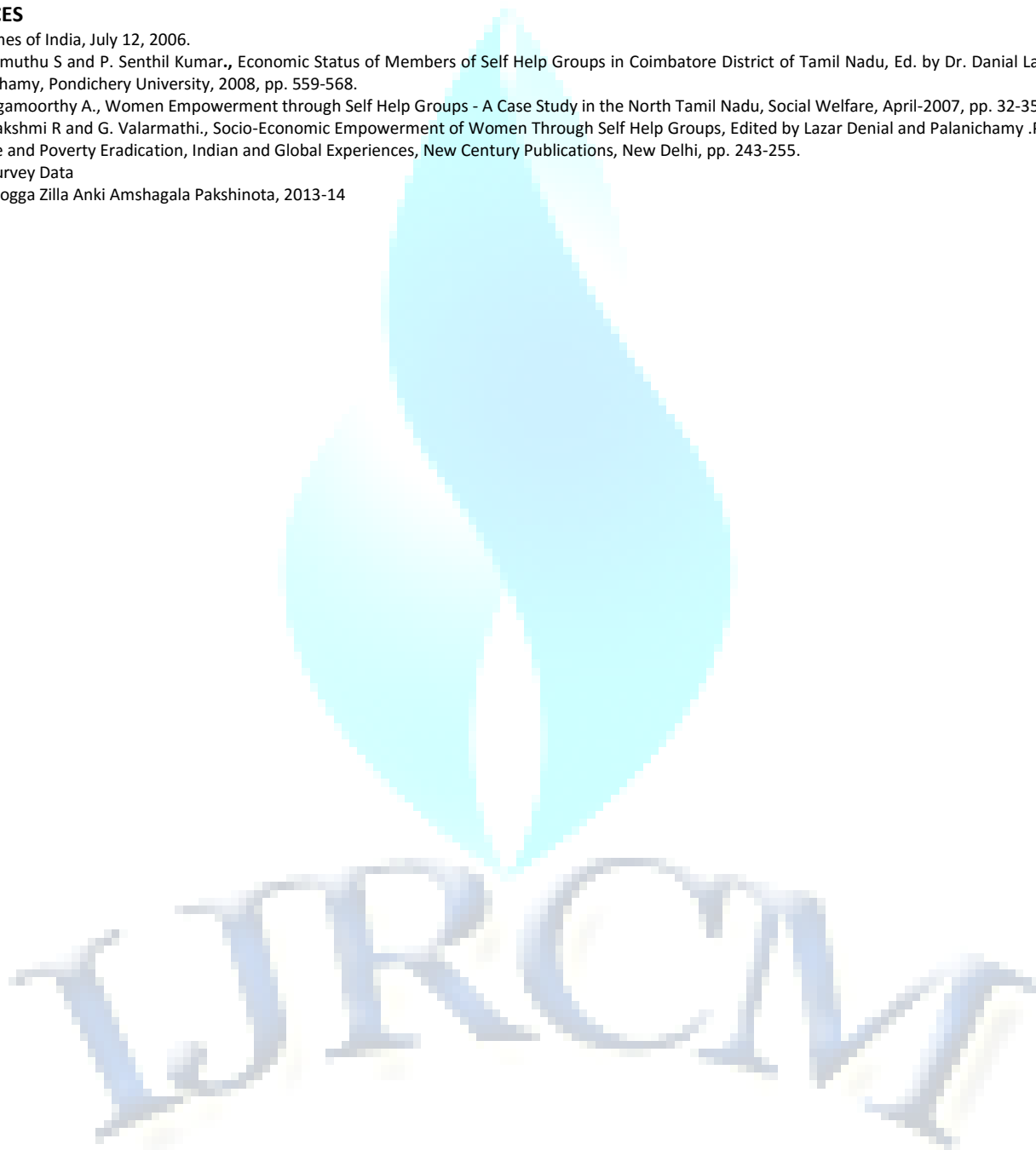
CONCLUSION

The analysis of socio-economic contributions of SHGs revealed that it had a significant impact, particularly in the rural areas of Shivamogga district. The socio-economic contributions of SHGs, by and large in the form of cultivation of habit savings, enhancing the social-prestige of SHG members, the change in rural life style, economic position, recognition by the society, development of team spirit and benefits of labour sharing among members are really entails applause. Thus, the SHGs made significant contributions and proved that they have accomplished the purpose for which they were started. However, there are some constraints with the movement which need to be addressed.

There is no dispute to state that the self-help groups deserves all-round support from all quarters both in terms of financial, administrative and legal, to emerge themselves as strong, healthy and poor friendly institutions for the comprehensive development of rural areas in general and study area in particular.

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ONLINE BUYING AND CONSUMER BEHAVIOUR: AN ANALYSIS OF FLIPKART.COM SHOPPERS

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ABSTRACT

Online shopping as a mode of purchase is gaining great importance in recent years in India. Based on the success of Amazon.com in USA, similar exercises are on in countries like India to replicate the Amazon.com model. An analysis of this type of purchase needs a closer look. The purpose of this study is to examine and analyze the consumers buying behavior pattern towards online shopping [especially in case of flipkart.com users in Mysuru city] and also to find out various attitudes of flipkart users of Mysuru city towards online shopping. The data will be collected from respondents through a schedule containing questions. Flipkart.com claims that it is offering best price, good products and completely hassle-free shopping experience for its customers. The success of any e-tailing company in India depends upon its popularity, its branding image, its unique and fair policies and its customer relations etc. the present study aims at examining the veracity of these claims of flipkart.com.

KEYWORDS

On-line Shopping, E-commerce, Flipkart.com, Amazon.com.

INTRODUCTION

Online buying and consumer behavior is also called as E-shopping consumer buying behavior. Recently at present time online shopping or E-shopping is the new trend of shopping in India that is used to refer computer based shopping same like internet banking or E-banking. Over that past few years, online shopping or E-tailing has increased percentage of online buyers in India. New concept of online shopping is a great example of the business revolution in India. We can say that E-tailing in India is currently experiencing a period of rapid development. E-tailing in India is a rich segment waiting to be explore. Actually, E-tailing is a form of E-commerce. In online shopping, buyers [consumers] purchase the products [like: Apparel, electronic appliances, furniture, home and kitchen appliances etc.] directly from the E-tailers by using a web-browser. I think in India E-shopping or online shopping is the business world.

The research or case studies of online buying and consumer behavior is important because it helps to know about consumers demands, it helps to understand and analyze when consumers buy products on online? And who buy product on online? And how consumer mindset for purchasing the products on online?

Flipkart.com is an Indian E-tailer. It is considered as an E-commerce company. Flipkart.com founded in the year 2007. And its main head office is located in Bangalore city [Karnataka state]. The paper also analyzes awareness of online buying and consumer behaviour of flipkart.com shoppers.

OBJECTIVES OF THE STUDY

- The primary objective of this study is to know about online buying and consumer's behaviour of flipkart.com shoppers in Mysuru city.
- To identify the respondents perception about online shoppers.
- To find out various attitudes of flipkart.com users of Mysuru city.

THEORETICAL BACKGROUND

Online buying is the process whereby consumers directly buy goods and services from a seller in real-time, without an intermediary service, over the internet. It is a form of electronic –commerce. An online shop , e-shop, e-store, internet shop, web shop, web store, online store or virtual stores evokes the physical analogy of buying products or services at a bricks- and –mortar retailer or in a shopping Centre. This process is called business-to-consumer online shopping. When a business buys from another business, it is called business to business online shopping.

A good online store is easy to navigate and browse for possible purchases. It has a product catalog that customers can use to browse the search criteria [usually a type, price, material etc.] information about the products, the sellers, and the service centers. Online stores may also discuss business conditions and a complaints procedure.

If a shopper finds a product to purchase clicking “send” will add the item to be shopping cart. The shopping cart collects all items to be purchased. Once a shopper is satisfied with their selections, the shopper makes a binding order and payment using a credit card or other financial arrangement.

In the twenty first century, online shopping became very popular, especially with the lifestyles of business people who are always busy and looking for a convenient way to shop.

BUYING BEHAVIOR

Buying behavior is the decision processes and acts of people involved in buying and using products. Need to understand the concept is

Why consumers make the purchase that they make?

What factors influence consumer purchases?

The changing factors in our society.

Consumer Buying Behavior refers to the buying behavior of the ultimate consumer. Many factors, specificities and characteristics influence the individual in what he is and the consumer in his decision making process, shopping habits, purchasing behavior, the brands he buys or the retailers he goes. A purchase decision is the result of each and every one of these factors. An individual and a consumer is led by his subculture, his social class, his membership groups, his family, his personality, his psychological factors, etc.... and is influenced by cultural trends as well as his social and societal environment.

Consumer's buying behavior is influenced by four major factors:

- Cultural ,
- Social,
- Personal,
- Psychological.

The factors cause consumers to develop product and brand preferences. Although many of these factors cannot be directly controlled by marketers, understanding of their impact is essential as marketing mix strategies can be developed to appeal to the preferences of the target market.

In terms of online communication, when customers see banner ads or online promotion, these advertisements may attract customers' attention and stimulate their interesting particular products. Before they decide to purchase, they will need additional information to help them out. If they do not have enough information, they will search through online channels, e.g., online catalogs, websites, or search engines. When customers have enough information, they will need to compare those choices of products or services. In the search stage, they might look for the product reviews or customer comments. They will find out which brand or company offers them the best fit to their expectation. During this stage, well-organized web site structure and the attractive design are important things to persuade consumers to be interested in buying product and service.

LITERATURE REVIEW

In 1990, Tim Berners-Lee created the first World Wide Web server and browser. It opened for commercial use in 1991. In 1994 other advances took place, such as online banking and the opening of an online pizza shop by pizza hut. During that same year, Netscape introduced SSL encryption of data transferred online, which has become essential for secure online shopping. Also in 1994, the German company intership introduced its first online shopping system. In 1995, Amazon launched its online shopping site and in 1996, e-bay appeared.

E-Business probably began with electronic data interchange in the 1960s (Zwass, 1996). However, (Melao, 2008) suggests that it was only in the 1990s, primarily via the Internet, that e-Business has emerged as a core feature of many organizations. In his opinion, the hope was that e-Business would revolutionize the ways in which organizations interact with customers, employees, suppliers and partners. Some saw e-Business as part of a recipe to stay competitive in the global economy.

Christy M. K. Cheung, Lei Zhu, Timothy Kwong, Gloria W.W. Chan, MoezLimayem,(2002), The topic of online consumer behavior has been examined under various contexts over the years. Although researchers from a variety of business disciplines have made significant progress over the past few years, the scope of these studies is rather broad, the studies appear relatively fragmented and no unifying theoretical model is found in this research area. In view of this, provide an exhaustive review of the literature and propose a research framework with three key building blocks (intention, adoption, and continuance) so as to analyze the online consumer behavior in a systematic way. This proposed framework not only provides us with a cohesive view of online consumer behavior, but also serves as a salient guideline for researchers in this area.

Burke, R.R. (2002), Trust is a key factor that determines the success of Business to Consumer (B2C) e-commerce transactions. Previous researchers have identified several critical factors that influence trust in the context of online shopping. This research focuses on available security measures which assure online shoppers safety and great sales promotions and online deals which stimulate customers to online shoppers.

RESEARCH METHODOLOGY

Research methodology states what procedures were employed to carry out the research study.

RESEARCH DESIGN

In case of research design we used exploratory as well as descriptive research design for this study.

RESEARCH INSTRUMENT

For this study we used structured questionnaire as a research instrument.

SAMPLING TECHNIQUE

The convenience sampling method was applied in this case study. Source of the sample is limited to Mysuru city. Keeping in mind the questionnaire was prepared for the purpose of collecting primary data. A part from variables like: gender, age and overall customer satisfaction were collected and percentage method used for this study.

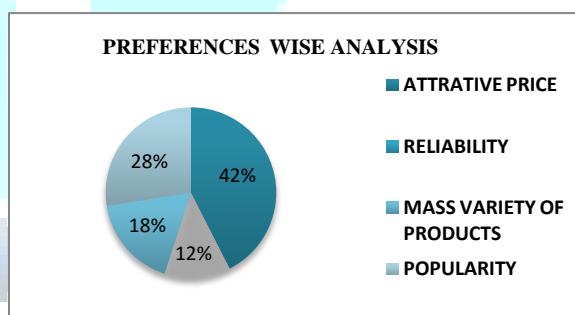
DATA TYPES

In the context of the current study we used both primary and secondary data.

DATA ANALYSIS AND INTERPRETATION

1. Why did you choose flipkart.com for online shopping?

Particulars	Frequency	Percentage
attractive prices	17	42.50
reliability	05	12.50
mass variety of products	07	17.50
popularity	11	27.50
Grand total	40	100.00

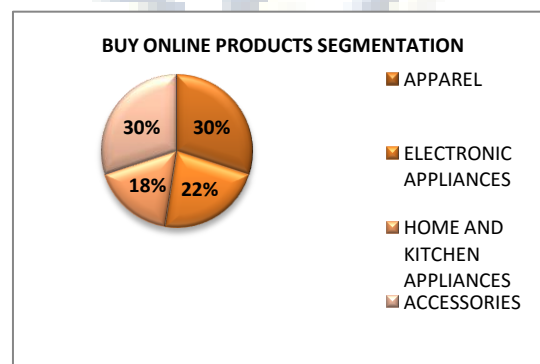


Interpretation

From the above Table 1 and Figure 1, we try to interpret that why respondents choose flipkart.com for online shopping. It is clear that maximum 42% respondents said that they choose online shopping with flipkart.com for attractive prices, 28% choose flipkart.com for its popularity, 18% respondents choose flipkart.com for mass variety of products and rest minimum 12% respondents said that they choose flipkart.com for its reliability.

2. What would you like buy on online shopping with flipkart.com?

Particulars	Frequency	Percentage
Apparel	12	30
Electronic appliances	9	22.50
Home and kitchen appliances	7	17.50
Accessories	12	30
Grand total	40	100.00

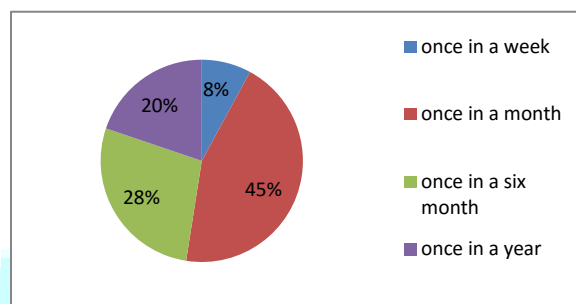


Interpretation

From the above table 2 and figure 2, it is clear that 30% Respondents bought Apparel from flipkart.com and same percentage & no. of respondent purchased Accessories (Like : perfumes, make-up kit, watches etc.) from online shopping via flipkart.com, 22% Respondents like to purchase Electronic goods and Least 18% Respondents like to buy home & kitchen appliances from flipkart.com.

3. **How frequently do you buy products/items from flipkart.com?**

Particulars	Frequency	Percentage
Once in a week	03	7.50
Once in a month	18	45.00
Once in a six month	11	27.50
Once in a year	08	20.00
Grand total	40	100.00

**Interpretation**

From the above Table 3 and Figure 3, We can analyze that majority of the respondents i.e. 45% of respondents have bought products online once a month. 28% of respondents bought online items once in a six months. 20% of the respondents bought online product once in a year, and least 8% of the respondents bought products online in a week.

4. **Do you visit retail stores first before online purchasing with flipkart.com?**

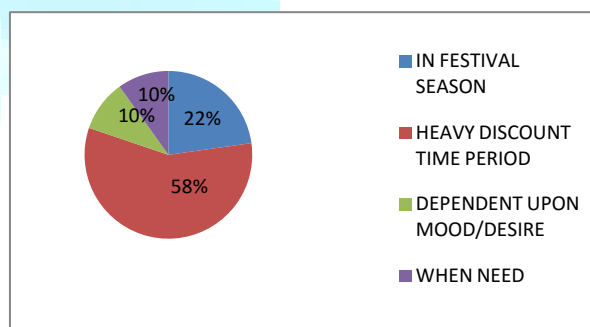
Particulars	Respondents	Percentage
Yes	22	55%
No	18	45%
Total	40	100%

**Interpretation**

From the above Table 4 and Figure 4, 45% of the respondents said that they visit retail stores before online purchasing with flipkart.com to see and check actual product face, Prices etc, maximum 55% of the respondents do not visit retail stores before online purchasing with flipkart.com.

5. **When do you like online shopping with flipkart.com?**

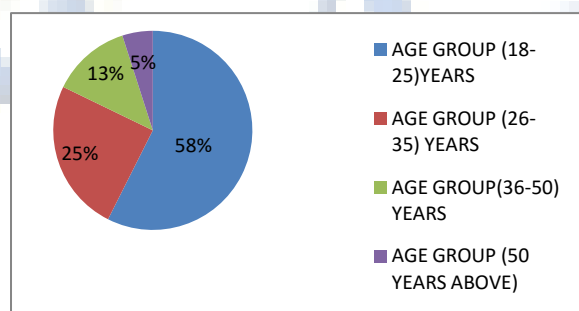
Particulars	Respondents	Percentage
In Festival seasons	09	22.50
Heavy Discount Time Period	23	57.50
Dependent Upon Mood/ Desire	04	10.00
When Need	04	10.00
TOTAL	40	100

**Interpretation**

Above table 5 and figure 5 clearly shows that most of the 58% of the respondents do like online shopping with flipkart.com in a heavy discount time period. Whenever 22% (Approx.) of the respondent do shopping with flipkart.com in festive seasons and 10% of the respondents like shopping with flipkart.com when they have need and same 10% respondents do shopping when they have desire

6. **Which age groups of people in your family do most online shopping with flipkart.com?**

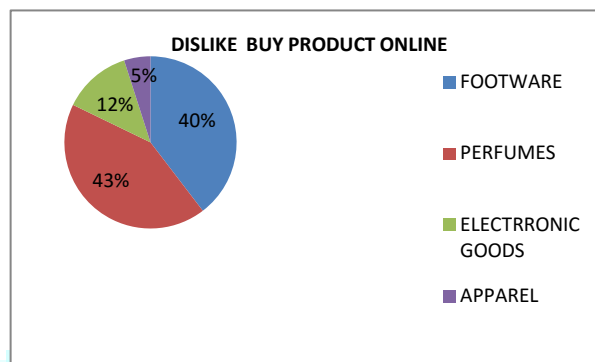
Particulars	Respondents	Percentage
Age group (18-25) years.	23	57.50
Age group (26-35) years.	10	25.00
Age group (36-50) years.	05	12.50
Age group (50 years & above)	02	5.00
Total	40	100

**Interpretation**

From above table 6 and figure 6, we can easily analyze that most of the 58% of the respondent said, that (18-25) Age group of family members like do most online shopping with flipkart.com. 25% of the respondents says that (26-35) Age group of family members like online shopping with flipkart.com. Whenever 12% respondent said that (36-45) Age group of family members like buy products via flipkart.com and least 5% of the respondents said that in (45-65) Age group of family members like do online shopping with flipkart.com.

7. What would you dislike to buy on online shopping with flipkart.com?

Particulars	Respondents	Percentage
Footware	16	40%
Perfumes	17	42.50%
Electronic goods	05	12.50%
Apparel	02	5.00%
Total	40	100%

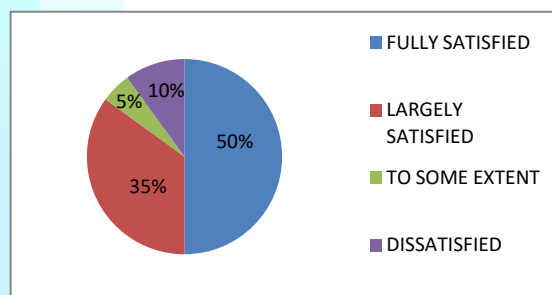


Interpretation

From the table 7 and figure 7, it is clear that most of the respondents i.e. 17 respondents (43%) dislike buy perfumes on online shopping with flipkart.com. Whenever 16 respondents (40%) dislike buy footwear on online shopping with flipkart.com 12% and 5% respondents dislike buy electronic goods and apparel from flipkart.com respectively.

8. How satisfied are you in online shopping with flipkart.com?

Particulars	Respondents	Percentage
Fully satisfied	20	50%
Largely satisfied	14	35%
To some extent	02	5%
Dissatisfied	04	10%
Total	40	100%

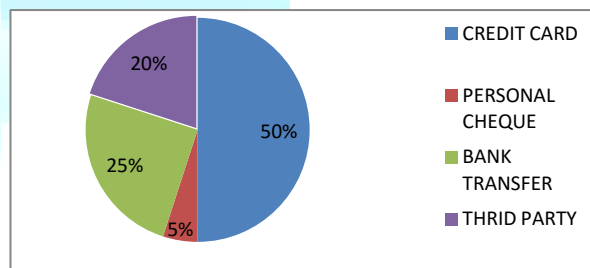


Interpretation

Above table 8 and figure 8, clearly shows that majority of the respondents i.e. 50% are agree that they are 100% satisfied from online shopping with flipkart.com, 35% respondents are 50% satisfied, 10% respondents can't say anything for this purpose and rest 5% respondents i.e. 02 respondents are unsatisfied from online shopping with flipkart.com

9. Mode of payment preferred during online shopping on flipkart.com?

Particulars	Respondents	Percentage
Credit card	20	50%
Personal cheque	02	5%
Bank transfer	20	25%
Third party	8	20%
Total	40	100%

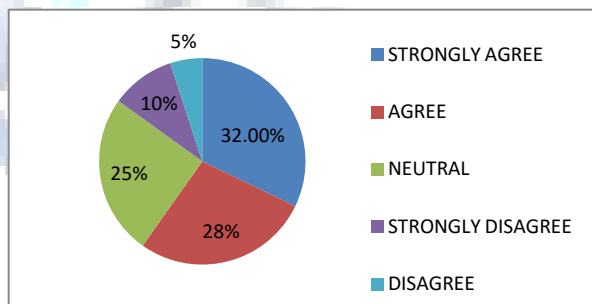


Interpretation

Above table 9 and figure 9, clearly shows that majority of the respondents i.e. 50% are credit card, 5% are personal cheque, 25% are bank transfer and 20% are from third party from online shopping with flipkart.com

10. Does cost of delivery affect the decision of online shopping on flipkart.com?

Particulars	Respondents	Percentage
Strongly Agree	13	32.5%
Agree	11	27.5%
Neutral	10	25%
Strongly Disagree	4	10%
Disagree	2	5%
Total	40	100%



Interpretation

Above table 10 and figure 10, clearly shows that majority of the respondents i.e. respondents 32% are strongly agree, 28% are agree, 25% are neutral, 10% are strongly disagree and 5% disagree from online shopping with flipkart.com.

FINDINGS OF THE STUDY

1. Now a day's everyone using the internet
2. People use to buy the products through online because of many reason such as its save money, time and we used to get huge information regarding any products.
3. Most of them feel secure while transaction through online.
4. Intention of buying the product through online does not differ according to age group.

CONCLUSION

This research shows that online shopping is having very bright future in India. Perception towards online shopping is getting better in India. With the use of internet, consumers can shop anywhere, anything and anytime with easy and safe payment options. Consumers can do comparison shopping between products, as well as, online stores.

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A COMPARATIVE STUDY ON PHARMACEUTICAL COMPANIES' SHARE PRICES

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ABSTRACT

Pharmaceutical industry is a vast market in India which covers all the population irrespective of caste creed & sex. The Indian pharmaceutical industry has become the third largest producer in the world in terms of volumes and is poised to grow into an industry of \$20 billion in 2015, from the current turnover of \$12 billion. In terms of value, India still stands at number 14 in the world. The pharmaceutical products account for 8 percent of the global pharmaceutical sales and India is the fifth largest producer of bulk medicines in the world. In 2001, the value of India's exports of medicines reached US\$1.7 billion. This research is ascertained to know the share price of these company. We have analysed a quantum data from 2010-2014, to know its fluctuation in the stock market. We found to have a phenomenal ascertainment of these analysis are influential. We prefer to go for Sun Pharmaceutical rather than Dr. Reddy's Laboratories due its expansion in India & demand for it various product. The 2014 acquisition of Ranbaxy will make the company the largest pharmaceutical company in India, the largest Indian Pharmaceutical company in the US, and the 5th largest speciality generic company globally.

KEYWORDS

Pharmaceutical industry, stock market, share prices, bulk medicines.

INTRODUCTION

Indian **Pharmaceutical Industry** is estimated to be worth \$ 4.5 billion, growing at about 8 to 9 percent annually. It ranks very high in the third world, in terms of technology, quality and range of medicines manufactured. From simple headache pills to sophisticated antibiotics and complex cardiac compounds, almost every type of medicine is now made indigenously. The Industry possesses quality producers and many units approved by regulatory authorities in USA and UK. International companies associated with this sector have stimulated, assisted and spearheaded this dynamic development in the past 53 years and helped to put India on the pharmaceutical map of the world. There are 20,000 laboratories in India's **pharmaceutical industry** and the scale of the pharmaceutical market amounts to Euro 5.3 billion. The leading 250 pharmaceutical companies control 70% of the market with market leader holding nearly 7% of the market share. It is an extremely fragmented market with severe price competition and government price control.

Around 70% of the country's demand for bulk drugs, drug intermediates, pharmaceutical formulations, chemicals, tablets, capsules, orals and injections is met by home production. There are about 250 large units and about 8000 Small Scale Units, which form the core of the pharmaceutical industry in India (including 5 Central Public Sector Units).

Following the de-licensing of the pharmaceutical industry, industrial licensing for most of the drugs and pharmaceutical products has been done away with. Manufacturers are free to produce any drug duly approved by the Drug Control Authority. Technologically strong and totally self-reliant, the pharmaceutical industry in India has low costs of production, low R&D costs, innovative scientific manpower, strength of national laboratories and an increasing balance of trade. The Pharmaceutical Industry, with its rich scientific talents and research capabilities, supported by Intellectual Property Protection regime is well set to take on the international market.

OBJECTIVES OF THE STUDY

- To know the increase in share price of pharmaceutical industry.
- To gain knowledge in the activity of stock exchange
- To know the factors thus effects these prices.
- To help the researchers to know or to give brief about fluctuation in the stock market in these industry.

REVIEW OF THE LITERATURE

Stock market is a legal gamble where a person, has to know how to play safely. This research shows the movements of prices of shares in the stock market. There are few aspect to determine these prices such as their analysing history of stock prices, review of their financial profits, mergers and acquisition etc.

DR. REDDY'S LABORATORIES

Dr. Reddy's Laboratories, is a multinational pharmaceutical company based in Hyderabad, Telangana, India. The company was founded by Anji Reddy, who previously worked in the mentor institute, Indian Drugs and Pharmaceuticals Limited, of Hyderabad, India. Dr. Reddy's manufactures and markets a wide range of pharmaceuticals in India and overseas. The company has over 190 medications, 60 active pharmaceutical ingredients (APIs) for drug manufacture, diagnostic kits, critical care and biotechnology products.

Dr. Reddy's began as a supplier to Indian drug manufacturers, but it soon started exporting to other less-regulated markets that had the advantage of not having to spend time and money on a manufacturing plant that would gain approval from a drug licensing body such as the U.S. Food and Drug Administration (FDA). By the early 1990s, the expanded scale and profitability from these unregulated markets enabled the company to begin focusing on getting approval from drug regulators for their formulations and bulk drug manufacturing plants in more-developed economies. This allowed their movement into regulated markets such as the US and Europe. In 2014, Dr. Reddy Laboratories was listed among 1200 of India's most trusted brands according to the Brand Trust Report 2014, a study conducted by Trust Research Advisory, a brand analytics company.

By 2007, Dr. Reddy's had six FDA plants producing active pharmaceutical ingredients in India and seven FDA-inspected and ISO 9001 (quality) and ISO 14001 (environmental management) certified plants making patient-ready medications – five of them in India and two in the UK.

In 2010, the family-controlled Dr Reddy's denied that it was in talks to sell its generics business in India to US pharmaceutical giant Pfizer, which had been suing the company for alleged patent infringement after Dr Reddy's announced that it intended to produce a generic version of atorvastatin, marketed by Pfizer as Lipitor, an anti-cholesterol medication. Reddy's was already linked to UK pharmaceuticals multinational Glaxo Smithkline.

TABLE 1

	31-12-2010	Current	%Gain / Loss
Open Price	1685	3325.5	
High Price	1697	3388.6	
Low Price	1658.1	3312.5	
Last Price	1662.55	3349.3	625.38
Volume	33895	12824	-94.96

TABLE 2

	31-12-2011	Current	%Gain / Loss
Open Price	1575.7	3325.5	
High Price	1590	3388.6	
Low Price	1565	3312.5	
Last Price	1577.95	3349.3	625.38
Volume	35183	12824	-94.96

TABLE 3

	31-12-2012	Current	
Open Price	1832.35	3325.5	
High Price	1835	3388.6	
Low Price	1817.05	3312.5	
Last Price	1828.5	3349.3	625.38
Volume	16085	12824	-94.96

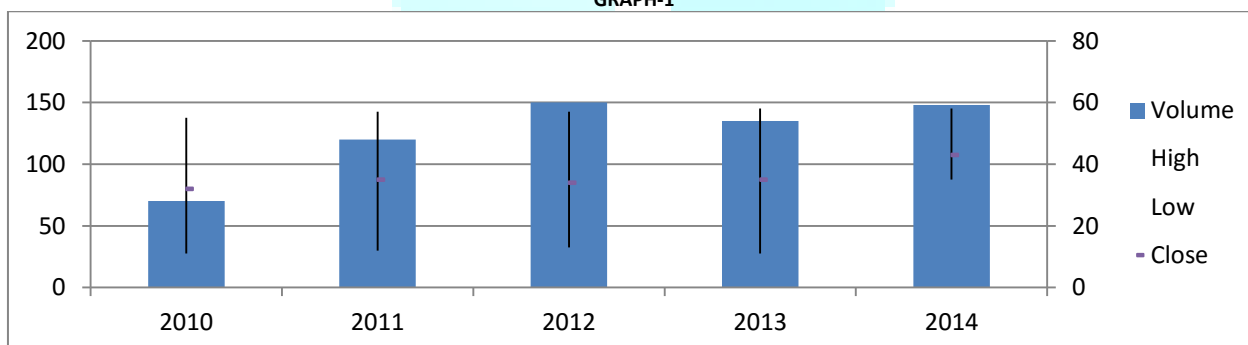
TABLE 4

	31-12-2013	Current	%Gain / Loss
Open Price	2520	3325.5	
High Price	2548.2	3388.6	
Low Price	2520	3312.5	
Last Price	2533.05	3349.3	625.38
Volume	4670	12824	-94.96

TABLE 5

	31-12-2014	Current	%Gain / Loss
Open Price	3169.05	3325.5	
High Price	3260	3388.6	
Low Price	3169.05	3312.5	
Last Price	3244.95	3349.3	625.38
Volume	17677	12824	-94.96

GRAPH-1



SUN PHARMACEUTICAL INDUSTRIES LIMITED

Sun Pharmaceutical Industries Limited (NSE: SUNPHARMA, BSE: 524715) is a multinational pharmaceutical company headquartered in Vadodara, Gujarat that manufactures and sells pharmaceutical formulations and active pharmaceutical ingredients (APIs) primarily in India and the United States. The company offers formulations in various therapeutic areas, such as cardiology, psychiatry, neurology, gastroenterology and diabetology. It also provides APIs such as warfarin, carbamazepine, etodolac, and clorazepate, as well as anticancers, steroids, peptides, sex hormones, and controlled substances.

Sun Pharmaceuticals was established by Mr. Dilip Shanghvi in 1983 in Vapi with five products to treat psychiatry ailments. Cardiology products were introduced in 1987 followed by gastroenterology products in 1989. Today it is the largest chronic prescription company in India and a market leader in psychiatry, neurology, cardiology, orthopedics, ophthalmology, gastroenterology and nephrology.

The 2014 acquisition of Ranbaxy will make the company the largest pharma company in India, the largest Indian pharma company in the US, and the 5th largest speciality generic company globally.

Over 72% of Sun Pharma sales are from markets outside India, primarily in the US. The US is the single largest market, accounting for about 60% turnover; in all, formulations or finished dosage forms, account for 93% of the turnover. Manufacturing is across 26 locations, including plants in the US, Canada, Brazil, Mexico and Israel. In the US, the company markets a large basket of generics, with a strong pipeline awaiting approval from the U.S. Food and Drug Administration (FDA).

Sun Pharma was listed on the stock exchange in 1994 in an issue oversubscribed 55 times. The founding family continues to hold a majority stake in the company. Today Sun Pharma is the second largest and the most profitable pharmaceutical company in India, as well as the largest pharmaceutical company by market capitalisation on the Indian exchanges.

The Indian pharmaceutical industry has become the third largest producer in the world in terms of volumes and is poised to grow into an industry of \$20 billion in 2015 from the current turnover of \$12 billion. In terms of value India still stands at number 14 in the world.

Table 6

	31-12-2010	Current	%Gain / Loss
Open Price	243.5	933.2	
High Price	244.65	946.4	
Low Price	240.75	920.5	
Last Price	242.33	940.2	6885.14
Volume	557474	409161	-35.5

TABLE 7

	31-12-2011	Current	%Gain / Loss
Open Price	247.58	933.2	
High Price	249.9	946.4	
Low Price	246.28	920.5	
Last Price	248.43	940.2	6885.14
Volume	190206	409161	-35.5

TABLE 8

	31-12-2012	Current	%Gain / Loss
Open Price	370.75	933.2	
High Price	370.75	946.4	
Low Price	366.65	920.5	
Last Price	367.75	940.2	6885.14
Volume	33880	409161	-35.5

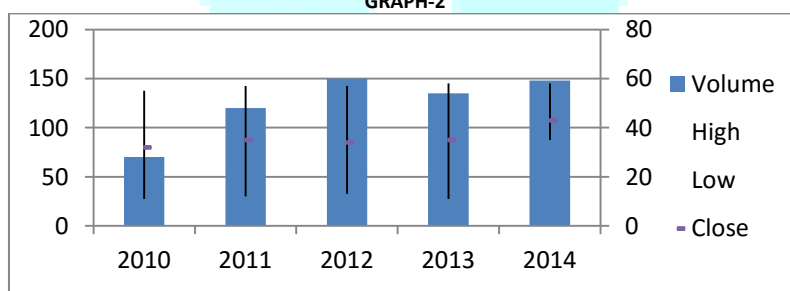
TABLE 9

	31-12-2013	Current	%Gain / Loss
Open Price	571	933.2	
High Price	573.2	946.4	
Low Price	566.5	920.5	
Last Price	567.75	940.2	6885.14
Volume	65378	409161	-35.5

TABLE 10

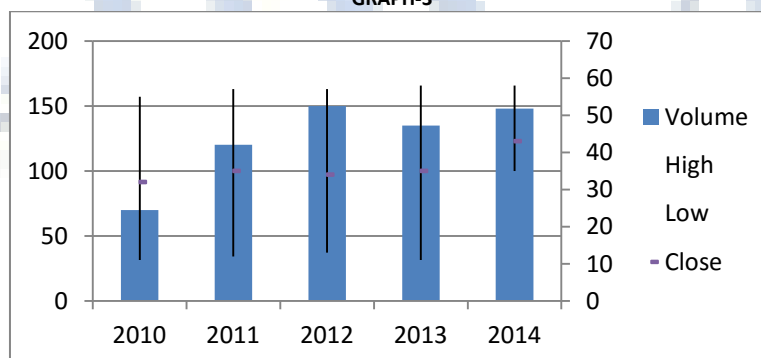
	31-12-2014	Current	%Gain / Loss
Open Price	816	933.2	
High Price	827.9	946.4	
Low Price	816	920.5	
Last Price	826.15	940.2	6885.14
Volume	59801	409161	-35.5

GRAPH-2



Difference of changes in the both company

GRAPH-3



FINDINGS

- These price fluctuations depend upon stock market conditions.
- These prices vary upon activity of enterprise such as merger & acquisition.

SUGGESTIONS

- Pharmaceutical industry has its own credit as many these are high in demand.
- Sun Pharma announced that it would acquire 100% of Ranbaxy Laboratories Ltd, in an all-stock transaction, valued at \$4 billion.
- Sun Pharma would be the largest pharmaceutical company in India, the largest Indian Pharma company in the US, and the 5th largest generic company worldwide
- The expected the stock prices will be high.

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CUSTOMERS' PERCEPTION TOWARDS e-BANKING SERVICES OF THE COMMERCIAL BANKS IN KOLLAM DISTRICT

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HSST COMMERCE
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ABSTRACT

Banks today operate in a highly globalized, liberalized, privatized and a competitive environment. In order to survive in this environment banks have to use IT. Indian banking industry has witnessed a tremendous developments due to sweeping changes that are taking place in the information technology. With the advent of computers, banks can now offer a variety of new service to their customers. Electronic banking has emerged from such an innovative development. The objective of the present paper is to study and analyze the customers perception towards E-Banking service of the commercial banks in kollam District. The study is secondary based and analytical in nature. The progress in e-banking in Indian banking industry is measured through various parameters such as Computerization of branches, Automated Teller Machines, Transactions through Retail Electronic Payment Methods etc. Statistical and mathematical tools such as simple growth rate, percentages and averages etc are used. The paper also highlights the . Electronic banking offers great opportunities for banks to increase their transactions, extend their customer-bases, and to reduce their operational and opportunity costs.

KEYWORDS

e-banking, Information Technology, Automated Teller Machines.

INTRODUCTION

In the recent past, banking industry in India has undergone a major change due to disintermediation, deregulation, liberalization, globalization, financial sophistication, technological developments and densification in the product and services. Out of these, deregulation, technological innovations and globalization are significantly affecting banks and financial institutions. In the post-reforms period, there is a paradigm shift in the different parameters of transformation. Many internal and external factors are compelling the banks to make radical changes in their day-to-day functioning to face the e-age challenges. The concept of banking has drastically changed from a business dealing with money transactions alone to a business related to information on financial transactions. The new methods of banking practices on account of information technology ensure which service besides reducing cost in banking sector. After the internet penetration, the banking sector has undergone a huge revolution. Internet banking is changing the banking industry and is having major effects on banking relationships. Banking is now no longer confined to the branches one has to approach in person, to withdraw cash or deposit a cheque or request a statement of accounts. The Reserve Bank of India set up two committees in quick succession to accelerate the pace of automation of operations in the banking sector to improve customer service, productivity, and to enhance management control. A high-level committee was formed under the chairmanship of C. Rangarajan, to draw up a phased plan for computerization and mechanization in the banking industry over a five-year time frame of 1985-89. Having gained experience in the earlier mode of computerization, the second Rangarajan Committee was constituted in 1988 to draw up a detailed perspective plan for computerization of banks and for extension of automation to other areas such as funds transfer, e-mail, bank net, SWIFT, ATMs, internet banking, etc. The Government of India enacted the Information Technology Act, 2000, with effect from 17 October 2000 to provide legal recognition to electronic transactions and other means of electronic commerce. Private and foreign banks have been the early adopters of e-banking while the public sector banks are beginning to hold on to the competition.

CONCEPT OF ELECTRONIC BANKING

Electronic banking is the latest technological wonders in the recent past involving use of internet for delivery of banking products and services. In electronic banking system the bank has a centralized database that is web-enabled. All the services that the bank has permitted on the internet are the nature of service. It would be a borderless entity permitting anytime, anywhere and anyhow banking. Electronic banking has attracted the attention of banks, securities trading firms, brokerage houses, insurance companies, regulators and lawmakers in the developing nations since the late 1990s. Electronic banking offers great opportunities for banks to increase their transactions, extend their customer-bases, and to reduce their operational and opportunity costs. It provides some benefits to customers such as convenience, personalization, freedom and cost advantages.

STATEMENT OF THE PROBLEM

Deregulation and liberalization has opened up new opportunities for banks but at the same time the pressure of competition has led to narrowing spreads, shrinking margins, consolidation and restructuring. Competition is going to be tough with financial liberalization and banks in India will have to benchmark themselves against the best in the world. The banks which are capable of providing quality service to their customers will acquire competitive advantage. Sustaining this advantage requires unrelenting efforts by the banks to upgrade the services continuously in the light of modern information technology from traditional banking into electronic banking. While electronic banking does offer exciting possibilities for payment mechanisms, there are many open questions that have still not been satisfactorily addressed and it has raised many issues before the banking regulators and government agencies. Further, the current banking services provided through internet are limited due to security concerns, complexity and technological problems.

The banks have to invest heavily in technology and people with appropriate technical skills; otherwise they cannot market their new financial products and services. Larger investment in e-banking may lead to emergence of 'digital divide' as a result of new technological developments based on information technology-led knowledge intensive innovations in banking sector. As a result of this, the educated participants are likely to be the real beneficiaries while the less privileged are likely to lag behind. The average Indian consumer is still PC illiterate and prefers the human touch over technology driven service. The issue of customer unfamiliarity with the internet, which is prominent among senior citizens, has recently caught some attention, because these customers believe that they are left at a disadvantageous position and become very reluctant in doing business online. Till such time, electronic banking will remain restricted to the younger, upwardly mobile consumer only. Moreover, technology at a given point of time, may insist on a ceiling limit for the expansion and growth. It becomes a major challenge to the banks.

Excessive reliance on technology more often may expose to greater operational risks. Safeguarding the system and software from the attack of the hackers through encryption i.e. the process of putting information into code is the major challenge in the adoption of e-banking. Offering better services with value addition is really a challenge to the banks which are marching towards e-banking. Electronic fraud is a scourge in the West and is on the rise even in India. Unless electronic message transmission can be safeguarded from unauthorized access through hacking, people will continue to be hesitant about using electronic banking for fear of fraud and the banks cannot win the confidence of the customers. In India, cash transactions are popular because of the anonymity they provide, as they leave no paper trail.

The reputation of the bank may be in stake if the promised services are not delivered in time. This is evident from the large number of consumer court verdicts against the credit card issuing banks. There are several emerging legal issues that need to be addressed which evolve legal and regulatory framework on e-

banking. Is an electronic contract a valid contract? Negotiable Instruments Act covers payment in writing only. What about electronic instruments? When will digital signature get legal validity? These are some of the crucial questions that stand in the way of electronic instruments? Though, some progress has been made with the passing of the cyber laws in the form of IT Act by the Indian Parliament recently, IT is now a question of successful implementation.

India is still in the early stages of e-banking growth and development. Competition and changes in technology and lifestyle of the customers have changed the face of banking. The changes that have taken place impose on banks tough standards of competitions and compliance. The issue here is 'where does India stand in the scheme of e-banking.' E-banking is likely to bring a host of opportunities as well as unprecedented risks to the fundamental nature of banking in India. The deregulation of the banking industry coupled with the emergence of new technologies, are enabling new competitors to enter the financial services market quickly and efficiently. In this context, the researchers have made an attempt to study the perception level of the customers towards electronic banking services of the commercial banks in Kollam District.

OBJECTIVES OF THE STUDY

The study has the following objectives:

1. To review the electronic banking services offered by the select commercial banks in Kollam district.
2. To find out the factors influencing the customers to prefer electronic banking services of the commercial banks in Kollam district.
3. To study the perception of the customers towards electronic banking services of the select commercial banks in Kollam district.
4. To offer suitable suggestions to improve the effectiveness of the electronic banking services of the commercial banks.

TESTING OF HYPOTHESES

The following null hypotheses were formulated and tested.

- **H₀₁:** There will be no significant association among the satisfaction levels of the customers belonging to different demographic profile towards electronic banking services of the select commercial banks in Kollam district.
- **H₀₂:** There is no significant relationship among the satisfaction levels of the customers belonging to different demographic profile towards payment services in electronic banking.
- **H₀₃:** There is no significant relationship among the satisfaction levels of the customers belonging to different demographic profile towards applications/requests services in the electronic banking.

RESEARCH METHODOLOGY

SAMPLING DESIGN

There are 21 public sector commercial banks and 10 private sector commercial banks in operation in Kollam District as on March 2014. In order to collect primary data for the purpose of the study, multi-stage sampling technique is adopted. At the first stage 6 commercial banks i.e. 4 public sector commercial banks and 2 private sector commercial banks which outnumber in number of branches were selected out of the 31 commercial banks. In the second stage, 10 per cent of the branches i.e. 16 branches were selected out of the 6 selected commercial banks. In the final stage, from each of the branch 30 savings bank account holders and 10 current account holders were selected on the purposive basis for the study. Therefore, the sample size consists of 640 customers. The following table shows the sampling distribution of the present study.

TABLE 1: SAMPLING DISTRIBUTION

Name of the Bank	No. of Branches	Samples		
		No. of Branches	No. of Savings Bank Account Holders	No. of Current Account Holders
State Bank of Travancore	35	4	120	40
Central Bank of India	14	1	30	10
Indian Bank	28	3	90	30
Indian Overseas Bank	12	1	30	10
Catholic Syrian Bank	21	2	60	20
Federal Bank	46	5	150	50
Total	156	16	480	160

TOOLS FOR DATA COLLECTION

The present study is empirical in character, based on survey method. As an essential part of the study, the primary data were collected from 640 customers. Taking into consideration the objectives of the study, a questionnaire was prepared after a perusal of available literature and thorough consultation with the experts of related fields. Each question was improved for its relevance and meaning by constant interaction with the experts in the areas. The questionnaire was constructed based on Likert scaling technique. Pre-testing of questionnaire was done during April 2013, involving 25 respondents to know the relevance of the questions. In the light of pre-testing, necessary changes were incorporated in the questions and their sequences. The secondary data have been collected mainly from journals, magazines, government reports, books and unpublished dissertations.

FRAMEWORK OF ANALYSIS

The ultimate object of the study was to examine the perception of the customers towards e-banking services of the commercial banks in Kollam district. The data collected for the purpose of the study were quantified, categorized and tabulated. In order to study the perception of the customers, Kendall's coefficient of concordance, chi-square test, analysis of one-way variance, student t-test, analysis of co-efficient of variation, factor analysis, discriminant function analysis and percentage analysis have been employed.

FINDINGS

1. Easy and convenient access, confidentiality, service quality and time saving are the factors influencing the respondents to prefer e-banking services at 70.85%, 16.43%, 46.15% and 17.31% respectively in Kollam district. 85.62%, 77.50%, 22.69%, 88.85%, and 18.65% of the respondents were influenced by factors such as transparency, accuracy, cost saving and speed respectively to prefer e-banking services. Security and control over funds are the motivating factors for the customers at 1.65% and 65% respectively to prefer e-banking services of the commercial banks.

2. There is similarity among the respondents in assigning the ranks to various channels used in e-banking. ATM, debit card and mobile banking stands first, second and third places with a mean rank of 1.66, 2.33 and 2.89 respectively. Credit card, e-banking and smart card are the other channels widely used in on-line banking. The mean ranks of the credit card, e-banking and smart card are 4.18, 5.38, and 5.41 respectively.
3. There is significant similarity among the respondents in assigning ranks towards various e-banking facilities. Fund transfer, bill payment, and on-line shopping stand at first, second and third places with a mean rank of 1.87, 2.26 and 2.85 respectively. Getting railway pass, payment to credit card bill and credit card loan are the other e-banking facilities widely used by the customers.
4. A significant association is found among the satisfaction levels of the respondents belonging to different gender, educational status, monthly income, occupation, location, and type of bank they belong towards e-banking services of the select commercial banks in Kollam District. However, no significant association is found among the satisfaction levels of the respondents belonging to different age groups and the bank they belong towards e-banking services.
5. Male respondents, respondents in the age group up to 30 years, respondents having up to H.Sc qualification, professionals, respondents who have monthly income up to Rs.15000, urban customers, customers of the Federal bank and customers of the private sector banks were more satisfied with the e-banking services.
6. There is no significant relationship among the satisfaction levels of the respondents belonging to different gender, age groups, educational status, occupation, monthly income, and location towards the payment facilities of the e-banking services. However, a significant difference is found among the satisfaction levels of the customers of public and private sector commercial banks towards e-banking services.
7. Male respondents, respondents in the age group 41-50 years, respondents having PG and above qualification, employed persons, respondents who have monthly income above Rs. 35000, urban customers, and the customers of private sector banks were more satisfied with the payment services of the e-banking.
8. The variations in the satisfaction level was high among male respondents, among the respondents in the age group 31-40 years, among the respondents having up to H.Sc qualification, among the professionals, among the respondents who have monthly income Rs.25001-35000, among the rural customers, and among the customers of the public sector banks towards payment services.
9. Out of the 520 respondents, 45.57%, 32.69%, 7.69%, 7.88%, and 6.15% of the respondents are highly satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, and highly dissatisfied respectively towards payment services. The mean score shows that the respondents have higher satisfaction towards inter-account fund transfer (4.46), followed by payment for bills like electricity, telephone, etc. (4.45), and payment to other personal account (4.44).
10. There is no significant relationship among the satisfaction levels of the respondents belonging to different gender, age groups, educational status, occupation, monthly income, and location towards requests/applications facilities of the e-banking services. A significant difference is found among the satisfaction levels of the customers of public and private sector commercial banks towards requests/applications facilities of the e-banking.
11. Male respondents, respondents in the age group 41-50 years, respondents having PG and above qualification, employed persons, respondents who have monthly income above Rs. 35000, urban customers, and customers of private sector banks were more satisfied towards requests/applications facilities of the e-banking services.

SUGGESTIONS

1. The choice of technological infrastructure generally determines the success of e-banking in the long run. Therefore, a correct system architecture and design will help in managing operational and security risks to a greater extent.
2. Most e-finance initiatives in developing countries have been the result of cooperative efforts between the private and public sectors. For example, Singapore's successful Trade Net system is a government-sponsored project. If the public sector does not have the necessary means to implement the projects, it is essential that cooperative efforts between public and private sectors, along with the multilateral agencies like the World Bank, be developed to facilitate e-finance related initiatives.
3. To achieve competitive advantage, technology based services may help, but to retain competitive advantage, the banking institutions have to improve services at the branches. The availability of and access to banking information is required for customers to move towards e-banking. Similarly, on-line information will enhance customers' ability to utilize e-banking services.
4. For the purpose of creating awareness about information security in the area of e-banking, training and education is necessary. Therefore, training courses for understanding the information security, protection of passwords and awareness about various spy wares can be conducted. Advanced training for the system administrators may also be conducted to optimally configure the e-banking system and update them about the latest threats being present in the e-banking domain. The employees of e-banks should be given training to match their skill with the requirements of changing environment.
5. The bank employees should never turn their back on the customers. They should suggest alternative banking products to the customers' benefit. This can be one way of ensuring "customers delight". Besides, with a proper customer database, bankers can access the system to quickly modify or create products and services to meet the present customer needs. Bankers can seize the initiative, contacting customers to market new services, rather than waiting for the opportunity to arise.
6. Banks should provide appropriate information and demo to operate these channels and solve any problem regarding these channels on a priority basis. Besides these channels, customers should also be made aware of the different types of services provided by a particular e-channel. The banks should also provide operational knowledge of e-channels with each of their functions to the customers.
7. The banks should make the area of e-delivery channels wider by providing the facility of draft making, and mega-size withdrawals & deposits to the customers. This will further strengthen the popularity of these channels and help to earn more income by way of more charges on mega-size deposits and withdrawals.
8. In particular after the introduction of IT Act, the public sector commercial banks face severe technological competition from their counterparts. Therefore, the public sector banks have to look forward and adopt technology to make the employees aware and familiar with every aspect related with e-channels; to make the customers aware about e-channels especially through demo to clear their doubts about the operation of these channels and other related problems; to merge some branches to make the more strong and efficient with the implementation of IT infrastructure; and to establish computerization at the rural and semi-urban branches. Since, vast majority of the Indian population resides in the rural areas, it is the need of the hour to capture this market through e-delivery channels. Hence, banks should make e-delivery channels popular in rural and semi-urban areas too with some effective strategies.
9. The development of banks' websites should go beyond information purposes. Banks should put in place procedures for maintaining and updating their websites, including the various security features and key ingredients of e-banking which include confidentiality, integrity, availability and effective communication.

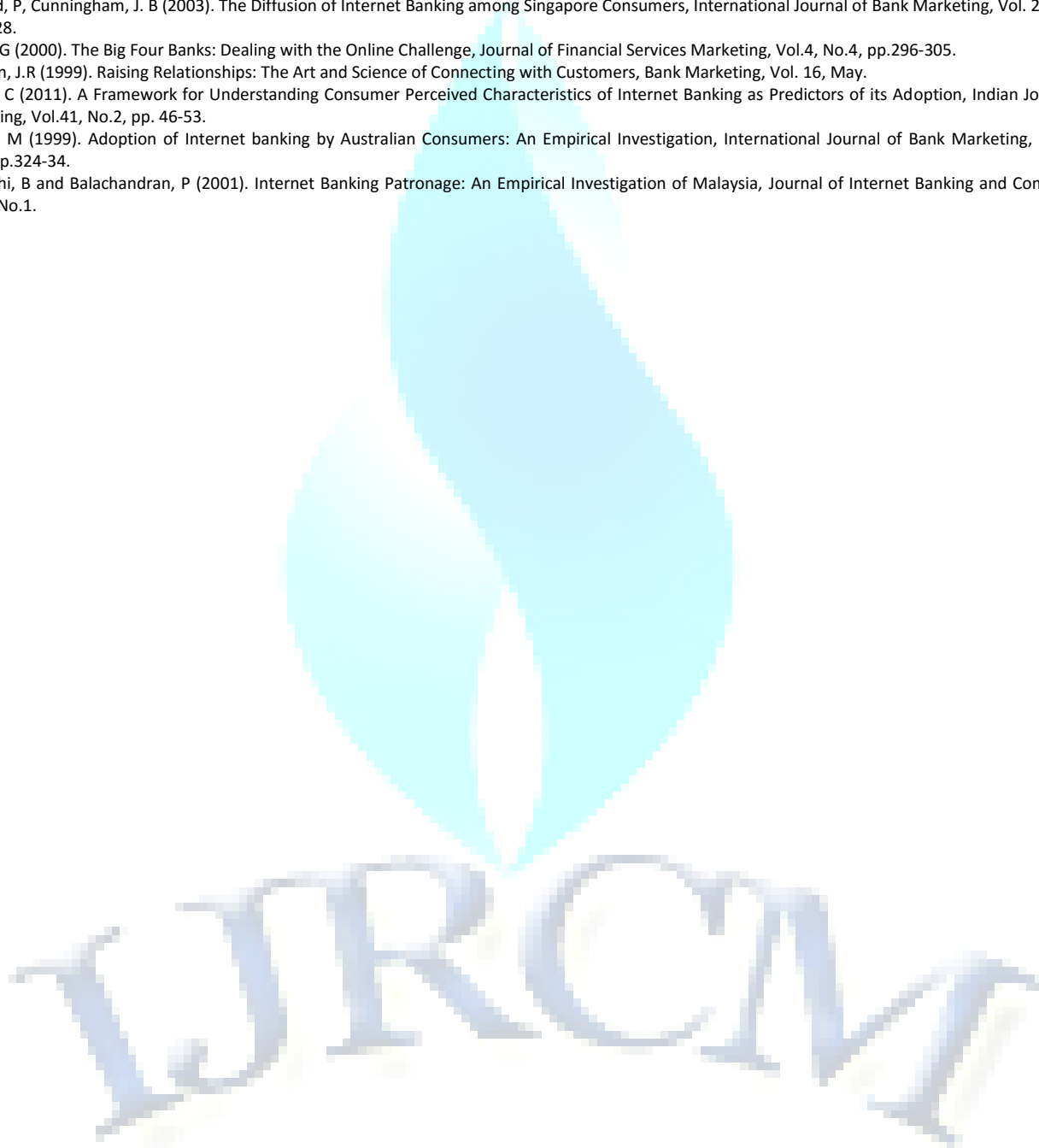
CONCLUSION

E-Banking is spreading all over the world with speed, sometimes at the cost of throwing caution to the winds. This has not only transformed the banking and financial institutions in their modern form, but has also brought a paradigm shift in their attitude towards banking operations. In India also, it has strongly impacted the strategic business considerations for banks. It must be noted, however, that while e-banking provides many benefits to customers and banks, it also aggravates traditional banking risks. It is evident from the present study that a majority of the customers are highly satisfied with the e-banking services. The customers prefer e-channels with time and cost utility which provide efficient services. At the same time, banks are uncertain about the regulatory framework for conducting e-business and taxation issues for governing cyberspace present formidable problems. Any successful attempt at governing cyberspace will involve significant international cooperation. Although there are some drawbacks in e-banking like complaints regarding use of ATMs, high

service charges and more working hours leading to frustration among the employees but still the e-banking are preferred as the efficiency of the employees working through e-channels is better. If the study provokes the authority concerned to take some positive measures for improving the effectiveness of e-banking, the researchers will feel amply rewarded.

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THE IMPACT OF THE INTERNET NETWORK TECHNOLOGY ON ACCOUNTING INFORMATION SYSTEMS

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ABSTRACT

Information technology is a tool that consists of Hardware, Software, Brainware, databases and communication networks that are very helpful in resolving human jobs more effectively and efficiently. Developments in information technology may be able to support the use of the Internet network either between one company or several companies in the exchange of information. With the Internet network through applications that use the required information is readily available to quickly and accurately for various distances and in different times. Internet network help provide information on both sales transactions, payments and can send pictures, models and kind to the parties that need online. Through the Internet network to provide information about payments by using applications such as PayPal, Authorize.net, Checkout or Linkpoint.

KEYWORDS

network technology, accounting information systems.

1. INTRODUCTION

Information technology is a tool that consists of software and hardware, brain ware, database communication network that is used to assist in handling the human work more effectively and efficiently Azhar Susanto (2010). In the development of information technology is very helpful in supporting the use of network technology Interconnection Networking (internet). Internet network technology can only be accessed through hardware such as computers and mobile phones are equipped with the software **Louise and Morris (2012)**. With the Internet network will be used by various groups for various purposes in different times and places, as well as through the Internet network technology will be easier to obtain the information needed by those who have interests in the information generated in a short time and from various distances **Oviliani (2000)**. Internet network technology can be use for various purposes either for communication between individuals, between companies both intranet and extranet is an integral system and as a tool used in the operation of accounting information systems both for transactions in small, medium and large companies as well as through network technology, the Internet will be able to provide transaction information to the customer more quickly, precisely and accurately so that rejuvenate the users of accounting information in decision making Michael (2006). In the use of the Internet network technology all transactions are recorded as electronic web-based so that such transactions more easily and quickly are processed and obtained by its users so it will be easier in the decision Blanche and Anton (2011). As well as using the internet network technology all transactions carried out more comfortably and safely can count on accuracy Fernando and Antonio (2013).

LITERATURE REVIEW

INFORMATION TECHNOLOGY

1. Turban et.al, 2007 (17) Information Technology as the collection of computing systems used by an organization, its includes the hardware, software, databases, networks and other electronic devices.
2. Francis (2013) Information Technology (IT) is related to the application of computer and telecommunications equipment to store, retrieve, transmit and manipulate data. It can also be described as something that makes the data, information, or knowledge that is perceived in a visual format via any multimedia distribution mechanism.
3. Mea while, according to (Bawaneh, 2011) Information technology refers to the hardware and software used in the computerized information system.
4. Thompson et. all., (1994) defines the use of technology as the benefits expected by users of information systems in performing their duties where the measurement is based on the intensity of use, frequency of use and the number of applications or software used.
5. Romney (2006) states that the use of information technology within the organization will affect the activities or business processes contained in the organization.

INTERNET

1. The Oxford Dictionary of the Internet can be defined as a global computer network which provides various information and communication facilities, which consist of interconnected networks using standard communication protocols.
2. Blogging.co.id. Understanding the Internet is a means of communication via a wired or wireless network using a standardized protocol that can connect devices to each other
3. Wikidia, Internet (short for interconnection-networking) is an entire network of computers connected together using a standard global system Transmission Control / Internet Protocol Suite (TCP / IP) as the protocol packet switching (packet switching communication protocol) to serve billions of users around world.
4. Google.com internet is a large network of interconnected computer networks that connect people and computers around the world, via telephone, and satellite communications systems to another.

INTRANET

Azhar Susanto (2010) Network communication between the companies within the organizational environment.

EXTRANET

Azhar Susanto (2010) communications network between several companies or organizations in an environment.

ACCOUNTING INFORMATION SYSTEMS

1. George and Hopwood, 1995 (1) Accounting Information System is a collection of resources, such as people and equipment, designed to transform financial and other information into the data. This information is communicated to a wide variety of decision makers. Accounting information systems perform this transformation Essentially Whether they are thoroughly computerized or manual systems.
2. Wilkinson and Cerullo (1995, p.5-6); is a structure that blends in an entity, which uses physical resources and other components, to change the financial transaction data / accounting into the accounting information with the aim to meet the demand for information from the user or users (users).
3. Bodnar and Hopwood (2004). Accounting information system is a collection of resources such as people and equipment, which are designed to alter financial data and other data into information that has, among others, regarding the scope of transaction processing cycles, use of technology, and development of information systems.
4. According to Romney and Steinbart (2003) accounting information system consists of five components, are as follows:
 - a) People who operate the system and carry out a variety of functions.
 - b) Automatic and manual procedures, including the collection, processing and storage of data relating to the company's activities.

- c) Data relating to the company's activities.
- d) Software used to process the data of the company.
- e) Information technology infrastructure which includes computers, network communications equipment

INTERNET USAGE IN ACCOUNTING INFORMATION SYSTEMS

By using Internet technology to improve the systems and processes significant accounting transactions that can be done online either intranet or extranet Francis (2013). Internet technology can change the way the system works information accounting where the speed of giving and receiving data in the form of accounting information system of the type of transaction that was done, and the Internet can help users both internal and external organizations in determining the attitude of the organization on a product, because over the Internet sales will occur electronically Fajar (2013). In addition the use of internet technology by Fernando and Antonio (2013) is that in doing business transactions either sales or purchase transaction uses the internet very helpful and facilitate the payment process using a payment processor like PayPal, Authorize.net, Checkout or Linkpoint , By using the processor will be able to ensure that business transactions conducted are safe, fast and reliable, and can guarantee the level of security for transactions conducted.

In addition to ensure the security of transactions done using the Internet network, especially for a variety of processor abovementioned internet network is also a communications medium most quickly access a variety of purposes in communicating between the parties that have an interest in an organization so that it can quickly be able to give and receives information so as to increase the performance of the organization Teresa and Henrique (2010) The advantage of using the Internet to accounting information system is that the internet can help the parties who are in need of information quickly, as well as with the internet people can exchange information, product catalogs, promotional media, electronic mail, bulletin boards, electronic questionnaires, and mailing list (e-mail) more Internet can also be used for dialogue, discussion, and consultation with consumers on-line, so that consumers can proactively and interactively involved in designing, developing, marketing, and sales of products Oviliani (2000). Further still, according oviliani transactions via the Internet there are two methods, namely push and pull marketing. Excellence business strategy that can be obtained from the Internet is a global communications and interactive; provide information and services in accordance with customer needs; increased cooperation; allow for open markets, products, or new services; as well as integrating on-line activities. In conducting electronic transactions (E-Commerce) there are two models of the application used: the first is Business-to-Consumer and the second is Business-to-Business Commerce. Electronic commerce payment transactions stipulated in the Electronic Funds Transfer System, while data security is governed by the Secure Socket Layer developed into a Secure Electronic Transaction. Azhar Susanto (2010). The world of technology, especially the use of the Internet can have an impact on the accounting information system where all transactions can be done with a batch (online) or at a certain distance with a relatively short time then the internet technology, stakeholders may be able to give and receive the products they need online example can send pictures of the products needed, send info or sales prices thus only be done online.

Efrain Turban et al (2010). using the Internet network can make the process of buying, selling, transferring, or exchanging products, services, and / or other information in a relatively short time, and not using the Internet network technology is not just a business transaction but can mutually party invite - parties who have an interest to collaborate in conducting electronic transactions both intranet and extranet. With the presence of the Internet network facilitates communication between parties who have an interest in giving and receiving of information, because of the lack of information will increasingly make the organization more developed so they can be more competitive Adel (2012). Furthermore, Internet technology is a means of effective and efficient in communicating. In using the Internet to conduct online transactions, things that need to be considered in accounting information systems are all of the data collected to ensure that the data is valid, complete and free from material error is made with a view to the interests of their relevance and efficiency because the system will only be able to capture or read the relevant data it is intended that there will be no errors in transferring electronically either via email or in batches (online) Francis (2013). In the use of the Internet network technology all transactions can be done via the website, this will facilitate the acceptance of both pictures, prices and specifications of items needed. In addition to ensure the security of transactions done using the Internet network, especially for a variety of processor abovementioned internet network is also a communications medium most quickly access a variety of purposes in communicating between the parties that have an interest in an organization so that it can quickly be able to give and receives information so as to increase the performance of the organization Teresa and Henrique (2010) The advantage of using the Internet to accounting information system is that the internet can help the parties who are in need of information quickly, as well as with the internet people can exchange information, product catalogs, promotional media, electronic mail, bulletin boards, electronic questionnaires, and mailing list (e-mail) more Internet can also be used for dialogue, discussion, and consultation with consumers on-line, so that consumers can proactively and interactively involved in designing, developing, marketing, and sales of products Oviliani (2000). Further still, according oviliani transactions via the Internet there are two methods, namely push and pull marketing. Excellence business strategy that can be obtained from the Internet is a global communications and interactive; provide information and services in accordance with customer needs; increased cooperation; allow for open markets, products, or new services; as well as integrating on-line activities. Electronic Commerce Application No 2, namely: Business-to-Consumer and Business-to-Business Commerce. Electronic commerce payment transactions stipulated in the Electronic Funds Transfer System, while data security is governed by the Secure Socket Layer developed into a Secure Electronic Transaction.

Azhar Susanto (2010). The world of technology, especially the use of the Internet can have an impact on the accounting information system where all transactions can be done with a batch (online) or at a certain distance with a relatively short time then the internet technology, stakeholders may be able to give and receive the products they need online example can send pictures of the products needed, send info or sales prices thus only be done online Efrain Turban et al. (2010), using the Internet network can make the process of buying, selling, transferring, or exchanging products, services, and / or other information in a relatively short time, and not using the Internet network technology is not just a business transaction but can mutually party invite - parties have interesting to collaborate in conducting electronic transactions both intranet and extranet. With the presence of the Internet network facilitates communication between parties who have an interest in giving and receiving of information, because of the lack of information will increasingly make the organization more developed so they can be more competitive Adel (2012). Furthermore, Internet technology is a means of effective and efficient in communicating. In using the Internet to conduct online transactions, things that need to be considered in accounting information systems are all of the data collected to ensure that the data is valid, complete and free from material error is made with a view to the interests of their relevance and efficiency because the system will only be able to capture or read the relevant data it is intended that there will be no errors in transferring electronically either via email or in batches (online) Francis (2013). In the use of the Internet network technology all transactions can be done via the website, this will facilitate the acceptance of pictures, prices and specifications of items needed.

TABLE 1: SOME USES INTERNET CAPABILITY IN BRIEF

Application	usefulness
E-mail	Use to send message between a persons
Usernet newsgroup	Use for Group discussions in Bulletin Boards
LISTSERVS	Use to conduct discussions by through E-mail
Chatting	Use to conduct an interactive conversation
telnet	Use to get into the computer and work on another computer
FTP	Use to send files from one computer to another
Ghoppers	Use to search for information by using the menu arranged in a hierarchy
Archie	Use to download documents, software and files that are available in the database
Veronica	Use to increase the speed at gopher search by keyword
WAIS	Use for searching files in the database using key words
World wide web	Use to call, to format and display text information or graphics sound and video

Source: Azhar Susanto (2010)

TABLE 2: TOP TEN USES INTERNET APPLICATIONS IN BUSINESS

COMPANY AND URL	BUSINESS INTERNET APPLICATIONS
A&M Records amrecords.com	Interactive site with video, audio, news, and contests. Fans get up- to-date information on clients represented by A&M. Improves name recognition and Internet presence for company.
Alaska Airlines www.alaska-air.com	Web site used for direct ticket purchases, reservations, and flight information. Konsumen service realized through ease and convenience of information access and improved call-wait times.
Amazon.com www.amazon.com	Online bookstore. Allows konsumens to search by title, author, subject, or keyword, pay by credit card, and have items shipped to them.
Federal Express www.fedex.com	Package tracking service. Konsumens can ship and track own packages, leading to reduced communication costs and labor costs.
First Union Corp. www.firstunion.com	Online banking service allows access to account information and transactions. Reduces telephony costs.
The Dreyfus Corp. www.dreyfus.com	Account and sales information. Konsumen set up new accounts, track status, and access daily rates and prices. Improves ease of transactions and security. Development cost: \$127,500.
Holiday Inns www.holiday-inn.com	Konsumen service and marketing. Online realtime reservations. Konsumens can view accommodations. Development cost: \$300,000.
Land' End www.landsend.com	Interactive shopping for U.S konsumens. Promotes sales and konsumen service by providing overstock catalog and Online event information, such as quilt contest winners.
Charles Schwab Corp. www.schwab.com	Online trading, marketing, and electronic commerce. Reduces employee costs, improves konsumen service, and generates konsumen savings.
Whirlpool Corp. www.whirlpool.com	Konsumen service, public relations, sales, and marketing. Benefits realized through improved consumer relations and direct purchasing of small appliances. Development cost: \$100,000.

Souce: O'Brien (1999:315)

CONCLUSION

Information technology is a tool that consists of Hardware, Software, Brainware, databases and communication networks that are very helpful in resolving human jobs more effectively and efficiently. Developments in information technology may be able to support the use of the Internet network either between one company or several companies in the exchange of information. With the Internet network through applications that use the required information is readily available to quickly and accurately for various distances and in different times. Internet network help provide information on both sales transactions, payments and can send pictures, models and kind to the parties that need online. Through the Internet network to provide information about payments by using applications such as PayPal, Authorize.net, Checkout or Linkpoint

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EFFICIENCY OF THE SUGAR MANUFACTURING FIRMS OF INDIA

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ABSTRACT

We found that the Indian Sugar industry operated with an average overall technical inefficiency (OTIE) to the tune of 18.6% during the period 2009-13. The overall inefficiency is driven by managerial efficiency rather than the scale efficiency which shows that there is a need to improve the managerial efficiency in Indian sugar manufacturing firms. We saw that the total factor productivity change of the sugar industry shows a regress from 2009 to 2013. The productivity declined by 5.1%. This decline is majorly driven by the negative technological progress scores. This thus leads us to conclude the sugar industry of India is suffering from obsolete and outdated technology and needs technological innovation. Furthermore we see that the technical efficiency growth is driven more by scale efficiency growth and not by the managerial efficiency growth for majority of firms. This reestablishes the fact that there is a need to improve the managerial efficiency in our government protected sugar industry. We conclude by stating that the sugar firms can eliminate the inefficiency that are currently operating with if they improve their managerial efficiency and are made to function more competitively by reducing the amount of government protection given to them.

KEYWORDS

sugar industry, managerial efficiency, negative technological progress score.

INTRODUCTION

In the world, sugar consumption rate is highest in India as shown in the statistics received from USDA Foreign Agricultural Service. Sugar in India is majorly produced from the sugarcane. India is the world's largest producer of sugarcane and second largest producer of sugar in the world after Cuba. Within India, sugar industry is the second largest agro-based industry after cotton textiles. Since Indian sugar industry uses sugarcane in the production of sugar, maximum number of the firms are found in the sugarcane growing states of India including Uttar Pradesh, Maharashtra, Gujarat, Tamil Nadu, Karnataka, and Andhra Pradesh. Uttar Pradesh alone accounts for 24% of the overall sugar production in the nation and Maharashtra's contribution is about 20%. There are 453 sugar mills in India. Co-operative sector has 252 mills and private sector has 134 mills. Public sector has 67 mills.

Sugar Industry has always been under the direct control of the Government ever since. It is highly politicized and closely controlled by authorities set by the Governments (State & Central). The authorities control the minimum prices for sugar canes as well as rate of sugar both as commercial and domestic uses. They also control the licensing of sugar manufacturing business and Imports and exports. The country has a dual sugar pricing policy, where raw material price is fixed by the Government, which goes up every year. Sugar price for the levy sugar (40% of production) is fixed without taking into consideration of all factors that go into production, i.e. 40% of the sugar is sold below cost of production. Thus Government has protected the farmer and the consumer who gets levied sugar.

With Indian Sugar industry, being an agro-based industry heavily protected by the government, one expects the stagnation or a lack to technological progress in it. We find out if this is true in our study which aims to analyse the efficiency and productivity of Indian sugar industry and firms over 2009-2013.

OBJECTIVE OF THE STUDY

The objective of the study is to measure and analyse the efficiency and productivity of the Indian sugar industry and sugar firms for the time period 2009-2013. This is done by finding the efficiency scores and productivity change indices for a sample of 46 Indian sugar firms for 2009-2013 using the output-oriented Malmquist-DEA (Data Envelopment Analysis) model. The scores and indices are obtained by running the DEAP Version 2.1- Data Envelopment Analysis (Computer) Program written by Tim Coelli.

The output oriented Malmquist Productivity model of Data Envelopment Analysis (DEA) for 46 sugar firms of India is run using two outputs — Total Sales and Profit after Tax; and three inputs — Raw Materials, Stores and Spare; Compensation of Employees and Selling and Distribution Expenses. Our study is for the period 2009 – 2013. All required data for the 46 representative firms was collected from the CMIE (Centre for Monitoring Indian Economy) data base using PROWESS (steps explained in 'Research and Methodology' section).

LITERATURE REVIEW

TABLE 1

Author(s) & Paper	Period of study	Methodological Framework	Inputs	Outputs	Major conclusions
Amit Kumar Dwivedi & Priyanko Ghosh <i>Efficiency Measurement of Indian Sugar Manufacturing Firms: A DEA Approach</i>	2006-2010	Data Envelopment analysis (DEA)– Input and output oriented Variable returns to scale (VRS) and Constant Returns to Scale (CRS)	Three inputs- 1. Total costs of goods sold 2. Total selling and Administration expenses 3. Total assets held by the firm during the year	Two outputs- 1.Total sales of the firm during the year 2.Total Profit after tax of the firm during the financial year	Analysis shows that Indian sugar manufacturing firms operate with an overall technical inefficiency of 10-15% .
Sunil Kumar and Nitin Arora <i>Analyzing Regional Variations in Capacity Utilization of Indian Sugar Industry using Non-parametric Frontier Technique</i>	1974/1975 to 2004/2005	DEA based Capacity Utilization Model	Three Inputs- 1. Labor 2. Intermediate Inputs 3.Gross Fixed Capital	One Output- 1. Gross output	The analysis presents a gloomy picture of the capacity utilization in Indian sugar industry. The causes of incessantly falling levels of CU are: i) lack of raw material (i.e., sugarcane) caused by a) untimely payments for the purchase of sugarcane by sugar mills, and b) low per hectare productivity of sugarcane; ii) lack of labour inputs caused by the observed lack of the supply of sugarcane; iii) excessive government control over the industry.
Sunil Kumar and Nitin Arora <i>Evaluation of Technical Efficiency in Indian Sugar Industry: An Application of Full Cumulative Data Envelopment Analysis</i>	1974/1975 to 2004/05	Full cumulative data envelopment analysis (FCDEA)	Three Inputs- 1. Labour Production 2. Intermediate Inputs 3. Gross Fixed Capital in Use	One Output- 1. Gross Output	Sugar industry of India is operating with a high level of Overall Technical Inefficiency (OTIE) which is about 35.55 percent. Further, it has been observed that the dominant source of OTIE is managerial inefficiency and scale inefficiency is relatively less dominating.
Nitin Arora <i>Testing of Technical Efficiency Catching-up in Indian Sugar Industry: A Longitudinal Analysis of Sugar Producing States</i>	1974/75 to 2004/05	Full cumulative data envelopment analysis (DEA)	Three Inputs- 1. Total Workers 2. Intermediate inputs 3. Capacity Adjusted GFC	One Output- 1. Gross Output	-Overall inefficiency in sugar industry to the tune of 35.55%, driven by high levels of managerial inefficiency. -Decline in the average efficiency in the post 91-reforms period. -Convergence is positive in the pre-reform period, but the phenomenon of convergence, which was present in pre-reforms years, has been found completely disappeared from the scene during the post-reforms period.
SP Singh <i>Performance of Sugar Mills in Uttar Pradesh by Ownership, Size and Location</i>	1996-97 to 2002-03	DEA model	Six inputs- 1. Net fixed capital 2. Working capital 3. Labour 4. Raw material 5. Energy 6. Fuel	Two Outputs- 1. Sugar production 2. Molasses production	- Average overall technical efficiency (OTE) in the sugar mills of UP has been 93 per cent i.e. an average mill operates with an inefficiency of 7%. - The private sector mills achieve the highest efficiency scores, followed by the cooperative sector. It has also been observed that the mills with bigger plant size attain relatively higher efficiency scores.
Sunil Kumar and Nitin Arora <i>Assessing Technical Efficiency of Sugar Industry in Uttar Pradesh: An Application of Data Envelopment Analysis</i>	2003-04	DEA model	Four inputs- 1. Gross fixed capital 2. Fuel consumed 3. Material consumed 4. Labour	Two outputs- 1. Sugar produced 2. Molasses produced	The empirical results reveal that mean overall technical inefficiency (OTIE) is about 19 percent, and both managerial and scale inefficiencies contribute almost equal to observed OTIE. Also, a majority of firms need downsizing in the scale of their operations.
Nitin Arora <i>Technical Efficiency and Profitability in the Sugar Industry of Punjab: A Firm Level Non-parametric Analysis</i>	2003-04	DEA model	Three inputs- 1. Gross fixed capital, 2. Labour 3. Intermediate inputs	Two outputs- 1. Ex-factory gross output 2. Ex-factory Molasses produced	-Average overall technical inefficiency to the tune of 18.44 percent in the sugar industry of Punjab driven by managerial efficiency. -Low-Profitability of Sugar firms in Punjab is, 27% firms operating with negative profitability
M. Balasubramanian <i>Financial Performance of Sugar Industries in India</i>	1994-2004	Econometric analysis of growth and capital utilisation	The analysis studies Sugarcane area, production and Yield; and ethanol consumption	Molasses production; Export, import and domestic consumption of sugar	Most of sugar units in India utilize production capacity below 50%. Low capacity utilization, Mounting losses and decreasing net worth of sugar factories have been responsible for sickness of India's sugar industry.
Sarbapriya Ray <i>Reviewing Performance of Indian Sugar Industry: An Economic Analysis</i>	1979-80 to 2008-09	Econometric analysis of capacity utilization	Analysis used inputs of labour, fuel and capital stock	Real value added by the manufacturers was used as output.	There has been diminishing capacity utilization growth rate in this industry during post reform period. The impact of liberalization on economic capacity utilization of Indian sugar industry is noticed to have significant negative impact.

RESEARCH AND METHODOLOGY

The notion of efficiency in economics, as developed by Farrell (1957), refers to the minimization of inputs used by a firm to produce a given level of outputs or the maximization of outputs produced by a given set of inputs under a given state of technology. This is also known as technical efficiency where the efficient units cannot reduce any of inputs without increasing another or reducing the output. However, for any given firm or industry the absolute level of efficiency is not known. What may be known is the efficiency of a firm relative to another firm or to some benchmark for the industry, which is the reference technology giving rise to the frontier analysis in efficiency measurement.

Among the non-parametric techniques, formalized first by Charnes, et al. (1978), the Data Envelopment Analysis (DEA) is the most widely used for efficiency measurement in many industries. The project uses the DEA (Data Envelopment Analysis) — a non-parametric approach of mathematical programming, comprising the work of Farrell, strengthened Charnes, Cooper and Rhodes (1978), Fare, Grosskopf and Lovell (1983), Banker, Charnes and Cooper (1984), and Byrns, Fare and Grosskopf (1984). Malmquist productivity indices have been used to analyse the efficiency of the Sugar firms using three inputs and two outputs.

THE ANALYTICAL MODEL – DEA

DEA is a linear programming base technique to workout technical efficiency scores of Decision Making Units (DMUs) in a multiple input and multiple output setting.

Technical efficiency, as explained above, can basically be seen as the managerial ability to avoid waste of resources and how successfully can inputs be converted to outputs.

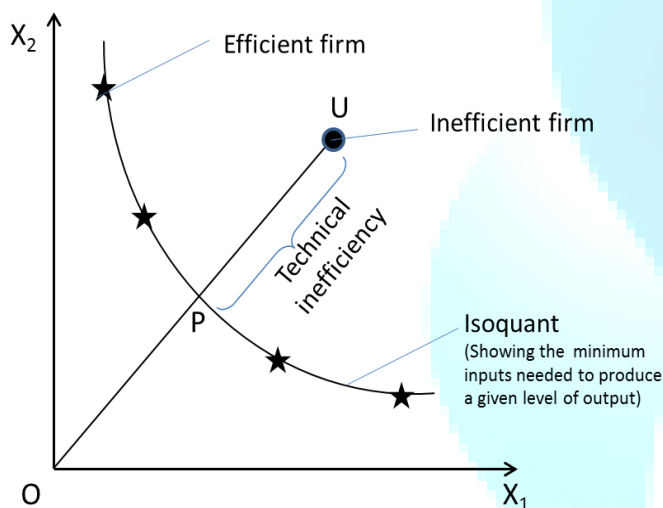
As per the DEA model, each firm or the DMU is interested to maximize its efficiency where efficiency must be less than one. This acts as our constraint, i.e the maximum score a firm can obtain or the score of a fully efficient firm is 1.

Technical efficiency can be analyzed from two perspectives:

- Input Perspective: keeping the outputs fixed and minimizing the inputs.
- Output Perspective: keeping the inputs fixed and maximizing the outputs.

The technical inefficiency exists if it is possible to reduce input for a given level of output, or if it is possible to increase output for a given level of inputs.

FIG. 1: INPUT ORIENTED FRONTIER ANALYSIS

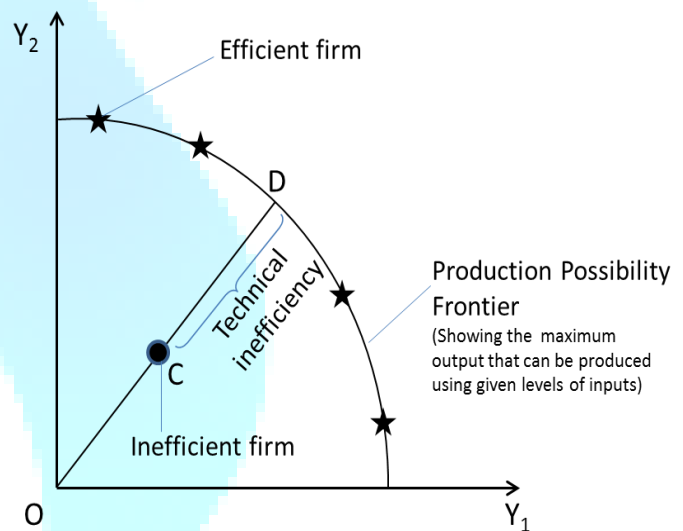


$$\text{Technical Efficiency} = \text{Minimum Input/Actual input} = OP/PU$$

Efficient firms score 1.
Inefficient firms score < 1.

$$\text{Inefficiency} = 1 - \text{Technical efficiency}$$

FIG. 2: OUTPUT ORIENTED FRONTIER ANALYSIS



$$\text{Technical Efficiency} = \text{Actual output/Maximum output} = OC/OD$$

Efficient firms score 1.
Inefficient firms score < 1.

$$\text{Inefficiency} = 1 - \text{Technical efficiency}$$

We in our study use the Output oriented approach which we feel is better suited to our objective of analyzing efficiency of manufacturing firms.

OPTIMIZATION PROBLEMS OF DEA IN ENVELOPMENT FORM

Let

x = Input vector = (x_1, \dots, x_m)

y = Output vector = $((x_1, \dots, x_m)$

n = No. of firms/ DMU's (Decision making Units)

m = Total no. of inputs

s = Total no. of outputs

$j = 1, \dots, n$

$l = 1, \dots, m$

$r = 1, \dots, s$

Now, there are two basic models of DEA – the CCR model and the BCC model.

CCR MODEL OF DEA – CONSTANT RETURNS TO SCALE

Named after its developers Charnes, Cooper and Rhodes, the CCR model assumes Constant returns to scale. This means that the CCR model cannot distinguish between scale efficiency and pure technical (or managerial efficiency).

The optimization problem under CCR-I (input oriented CCR model where we minimize inputs):

Minimise θ_k

Subject to:

$$\sum \lambda_j x_{ij} \leq \theta_k^0 x_{ik}$$

$$\sum \lambda_j y_{rj} \geq y_{rk}$$

$\lambda_j \geq 0$ (λ_j are the weights of the inputs)

The optimization problem under CCR-O (output oriented CCR model where we maximize outputs):

Maximise θ_k^0

Subject to:

$$\sum \lambda_j x_{ij} \leq x_{ik}$$

$$\sum \lambda_j y_{rj} \geq \theta_k^0 y_{rk}$$

$\lambda_j \geq 0$ (λ_j are the weights of the outputs)

Solving the optimisation problems of CCR-I and CCR-O models will give us the CRS-based Overall (or Global) Technical efficiency scores also called Farrell Efficiency scores, without any distinction between scale efficiency and pure technical (or managerial efficiency).

BCC MODEL OF DEA – VARIABLE RETURNS TO SCALE

The Constant Returns to Scale assumption is quite restrictive assumption as it does not prevail in real life. Banker, Carnus and Cooper (1984) relax the assumption of CRS in their model called the BCC model. The BCC model assumes that Variable Returns to Scale (VRS) prevails in the industry; returns to scale may be increasing (IRS), Decreasing (DRS) or Constant (CRS). The BCC model gives us pure efficiency score which reflects only the managerial efficiency and not the scale efficiency.

The optimization problem under BCC-I (input oriented BCC model where we minimize inputs):

Minimise θ_k^1

Subject to:

$$\sum \lambda_j x_{ij} \leq \theta_k^1 x_{ik}$$

$$\sum \lambda_j y_{rj} \geq y_{rk}$$

$\sum \lambda_j = 1$ (This is the convexity constraint. Adding this constraint to CCR model gives us the BCC model)

$\lambda_j \geq 0$ (λ_j are the weights of the inputs)

The optimization problem under BCC-O (output oriented BCC model where we maximize outputs):

Maximise θ_k^0

Subject to:

$$\sum \lambda_j x_{ij} \leq x_{ik}$$

$$\sum \lambda_j y_{rj} \geq \theta_k^0 y_{rk}$$

$\sum \lambda_j = 1$ (This is the convexity constraint. Adding this constraint to CCR model gives us the BCC model)

$\lambda_j \geq 0$ (λ_j are the weights of the outputs)

Solving the optimisation problems of BCC-I and BCC-O models will give us the VRS-based Pure Technical efficiency scores which show the managerial efficiency of a DMU.

SCALE EFFICIENCY

The scale efficiency of a DMU can be calculated as follows-

Scale efficiency = $\frac{\text{CRS-based Overall Technical Efficiency (CCR model)}}{\text{VRS-based Pure Technical Efficiency (BCC model)}}$

i.e. Overall Technical Efficiency (OTE) = Pure Technical Efficiency (PTE) X Scale Efficiency (SE)

MALMQUIST PRODUCTIVITY INDEX

The change productivity of a firm/ an industry over time is an important topic of study.

Malmquist Total Factor Productivity Index is used to capture the total factor productivity growth over a period of time.

Output is a function of the inputs, say Labour (L) and Capital (K)-

$$Y = f(K, L)$$

Labour Productivity = Y/L ; Capital Productivity = Y/K

These however are only partial measures of productivity which capture the impact of only one input and ignore the impact of factor substitution. Thus a more holistic measure is required.

$$\text{Total Factor Productivity (TFP)} = \frac{Y}{wL + rK} ; w \text{ and } r \text{ are the weights.}$$

This captures the effect of both L and K.

Growth in TFP (TFPG) = Output growth – Input growth

$$= Y_t/Y_{t-1} - \{ K_t/K_{t-1} + L_t/L_{t-1} \}$$

Caves, Christensen, and Diewert (1982) introduced the Malmquist index to measure productivity through distance functions. Färe et al. (1994) showed that the index can be directly estimated using nonparametric techniques like data envelopment analysis (DEA). Change in Total Factor Productivity over time can be analyzed if we have panel data (observations of variables over multiple periods of time) with us.

To capture growth, we require at least 2 time periods.

The optimization problems (using Output Oriented approach) can be elucidated as follows-

1. For period t

$$\theta_k^t(x_k^t, y_k^t) = \max \theta_k$$

subject to : $\sum \lambda_j x_{ij}^t \leq x_{ik}^t$

$$\sum \lambda_j y_{rj}^t \geq y_{rk}^t \theta_k$$

$$\lambda_j \geq 0$$

2. For period t+1

$$\theta_k^{t+1}(x_k^{t+1}, y_k^{t+1}) = \max \theta_k$$

subject to : $\sum \lambda_j x_{ij}^{t+1} \leq x_{ik}^{t+1}$

$$\sum \lambda_j y_{rj}^{t+1} \geq y_{rk}^{t+1} \theta_k$$

$$\lambda_j \geq 0$$

3. To measure technological change (positive or negative),

$$\theta_k^t(x_k^{t+1}, y_k^{t+1}) = \max \theta_k$$

subject to : $\sum \lambda_j x_{ij}^t \leq x_{ik}^{t+1}$

$$\sum \lambda_j y_{rj}^t \geq y_{rk}^{t+1} \theta_k$$

$$\lambda_j \geq 0$$

and,

$$4. \theta_k^{t+1}(x_k^t, y_k^t) = \max \theta_k$$

subject to : $\sum \lambda_j x_{ij}^{t+1} \leq x_{ik}^t$

$$\sum \lambda_j y_{rj}^{t+1} \geq y_{rk}^t \theta_k$$

$$\lambda_j \geq 0$$

Using the four optimization problems, we get the Malmquist Productivity Index-

$$MPI = \underbrace{\frac{\theta_k^t(x^t, y^t)}{\theta_k^{t+1}(x^{t+1}, y^{t+1})}}_{\text{Technical efficiency change (Catching-up effect)}} \times \underbrace{\left(\frac{\theta_k^{t+1}(x^{t+1}, y^{t+1})}{\theta_k^t(x^t, y^t)} \times \frac{\theta_k^t(x^t, y^t)}{\theta_k^{t+1}(x^{t+1}, y^{t+1})} \right)}_{\text{Technological change (Innovation effect)}}$$

The MPI is composed of 2 parts-

1. *The Technical Efficiency Change*- The first term in the expression shows the technical efficiency change. This captures the catching-up effect, i.e., how successfully a firm has been able to move towards the efficient frontier over time.
2. *The Technological Progress*- The second term shows the technological progress of firm over time. This captures the innovation effect and the how the firm's production frontier has changed in shape due to technological advancement/ progress over time.

The Technical Efficiency Change (the first term), as we know is, further comprises of two components-

- a) The Pure Technical Efficiency (the managerial efficiency) change
- b) The Scale Efficiency change

Thus,

$$\begin{aligned} \text{Malmquist Productivity Index (MPI)} &= \text{Technical Efficiency change (TECH)} \times \text{Technological Progress (TC)} \\ &= [\text{Pure Technical Efficiency Change (PTECH)} \times \text{Scale Efficiency change (SECH)}] \times \text{Technical Change (TC)} \end{aligned}$$

$$MPI = \frac{PTECH \times SECH \times TC}{TECH}$$

$$MPI = 1 \rightarrow \text{No Growth}$$

$$MPI > 1 \rightarrow \text{TFP Growth}$$

$$MPI < 1 \rightarrow \text{TFP deceleration}$$

$$\text{Total Factor Productivity Growth, TFPG} = (MPI - 1) \times 100$$

TIME PERIOD OF STUDY

The project attempts to analyze the efficiency of Sugar Manufacturing industry of India and the individual firms over a period of five years — 2009-2013.

CHOICE OF FIRMS AND DATA COLLECTION

A sample of 46 sugar manufacturing firms of India was chosen, on the basis of the availability of data study period.

The firms are as follows:

TABLE 2

1	Bajaj Hindusthan Sugar Ltd.	24	RaiBahadurNarain Singh Sugar Mills Ltd.
2	Bannari Amman Sugars Ltd.	25	Rajshree Sugars & Chemicals Ltd.
3	Dalmia Bharat Sugar &Inds. Ltd.	26	Rana Sugars Ltd.
4	Dewan Sugars Ltd.	27	Riga Sugar Co. Ltd.
5	Dhampur Sugar Mills Ltd.	28	S B E C Sugar Ltd.
6	Dharani Sugars & Chemicals Ltd.	29	Sakthi Sugars Ltd.
7	Dwarikesh Sugar Inds. Ltd.	30	SeksariaBiswan Sugar Factory Pvt. Ltd.
8	E I D-Parry (India) Ltd.	31	Shakumbari Sugar & Allied Inds. Ltd.
9	Gayatri Sugars Ltd.	32	Shamanur Sugars Ltd.
10	Gobind Sugar Mills Ltd.	33	Shree Ambika Sugars Ltd.
11	Indian Sucrose Ltd.	34	Shree Renuka Sugars Ltd.
12	Jeypore Sugar Co. Ltd.	35	Simbhaoli Sugars Ltd.
13	K C P Sugar &Inds. Corpn. Ltd.	36	Sir ShadiLal Enterprises Ltd.
14	K M Sugar Mills Ltd.	37	Sri Chamundeswari Sugars Ltd.
15	Khaitan (India) Ltd.	38	Tamil Nadu Sugar Corpn. Ltd.
16	Kothari Sugars & Chemicals Ltd.	39	ThiruArooran Sugars Ltd.
17	Mawana Sugars Ltd.	40	Tikaula Sugar Mills Ltd.
18	Modi Industries Ltd.	41	Trident Sugars Ltd.
19	Naraingarh Sugar Mills Ltd.	42	Triveni Engineering &Inds. Ltd.
20	Oudh Sugar Mills Ltd.	43	Ugar Sugar Works Ltd.
21	Parrys Sugar Inds. Ltd.	44	United Provinces Sugar Co. Ltd.
22	Ponni Sugars (Erode) Ltd.	45	Upper Ganges Sugar &Inds. Ltd.
23	Prudential Sugar Corpn. Ltd.	46	Uttam Sugar Mills Ltd.

SELECTION OF INPUTS AND OUTPUTS

We use two outputs and three inputs.

OUTPUTS

1. Total Sales
2. Profit after Tax

INPUTS

1. Raw Materials, Stores and Spare
2. Compensation of Employees
3. Selling and Distribution Expenses

All data for the firms was collected from the CMIE (Centre for Monitoring Indian Economy) data base using PROWESS

4. In the query builder, a new OSC (Output Sheet for Companies) was created by selecting sugar manufacturing industries in 'Select company by pre-defined sets' and clicking on 'Send to new OSC'. This added a list of all Indian sugar manufacturing firms which are in records in CMIE in our output sheet.

5. Next, 'Annual Financial Statement' was selected under 'Query by Financial Statements'. All our required data variables (i.e. Total Sales, Profit after Tax, Raw Materials, Stores and Spare, Compensation of Employees and Selling and Distribution Expenses) were selected in the Annual Financial Statement.
6. Query on date and output on date field was filled as 032009-032013 (which shows the time period for which we need data i.e. March 2009 to March 2013, annually).
7. All selected variables were added to the output sheet with the firms by clicking on 'Send to current OSC' (the *standalone* values were taken for all variables). This gave us our output sheet with all sugar firms with selected data. The output sheet was saved as Excel file.
8. Next, the firms for which any data for any year was unavailable were dropped from the list. Finally, we had a sample of 46 firms with the required data for both outputs and all three inputs for the period 2009-2013.

DEFLATING THE MONETARY VALUES

TABLE 3: WPI OF SUGAR 2009-13

Financial Year	WPI of Sugar (Base 2004-05)
2013-14	188.42
2012-13	193.1
2011-12	173.44
2010-11	165.02
2009-10	166.79
2008-09	108.54

The values of all the inputs and outputs were deflated using the Whole price indices of Sugar as shown in the table.

The indices were taken from office of economic adviser, Ministry of Commerce and Industry, Government of India website. The base year is 2004 - 2005.

The DEAP Version 2.1- The Data Envelopment Analysis (Computer) Program written by Tim Coelli, Department of Econometrics, University of New England was used to run the output oriented Malmquist-DEA Model.

RESULTS AND INTERPRETATION

MEAN EFFICIENCY SCORES

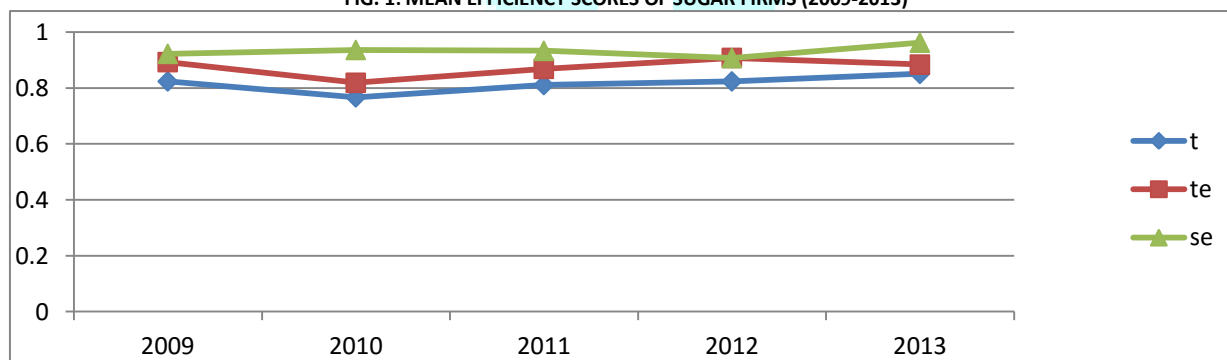
First we analyze the overall technical efficiency, the pure technical efficiency and the scale efficiency of India's sugar industry as a whole for the study period. The table showing these scores for is as follows.

TABLE 4: MEAN EFFICIENCY SCORES OF SUGAR FIRMS (2009-2013)

Year	Mean Overall Technical Efficiency Score of all Firms (t)	Mean Pure Technical Efficiency Score of all Firms (te)	Mean Scale Efficiency Score of all Firms (se= t/te)
2009	0.824	0.893	0.922732363
2010	0.767	0.819	0.936507937
2011	0.811	0.869	0.933256617
2012	0.824	0.908	0.907488987
2013	0.851	0.884	0.962669683
Average	0.814	0.874	0.932355185

On an average (found using geometric mean), the sugar industry achieved an efficiency score of 0.814 over the period 2009-13. This implies that the sugar industry operated with an overall technical inefficiency (OTIE) to the tune of 18.6% during our study period. This suggests that by adopting best-practices, on an average, a representative sugar mill can increase its output by 18.5% percent by deploying the same level of inputs. The OTIE is driven by the scale efficiency rather than the pure technical inefficiency. For all periods excluding the year 2012 the overall efficiency scores are driven by the scale efficiency scores. For year 2012, the pure technical efficiency and the scale efficiency are almost the same, thus we conclude that for four out of five periods the efficiency scores are driven more by the scale efficiency scores rather than the pure technical efficiency. This shows that Indian sugar industrial suffers from managerial inefficiency. The overall technical efficiency showed a decline in 2010. The again it shows an upward trend from 2011 which continues till 2013. The reason for decline in 2010 was low production of sugarcane in this year due to unfavourable weather conditions.

FIG. 1: MEAN EFFICIENCY SCORES OF SUGAR FIRMS (2009-2013)



MALMQUIST PRODUCTIVITY INDICES

As explained in methodology, DEA Malmquist model gives us five indices over the study period namely, technical efficiency change (which shows us the catching up effect), technological change which shows (the innovation effects), pure technical efficiency change, scale efficiency change and finally the total factor productivity (TFP) change.

I. FOR THE INDUSTRY

The mean Malmquist indices for the period 2009 – 2013 are given as follows:

TABLE 5: MALMQUIST INDICES FOR SUGAR INDUSTRIES (2009 – 2013)

Technical Efficiency Change (Catching up effect)	Technological Progress/Change (innovation Effect)	Pure Technical Efficiency Change	Scale Efficiency Change	Total Factor Productivity Change
1.01	0.94	0.998	1.011	0.949

$$\text{Total Factor Productivity Growth, TFPG} = (0.949-1) \times 100 = -5.1\%$$

We see that the total factor productivity shows a regress. That is over the period of five years the factor productivity of the sugar industries of India has declined by 5%. We next observe that this decline is driven by the technological progress (which shows a regress). The technical efficiency change is positive (greater than 1). This means that the firms have done well on catching up and moving towards the efficient frontier. However since the change in technological progress is negative, not enough innovation has taken place and there is a technological regress which pulls down the total factor productive change and makes it negative. We further observe that the technical efficiency improvement is driven by the scale efficiency change (which is positive). However the pure technical efficiency change is less than one.

This leads us to conclude that India's sugar industry has grown in scale between 2009 - 2013 but the technology used in the industry is becoming outdated and obsolete.

II. FOR THE FIRMS

We will do a group wise analysis of a firm based on Malmquist indices.

- First let us look at the firms whose total factor productivity change has been positive over our study period.

TABLE 6: FIRMS SHOWING A POSITIVE TOTAL FACTOR PRODUCTIVITY CHANGE OVER 2009-2013

S. No.	Company	Technical Efficiency Change (Catching up effect)	Technological Progress (innovation Effect)	Total Factor Productivity Change
1	Dewan Sugars Ltd.	1.059	0.994	1.053
2	Gayatri Sugars Ltd.	1.003	1.057	1.06
3	Indian Sucrose Ltd.	1.055	0.959	1.012
4	Kothari Sugars & Chemicals Ltd.	1.1	0.923	1.015
5	Parrys Sugar Inds. Ltd.	1.041	1.265	1.318
6	Prudential Sugar Corpn. Ltd.	1.141	0.957	1.092
7	Rajshree Sugars & Chemicals Ltd.	1.072	0.937	1.004
8	Rana Sugars Ltd.	1.116	0.905	1.01
9	SeksariaBiswan Sugar Factory Pvt. Ltd.	1.038	0.966	1.002
10	Shree Renuka Sugars Ltd.	1	1.029	1.029
11	Tamil Nadu Sugar Corpn. Ltd.	1.054	1.011	1.066
12	United Provinces Sugar Co. Ltd.	1.055	1.044	1.102
13	Uttam Sugar Mills Ltd.	1.065	0.983	1.046

There are 13 sugar firms for which the total factor productivity change was positive over our study period.

Parrys Sugar Inds Ltd. Is the firm which shows the maximum total factor productivity growth.

There are only six firms (highlighted) out of 46, including Parrys Sugar Inds Ltd, in which both the technical efficiency change and technological progress are positive leading to a total factor productivity growth to be positive i.e. greater than one. These firms are Parrys Sugar Inds Ltd, United Provinces Sugar Co. Ltd, Gayatri Sugars Ltd, Tamil Nadu Sugar Corpn Ltd and Shree Renuka Sugars Ltd. So these six firms have been able to perform well on catching up as well as innovating.

We see that in all the remaining seven firms where total factor productivity growth is positive, the technical efficiency change is greater than one. It is the lack of sufficient technological progress which has pulled down the Total Factor Productivity growth. However, the technical efficiency change is more dominant and hence the Total Factor Productivity growth is positive.

- Now let us look at the firms which technical efficiency change is positive but the technological progress and Total Factor Productivity change both are negative.

TABLE 7: FIRMS SHOWING A POSITIVE TECHNICAL EFFICIENCY CHANGE OVER 2009-2013

S.No.	Company	Technical Efficiency Change (Catching up effect)	Technological Progress (innovation Effect)	Total Factor Productivity Change
1	Bannari Amman Sugars Ltd.	1.038	0.899	0.933
2	Dharani Sugars & Chemicals Ltd.	1.046	0.943	0.987
3	E I D-Parry (India) Ltd.	1	0.747	0.747
4	Jeypore Sugar Co. Ltd.	1.052	0.943	0.992
5	K C P Sugar & Inds. Corpn. Ltd.	1.029	0.971	0.999
6	Khaitan (India) Ltd.	1.034	0.844	0.872
7	Mawana Sugars Ltd.	1.048	0.942	0.987
8	Modi Industries Ltd.	1.068	0.861	0.92
9	Naraingarh Sugar Mills Ltd.	1	0.921	0.921
10	Ponni Sugars (Erode) Ltd.	1	0.975	0.975
11	RaiBahadurNarain Singh Sugar Mills Ltd	1.002	0.938	0.94
12	Sakthi Sugars Ltd.	1.06	0.9	0.954
13	Sir ShadiLal Enterprises Ltd.	1.08	0.854	0.922
14	Ugar Sugar Works Ltd.	1.063	0.937	0.996

In all the above 14 firms the technical efficiency is positive but it not enough to drive the Total Factor Productivity change to positive. The negative effect of the technological progress dominates the positive effect of technical efficiency change and hence the total factor productivity growth is negative.

- It was found from the results that among the firms with negative total efficiency change, the negative change in technological progress was greater than the negative change in total efficiency for majority of the firms. There were only five firms for which the negative change of technological progress was less than the negative change in total efficiency; for rest all, the negative change in technological progress was higher, reinforcing the fact that there is lack of technological innovation in the sugar firms.
- There are only six firms for which the technological progress is positive and for all these firms the Total Factor Productivity growth is positive (see Table 6). There is no firm for which the technological progress is positive and the Total Factor Productivity growth is negative.

Now let us look at the scale efficiency and the pure technical efficiency scores.

First we look at the firms whose scale efficiency change has been positive.

TABLE 8: FIRMS SHOWING A POSITIVE SCALE EFFICIENCY CHANGE OVER 2009-2013

S.No.	Company	Scale Efficiency Change
1	Bannari Amman Sugars Ltd.	1.017
2	Dewan Sugars Ltd.	1.116
3	Dhampur Sugar Mills Ltd.	1.057
4	E I D-Parry (India) Ltd.	1
5	Gayatri Sugars Ltd.	1.009
6	Gobind Sugar Mills Ltd.	1
7	Indian Sucrose Ltd.	1.028
8	Jeypore Sugar Co. Ltd.	1.016
9	K C P Sugar & Inds. Corp. Ltd.	1.003
10	Khaitan (India) Ltd.	1.034
11	Kothari Sugars & Chemicals Ltd.	1.021
12	Mawana Sugars Ltd.	1.039
13	Modi Industries Ltd.	1.016
14	Naraingarh Sugar Mills Ltd.	1
15	Parrys Sugar Inds. Ltd.	1.041
16	Ponni Sugars (Erode) Ltd.	1
17	Prudential Sugar Corp. Ltd.	1.009
18	Rai Bahadur Narain Singh Sugar Mills Ltd.	1.001
19	Rajshree Sugars & Chemicals Ltd.	1.017
20	Rana Sugars Ltd.	1.036
21	S B E C Sugar Ltd.	1.001
22	Sakthi Sugars Ltd.	1.054
23	Seksaria Biswan Sugar Factory Pvt. Ltd.	1.011
24	Shakumbari Sugar & Allied Inds. Ltd.	1.001
25	Shree Renuka Sugars Ltd.	1
26	Simbhaoli Sugars Ltd.	1.021
27	Sir Shadi Lal Enterprises Ltd.	1.01
28	Sri Chamundeswari Sugars Ltd.	1.007
29	Tamil Nadu Sugar Corp. Ltd.	1.014
30	Tikaula Sugar Mills Ltd.	1
31	Ugar Sugar Works Ltd.	1.035
32	United Provinces Sugar Co. Ltd.	1.019
33	Upper Ganges Sugar & Inds. Ltd.	1.007
34	Uttam Sugar Mills Ltd.	1.061

There are 34 firms out of 46 for which the scale efficiency change has been positive. That is around 73 % firms in the industry have grown in scale efficiency.

Now let us look at the firms for which the pure technical efficiency change is positive.

TABLE 9: FIRMS SHOWING A POSITIVE PURE TECHNICAL EFFICIENCY CHANGE OVER 2009-2013

S.No.	Company	Pure Technical Efficiency Change
1	Bajaj Hindusthan Sugar Ltd.	1
2	Bannari Amman Sugars Ltd.	1.021
3	Dalmia Bharat Sugar & Inds. Ltd.	1
4	Dharani Sugars & Chemicals Ltd.	1.05
5	E I D-Parry (India) Ltd.	1
6	Indian Sucrose Ltd.	1.026
7	Jeypore Sugar Co. Ltd.	1.035
8	K C P Sugar & Inds. Corp. Ltd.	1.026
9	Khaitan (India) Ltd.	1
10	Kothari Sugars & Chemicals Ltd.	1.077
11	Mawana Sugars Ltd.	1.008
12	Modi Industries Ltd.	1.052
13	Naraingarh Sugar Mills Ltd.	1
14	Parrys Sugar Inds. Ltd.	1
15	Ponni Sugars (Erode) Ltd.	1
16	Prudential Sugar Corp. Ltd.	1.131
17	Rai Bahadur Narain Singh Sugar Mills Ltd.	1.001
18	Rajshree Sugars & Chemicals Ltd.	1.054
19	Rana Sugars Ltd.	1.078
20	Sakthi Sugars Ltd.	1.005
21	Seksaria Biswan Sugar Factory Pvt. Ltd.	1.027
22	Shree Renuka Sugars Ltd.	1
23	Sir Shadi Lal Enterprises Ltd.	1.068
24	Tamil Nadu Sugar Corp. Ltd.	1.039
25	Ugar Sugar Works Ltd.	1.027
26	United Provinces Sugar Co. Ltd.	1.035
27	Uttam Sugar Mills Ltd.	1.003

We see that there are only 27 out of 46 firms which show a positive growth in pure technical efficiency (managerial efficiency) i.e. 58% firms showed a growth in pure technical efficiency. This is less than the percentage of firms which showed a growth in scale efficiency (73%), thus more firms showed a growth in scale efficiency than pure technical efficiency.

Comparing scale efficiency change and pure technical efficiency change.

TABLE 10: COMPARISON OF SCALE EFFICIENCY CHANGE AND PURE TECHNICAL EFFICIENCY CHANGE OF FIRMS (2009-13)

S.No.	Company	Technical efficiency change	Pure technical efficiency change	Scale Efficiency Change	Total Factor Productivity Change
1	Bajaj Hindusthan Sugar Ltd.	0.933	1	0.933	0.88
2	Bannari Amman Sugars Ltd.	1.038	1.021	1.017	0.933
3	Dalmia Bharat Sugar & Inds. Ltd.	0.98	1	0.98	0.811
4	Dewan Sugars Ltd.	1.059	0.949	1.116	1.053
5	Dhampur Sugar Mills Ltd.	0.946	0.895	1.057	0.88
6	Dharani Sugars & Chemicals Ltd.	1.046	1.05	0.997	0.987
7	Dwarikesh Sugar Inds. Ltd.	0.975	0.988	0.986	0.904
8	E I D-Parry (India) Ltd.	1	1	1	0.747
9	Gayatri Sugars Ltd.	1.003	0.994	1.009	1.06
10	Gobind Sugar Mills Ltd.	0.93	0.93	1	0.874
11	Indian Sucrose Ltd.	1.055	1.026	1.028	1.012
12	Jeypore Sugar Co. Ltd.	1.052	1.035	1.016	0.992
13	K C P Sugar & Inds. Corp. Ltd.	1.029	1.026	1.003	0.999
14	K M Sugar Mills Ltd.	0.996	0.999	0.997	0.955
15	Khaitan (India) Ltd.	1.034	1	1.034	0.872
16	Kothari Sugars & Chemicals Ltd.	1.1	1.077	1.021	1.015
17	Mawana Sugars Ltd.	1.048	1.008	1.039	0.987
18	Modi Industries Ltd.	1.068	1.052	1.016	0.92
19	Naraingarh Sugar Mills Ltd.	1	1	1	0.921
20	Oudh Sugar Mills Ltd.	0.962	0.964	0.998	0.916
21	Parrys Sugar Inds. Ltd.	1.041	1	1.041	1.318
22	Ponni Sugars (Erode) Ltd.	1	1	1	0.975
23	Prudential Sugar Corp. Ltd.	1.141	1.131	1.009	1.092
24	Rai Bahadur Narain Singh Sugar Mills Ltd.	1.002	1.001	1.001	0.94
25	Rajshree Sugars & Chemicals Ltd.	1.072	1.054	1.017	1.004
26	Rana Sugars Ltd.	1.116	1.078	1.036	1.01
27	Riga Sugar Co. Ltd.	0.976	0.988	0.988	0.9
28	S B E C Sugar Ltd.	0.979	0.978	1.001	0.968
29	Sakthi Sugars Ltd.	1.06	1.005	1.054	0.954
30	Seksaria Biswan Sugar Factory Pvt. Ltd.	1.038	1.027	1.011	1.002
31	Shakumbari Sugar & Allied Inds. Ltd.	0.961	0.96	1.001	0.899
32	Shamanur Sugars Ltd.	0.974	0.989	0.984	0.936
33	Shree Ambika Sugars Ltd.	0.932	0.935	0.997	0.853
34	Shree Renuka Sugars Ltd.	1	1	1	1.029
35	Simbhaoli Sugars Ltd.	0.969	0.949	1.021	0.923
36	Sir Shadi Lal Enterprises Ltd.	1.08	1.068	1.01	0.922
37	Sri Chamundeswari Sugars Ltd.	0.986	0.979	1.007	0.831
38	Tamil Nadu Sugar Corp. Ltd.	1.054	1.039	1.014	1.066
39	Thiru Arooran Sugars Ltd.	0.933	0.937	0.996	0.843
40	Tikaula Sugar Mills Ltd.	0.962	0.962	1	0.952
41	Trident Sugars Ltd.	0.934	0.937	0.997	0.864
42	Triveni Engineering & Inds. Ltd.	0.959	0.981	0.978	0.86
43	Ugar Sugar Works Ltd.	1.063	1.027	1.035	0.996
44	United Provinces Sugar Co. Ltd.	1.055	1.035	1.019	1.102
45	Upper Ganges Sugar & Inds. Ltd.	0.898	0.893	1.007	0.838
46	Uttam Sugar Mills Ltd.	1.065	1.003	1.061	1.046

There are 21 firms (highlighted in yellow) for which the scale efficiency change outperforms the pure technical efficiency change. The pure technical efficiency change in these firms plays a bigger role in driving down the overall technical efficiency scores and hence the total factor productivity change.

There are 19 firms (highlighted in blue) for which the pure technical efficiency change outperforms the scale efficiency change. The scale efficiency change in these firms plays a bigger role in driving down the overall technical efficiency scores and hence the total factor productivity change.

Thus we see that overall the number of firms where scale efficiency outperforms the pure technical is higher. This means that it is the scale efficiency which majorly drives the technical efficiency which in turn drives the total factor productivity.

CONCLUSION

We found that the Indian Sugar industry operated with an average overall technical inefficiency (OTIE) to the tune of 18.6% during the period 2009-13. The overall inefficiency is driven by managerial efficiency rather than the scale efficiency which shows that there is a need to improve the managerial efficiency in Indian sugar manufacturing firms. We saw that the total factor productivity change of the sugar industry shows a regress from 2009 to 2013. The productivity declined by 5.1%. This decline is majorly driven by the negative technological progress scores. This thus leads us to conclude the sugar industry of India is suffering from obsolete and outdated technology and needs technological innovation. Furthermore we see that the technical efficiency growth is driven more by scale efficiency growth and not by the managerial efficiency growth for majority of firms. This reestablishes the fact that there is a need to improve the managerial efficiency in our government protected sugar industry. We conclude by stating that the sugar firms can eliminate the inefficiency that are currently operating with if they improve their managerial efficiency and are made to function more competitively by reducing the amount of government protection given to them.

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A STUDY ON CUSTOMER SATISFACTION OF FASTRACK WATCHES IN MYSORE

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ABSTRACT

Customer satisfaction is a measure of how products and services supplied by a company meet or surpass customer expectation. Customer satisfaction is defined as "The number of customers, or percentage of total customers, whose reported experience with a firm, its products, or its services exceeds specified satisfaction goals." The purpose of this work is to find out the satisfaction level of customers of fast-track. This article focuses on the concept of satisfaction of the customers of a particular brand of wrist watch, fast-track. The satisfaction is measured by considering various aspects like quality, pricing, after sales service, product design etc. The responses were collected from the customers by using a questionnaire.

KEYWORDS

customer satisfaction, fastrack watches.

INTRODUCTION

Marketing is a very important aspect in business since it contributes greatly to the success of the organization. Getting the product or service recognized by the market is the primary goal of marketing. The term marketing concept holds that achieving organizational goals depends on knowing the needs and wants of target markets and delivering the desired satisfactions. It proposes that in order to satisfy its organizational objectives, an organization should anticipate the needs and wants of consumers and satisfy these more effectively than competitors.

Customer satisfaction is a measure of how products and services supplied by a company meet or surpass customer expectation. Customer satisfaction is defined as "the number of customers, or percentage of total customers, whose reported experience with a firm, its products, or its services exceeds specified satisfaction goals".

This article is a modest attempt to identify the satisfaction level of the customers of 'fastrack' watches.

Customer satisfaction is seen as a key performance indicator within business and is often part of a Balanced Scorecard. In a competitive marketplace where businesses compete for customers, customer satisfaction is seen as a key differentiator and increasingly has become a key element of business strategy.

Within organizations, customer satisfaction ratings can have powerful effects. They focus employees on the importance of fulfilling customers' expectations. Furthermore, when these ratings dip, they warn of problems that can affect sales and profitability. These metrics quantify an important dynamic. When a brand has loyal customers, it gains positive word-of-mouth marketing, which is both free and highly effective.

Therefore, it is essential for businesses to effectively manage customer satisfaction. To be able to do this, firms need reliable and representative measures of satisfaction.

In researching satisfaction, firms generally ask customers whether their product or service has met or exceeded expectations. Thus, expectations are a key factor behind satisfaction. When customers have high expectations and the reality falls short, they will be disappointed and will likely rate their experience as less than satisfying.

Customer satisfaction provides a leading indicator of consumer purchase intentions and loyalty. Customer satisfaction data are among the most frequently collected indicators of market perceptions. Their principal use is twofold.

1. Within organizations, the collection, analysis and dissemination of these data send a message about the importance of tending to customers and ensuring that they have a positive experience with the company's goods and services.
2. Although sales or market share can indicate how well a firm is performing currently, satisfaction is perhaps the best indicator of how likely it is that the firm's customers will make further purchases in the future. When a customer is satisfied with a product, he or she might recommend it to friends, relatives and colleagues. This can be a powerful marketing advantage. Willingness to recommend is a key metric relating to customer satisfaction.

Organizations need to retain existing customers while targeting non customers. Measuring customer satisfaction provides an indication of how successful the organization is at providing products and/or services to the marketplace.

Customer satisfaction is measured at the individual level, but it is almost always reported at an aggregate level. It can be, and often is, measured along various dimensions.

Customer satisfaction is an ambiguous and abstract concept and the actual manifestation of the state of satisfaction will vary from person to person and product/service to product/service. The state of satisfaction depends on a number of both psychological and physical variables, which correlate with satisfaction behaviors such as return and recommend rate. The level of satisfaction can also vary depending on other options the customer may have and other products against which the customer can compare the organization's products.

OBJECTIVES

1. To know the customers' review about fast-track.
2. To analyze the satisfaction level of the customers of fast-track watches.

DEFINITION

Customer satisfaction is a measure of how products and services supplied by a company meet or surpass customer expectation.

Every customer expects satisfaction from the products they are purchasing. They are always trying to get those products, which can give them more satisfaction. They are defining satisfaction by considering many aspects like quality, customer service, collections of product, and price. Therefore, an ideal product should be capable to satisfy all these aspects, in order to attract the customer.

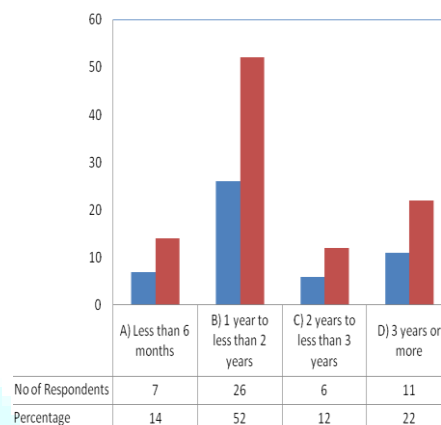
In the market, customer is the king. If there is no customer for a product, then doing that business will be useless. Every organization has to check periodically that how satisfied are their customers. They must know that how is the reviews of the public about their products. This will help them to make their products/services more satisfactory to the customers than that of their competitors. If the products/services are satisfactory, then the customers will be loyal to the brand.

The wrist watch industry is a highly competitive industry. All the companies are trying to make their brand name stable in the customer's mind. For this purpose they are trying to make their product maximum satisfactory to the customers in all aspects.

Here, we are trying to know the satisfaction level of the customers of fastrack watches. Here the problem is that "How satisfied are the customers of fastrack watches?" It is a question which is very important for the company to review its strategies about customer satisfaction.

1. HOW LONG HAVE YOU USED FASTRACK WATCHES?

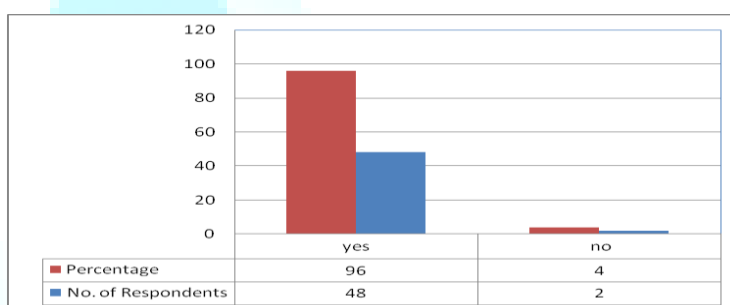
OPTIONS	NO. OF RESPONDANTS	PERCENTAGE (%)
a) Less than 6 months	7	14
b) 1 year to less than 2 years	26	52
c) 2 years to less than 3 years	6	12
d) 3 years or more	11	22



INTERPRETATION: The above information shows that 52% of the respondents are using fastrack watches from 1 year to less than 2 years. 22% are using for 3 years or more. 14% of the respondents are using for less than 6 months and 12% are using from 2 years to less than 3 years.

2. ARE YOU SATISFIED WITH FASTRACK WATCHES ?

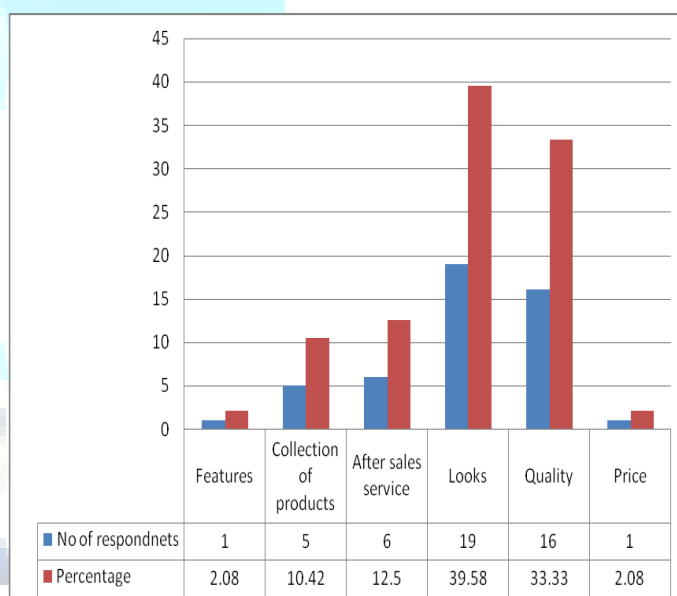
OPTIONS	NO. OF RESPONDANTS	PERCENTAGE (%)
a) Yes	48	96
b) No	2	4



INTERPRETATION: The above observation indicates 96% of the respondents are satisfied with fastrack watches. Only 4% are not satisfied.

3. IF YES, WHICH FACTOR SATISFIES YOU THE MOST?

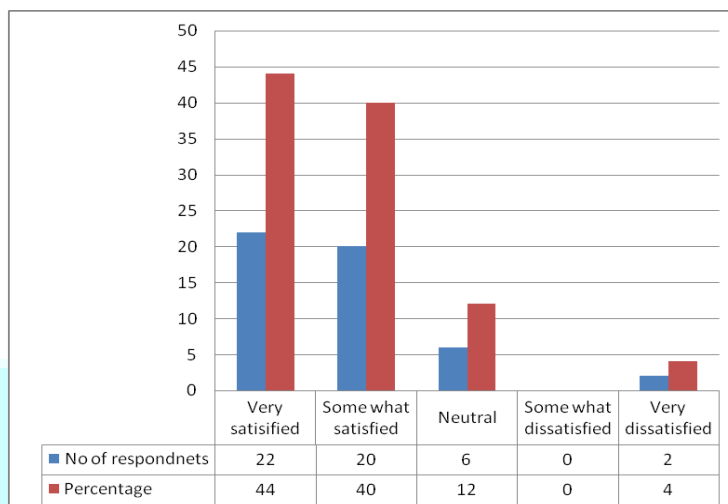
OPTIONS	NO. OF RESPONDANTS	PERCENTAGE (%)
a) Features	1	2.08
b) Collection of products	5	10.42
c) After sales service	6	12.5
d) Looks	19	39.58
e) Quality	16	33.33
f) Price	1	2.08



INTERPRETATION: The above information signifies that majority (39.58%) respondents are satisfied about fastrack because of the looks of the watches. 33.33% of the respondents are satisfied because of its quality. 12.5% is satisfied because of its after sales service. A 2.08% of the respondents are satisfied because of features and another 2.08% of are satisfied because of some other reasons.

4. DO YOU CONSIDER FASTRACK WATCHES QUALITY SATISFACTORY?

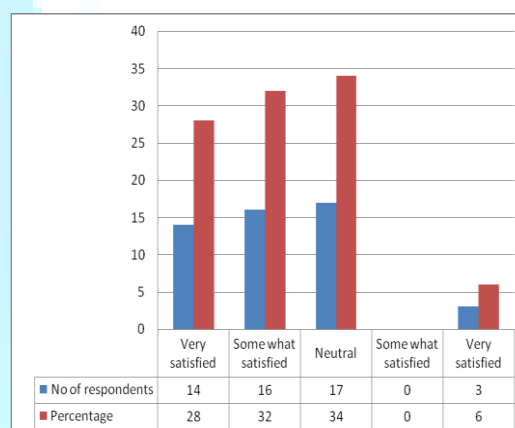
OPTIONS	NO. OF RESPONDANTS	PERCENTAGE (%)
a) Very satisfied	22	44
b) Somewhat satisfied	20	40
c) Neutral	6	12
d) Some what dissatisfied	0	0
e) Very dissatisfied	2	4



INTERPRETATION: The above information indicates that 44% of the respondents are very satisfied with the Quality of fastrack watches. 40 percentage are somewhat satisfied. 12% of the respondents are neutral and 4% are very dissatisfied about the quality of fastrack watches.

5. WHAT IS YOUR OPINION ABOUT THE CUSTOMER SERVICE OF FASTRACK?

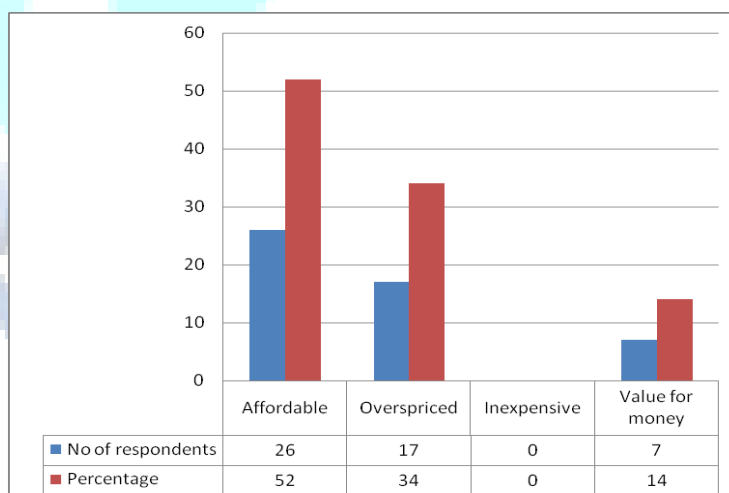
OPTIONS	NO. OF RESPONDANTS	PERCENTAGE (%)
a) Very satisfied	14	28
b) Somewhat satisfied	16	32
c) Neutral	17	34
d) Some what dissatisfied	0	0
e) Very dissatisfied	3	6



INTERPRETATION : The above information indicates that 34% of the respondents are neutral about the customer service of fastrack watches. 32 percentage are some what satisfied. 28% of the respondents are very satisfied and 6% are very dissatisfied about the customer service of fastrack watches.

6. WHAT DO YOU THINK ABOUT FASTRACK WATCHES WHEN CONSIDERING ITS PRICE ?

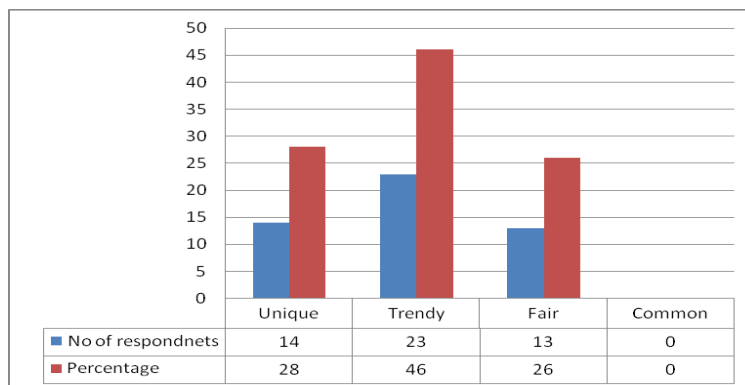
OPTIONS	NO. OF RESPONDANTS	PERCENTAGE (%)
a) Affordable	26	52
b) Overpriced	17	34
c) Inexpensive	0	0
d) Value for money	7	14



INTERPRETATION: The above information signifies that majority (52%) of the respondents are of the opinion that fastrack watches are affordable to buy. 34% says that fastrack watches are overpriced. Only 14% of the respondents think that it gives value for money.

7. WHAT IS YOUR OPINION ABOUT THE LOOKS OF FASTRACK WATCHES?

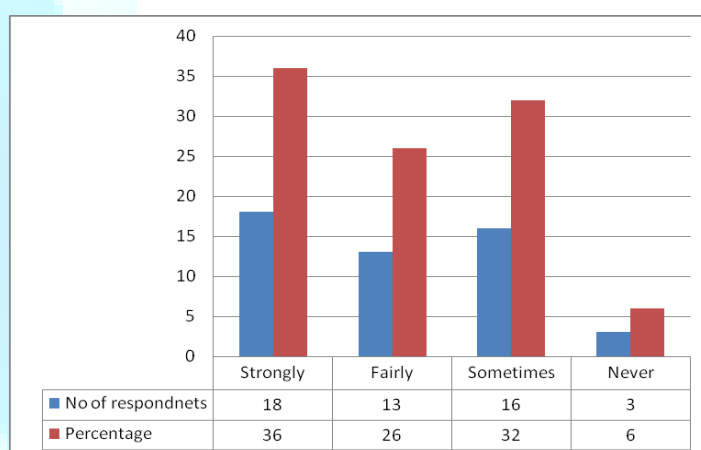
OPTIONS	NO. OF RESPONDANTS	PERCENTAGE (%)
a) Unique	14	28
b) Trendy	23	46
c) Fair	13	26
d) Common	0	0



INTERPRETATION: From the above observations, it is clear that majority (46%) of the respondents feel that fastrack watches look trendy. 28% thinks that the looks of fastrack watches are unique. Only 26% respondents think that the looks are fair.

8. HOW LIKELY IS THAT YOU BUY A FASTRACK WATCH IN YOUR NEXT BUY?

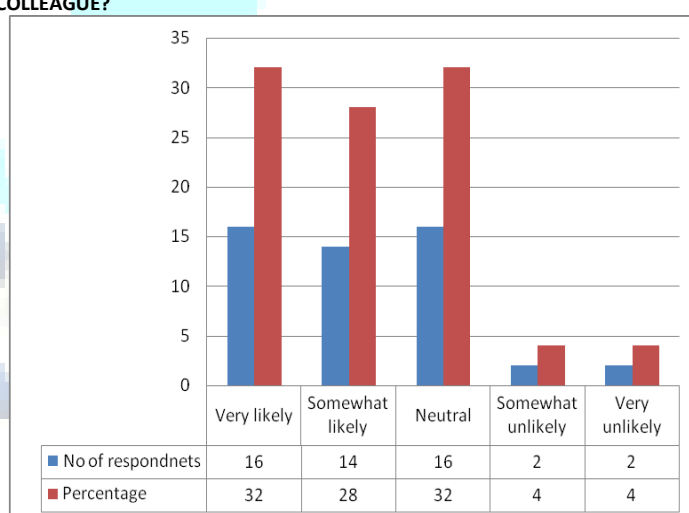
OPTIONS	NO. OF RESPONDANTS	PERCENTAGE (%)
a) Strongly	18	36
b) Fairly	13	26
c) Sometimes	16	32
d) Never	3	6



INTERPRETATION: The above information shows that 36% of the respondents strongly believe that they will buy a fastrack in their next buy as well. 26% fairly say that they will also buy a fastrack at the time of their next buy. 32% of the respondents think that sometimes they will buy a fastrack in their next buy, and 6% thinks that they will never buy a fastrack again.

9. HOW LIKELY IS THAT YOU WOULD RECOMMEND FASTRACK TO A FRIEND/COLLEAGUE?

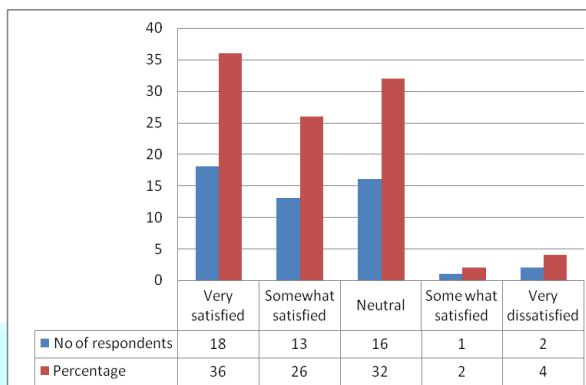
OPTIONS	NO. OF RESPONDANTS	PERCENTAGE (%)
a) Very likely	16	32
b) Some what likely	14	28
c) Neutral	16	32
d) Somewhat unlikely	2	4
e) Very unlikely	2	4



INTERPRETATION: The above observation indicates that 32% of the respondents are very likely to recommend fast track to a friend or colleague. Another 32% of respondents like to stay neutral in recommending. 28% of the respondents are somewhat likely to recommend. 4% respondents are somewhat unlikely to recommend, and another 4% of the respondents are very unlikely to recommend fastrack watches to a friend/Colleague.

10. HOW WOULD YOU RATE YOUR OVERALL SATISFACTION WITH FASTRACK WATCHES?

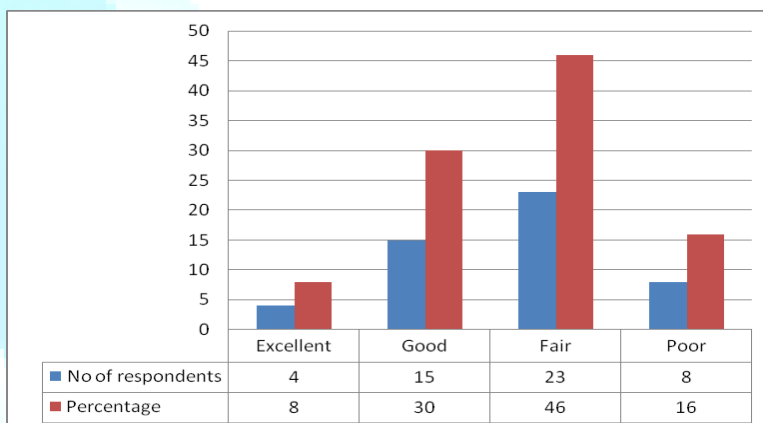
OPTIONS	NO. OF RESPONDANTS	PERCENTAGE (%)
a) Very satisfied	18	36
b) Some what satisfied	13	26
c) Neutral	16	32
d) Somewhat satisfied	1	2
e) Very dissatisfied	2	4



INTERPRETATION: The above information indicates that 36% of the respondents are very satisfied with overall performance of fastrack watches. 32% of the respondents are neutral. 26% of the respondents are somewhat satisfied about fastrack. 4% of the respondents are very dissatisfied about the brand.

11. WHAT IS YOUR OPINION ABOUT COLLECTIONS OF WATCHES OF FASTRACK?

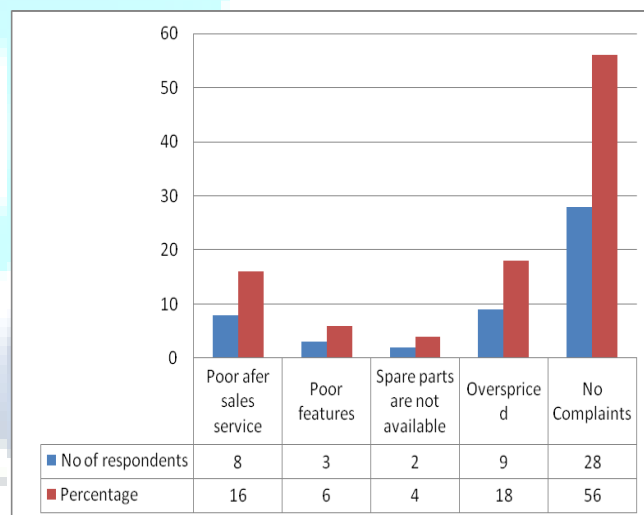
OPTIONS	NO. OF RESPONDANTS	PERCENTAGE (%)
a) Excellent	4	8
b) Good	15	30
c) Fair	23	46
d) Poor	8	16



INTERPRETATION: The above information indicates that 46% of the respondents believe that the collections of fastrack are fair. 30% of the respondents think the collections are good. 8% of the respondents are of the opinion that the collections of fastrack watches are excellent, and 16% think that it is poor.

12. DO YOU HAVE ANY COMPLAINTS ABOUT FASTRACK WATCHES?

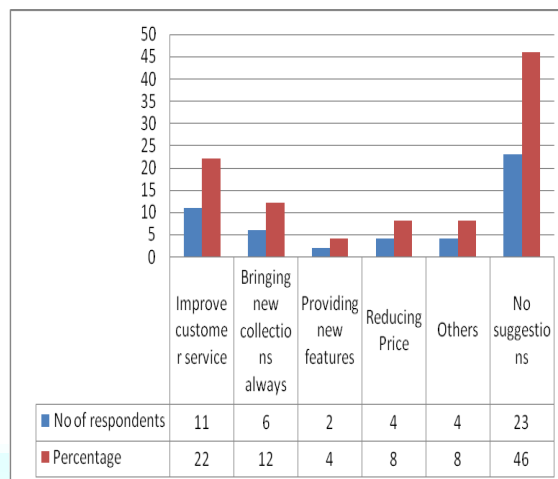
OPTIONS	NO. OF RESPONDANTS	PERCENTAGE (%)
a) Poor after sales service	8	16
b) Poor features	3	6
c) Spare parts are not available	2	4
d) Overpriced	9	18
e) No Complaints	28	56



INTERPRETATION: From the above observations, it is clear that majority (56%) of the respondents have no complains about fastrack watches. 18% of the respondents have a complaint that fastrack watches are over priced. 16% of them are complaining about the poor after sales service. 6% of the respondents have an opinion that the features are poor, and 4% are complaining about the availability of the spare parts.

13. DO YOU HAVE ANY SUGGESTIONS TO IMPROVE THE SATISFACTION LEVEL OF CUSTOMERS OF FASTRACK?

OPTIONS	NO. OF RESPONDANTS	PERCENTAGE (%)
a) By improving customer service	11	22
b) By bringing new collections always	6	12
c) By providing new features	2	4
d) By reducing Price	4	8
e) Others	4	8
f) No suggestions	23	46



INTERPRETATION: The above information indicates that 46% of the respondents do not have any suggestions to improve the customer satisfaction of fastrack watches. 22% of the respondents are suggesting to improve the customer service. 12% have an opinion about bringing new collections. 8% of respondents that price reduction is needed. 4% of the respondents are suggesting to provide new features. 8% of the respondent have some other suggestions.

- Avoid repetition in models.
- Make all models of watches available in all outlets of fastrack.

SUGGESTIONS

- Fastrack watches must concentrate more on after sales service. Some of the customers are not satisfied with the customer service of fastrack watches.
- Fastrack should bring new collections of products always to satisfy their customers. They should try to avoid repetitions of the product design.
- Fastrack watches must maintain product quality because it is a satisfactory factor for most of the customers.
- Many of the customers prefer fastrack because of its trendy looks. So the company should concentrate more on the looks of the products.
- Fastrack should introduce watches of lower prices. It will make the customers think that the brand is affordable. (The company should introduce more number of variants in the price range of Rs 650 to 2000)
- Fastrack should implement new trends in year on year.
- Fastrack should introduce new features in the watches. (Eg: date and day display option for boys and night glow option for girls)
- The company should ensure the availability of all models in all outlets of fastrack.
- The company must satisfy their loyal customers by providing them special offers.

CONCLUSION

This article was a study conducted to know about the satisfaction level of the customers of fastrack watches. The study analyzed the different aspects of customer satisfaction. The data required for the study was collected through a respondent survey of selected 50 students of Amrita School of Arts and Sciences, who are in between in the age group of 19-23 (Who are from the generation of potential customers of fastrack).

From this study, it is clear that majority of the customers of fastrack are satisfied about the brand. The looks and quality are the two main aspects which makes the customers satisfied. Customers of fastrack think that the brand is affordable to buy. Majority of the customers are satisfied with its after sales service. Many of the fastrack customers are even ready to purchase it again and recommend it to their friends or colleagues. The customers think that fastrack is trendy and unique.

But a minority of the customers of fastrack are not satisfied. They have complaints about the features, pricing, after sales service, availability of spare parts etc. They think that the product is overpriced, after sales service is not up to the expectation, spare parts are difficult to available, and the features are poor.

The respondents gave many good suggestions to improve the customer satisfaction level of fastrack. The suggestions were about improving customer service, bringing of new collections, providing new features to the watches and reducing price. They also gave a suggestions about avoiding repetition in models and, ensuring the availability of all models of watches in all outlets.

We believe, Fastrack can satisfy its customers more effectively than how they are doing it now by considering the conclusions generated from this project, and adopting the suggestions given by their customers.

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